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 | and a way there without the | | | ······ | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
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Sponson Spread Color TV Horizontal Deflection Solution Transistor Solution Transistor Solution Transition Solution TV Horizontal Deflection Durple Diffused Planar Solution TV Horizontal Deflection Solution Speed (t_max=0.4us). High breakdown voltage (Vpgo=1500V). High breakdown voltage (Vpgo=1500V). High breakdown voltage (Vpgo=1500V). High constantion of HVP process). High breakdown voltage (Vpgo=1500V). High constantion of HVP process). High breakdown voltage (Vpgo=1500V). Boolute Maximum Ratings at Ta=25°C unit Collector Current $\frac{1}{10}$ $\frac{6}{10}$ $\frac{4}{10}$ Collector Current $\frac{1}{10}$ $\frac{6}{10}$ $\frac{4}{10}$ Storage Temperature Tatg -55 to $+150$ °C Storage Temperature Tatg -55 to $+150$ °C Storage Temperature Tatg -55 to $+150$ °C Storage Temperature $\frac{1}{10}$																											

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| Definition
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Silico | used Planar
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| Definition
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| http://www.sec.upustore.com/products/

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| High-voltage, power switching Reatures Fast speed (t_max=0.4us). High reliability (Adoption of HVP process). High preakdown voltage (v_{CBO}-1500V). Micaless package facilitating mounting operation. Description: The set of the set of

 | ©17548 | | Uu | har Abbu | cations | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
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| Fast speed (t_max=0,4ug). High reliability (Adoption of HVP process). High relakdown voltage (V_{CDQ}=1500V). Miceless package facilitating mounting operation. boolute Marinum Ratings at Ta=25°C unit Collector to Base Voltage VCBO 800 V Collector to Base Voltage VEBO 6 A Peak Collector Current 100 VCB⁻⁵C 700 16 A Collector Dissipation PC T_C=25°C min typ max unit Collector Cutoff Current ICB VCB⁻⁵Storage Temperature Tstg -55 to +150 °C Storage Temperature Tstg -55 to +150 °C Storation Voltage VCB=0 VCB=50, I_D=0 10 UA Saturation Voltage VCB=0 VCB=0 VCB=100, I_D=14 15 V Saturation Voltage V(BR)EBO IC=5mA, I_E=0 1500 V Freakdown Voltage Failter V(BR)EBO IC=5mA, I_E=0 7 V Freakdown Voltage Failter To Base V(BR)EBO IC=200MA, I_C=0 7 V Freakdown Voltage Failter To Base V(BR)EBO IC=200MA, I_C=0 7 V Freakdown Voltage Failter To Base V(BR)EBO IC=200MA, I_C=0 7 V Freakdown Voltage Failter To Base V(BR)EBO IC=200MA, I_C=0 7 V Freakdown Voltage Failter Tstg -200MA, I_C=0 7 V Freakdown Voltage Failter Collector Construe Construe Construe Construe Failter Collector

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| Fast speed (t_max=0,4ug). High reliability (Adoption of HVP process). High relakdown voltage (V_{CDQ}=1500V). Miceless package facilitating mounting operation. boolute Marinum Ratings at Ta=25°C unit Collector to Base Voltage VCBO 800 V Collector to Base Voltage VEBO 6 A Peak Collector Current 100 VCB⁻⁵C 700 16 A Collector Dissipation PC T_C=25°C min typ max unit Collector Cutoff Current ICB VCB⁻⁵Storage Temperature Tstg -55 to +150 °C Storage Temperature Tstg -55 to +150 °C Storation Voltage VCB=0 VCB=50, I_D=0 10 UA Saturation Voltage VCB=0 VCB=0 VCB=100, I_D=14 15 V Saturation Voltage V(BR)EBO IC=5mA, I_E=0 1500 V Freakdown Voltage Failter V(BR)EBO IC=5mA, I_E=0 7 V Freakdown Voltage Failter To Base V(BR)EBO IC=200MA, I_C=0 7 V Freakdown Voltage Failter To Base V(BR)EBO IC=200MA, I_C=0 7 V Freakdown Voltage Failter To Base V(BR)EBO IC=200MA, I_C=0 7 V Freakdown Voltage Failter To Base V(BR)EBO IC=200MA, I_C=0 7 V Freakdown Voltage Failter Tstg -200MA, I_C=0 7 V Freakdown Voltage Failter Collector Construe Construe Construe Construe Failter Collector

 | Features | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
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| . High breakdown voltage (V_{CDC} =1500V).
. Micaless package facilitating mounting operation.
bboolute Maximum Ratings at Ta=25°C unit
Collector to Base Voltage VCBO 1500 V
Collector to Emitter Voltage VCBO 6 V
Collector Current Icc 6 A
Peak Collector Current 1cp Tc=25°C 60 W
Junction Temperature Tj 150 °C
Storage Temperature VCE(sat) Ic=5A, Ig=1A 3 °F
Saturation Voltage Collector to Emitter VCE(sat) Ic=5A, Ig=1A 1.5 °V
Saturation Voltage Collector to Emitter V(BR)CB0 Ic=5M, Ig=0 1500 °C
Storage Temperature V(BR)CB0 Ic=200mA, Ic=0 7 °V
Freakdown Voltage Fall Time tr Icc=203 °C
(unit:mm) ²⁰ ²⁰ ²⁰ ²⁰ ²⁰ ²⁰ ²⁰ ²⁰

 | . Fast speed (trmax=0.4u | s). | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
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| . Micaless package facilitating mounting operation.
bisolute Maximum Ratings at Ta=25°C unit
Collector to Base Voltage V _{CBO} 1500 V
Emitter to Base Voltage V _{EBO} 6 V
Collector Current 1 _C 6 A
Peak Collector Current 1 _C 7 _C =25°C 60 W
Junction Temperature Tij 50 °C
Storage Temperature Tstg -55 to +150 °C
Staturation Voltage V _{CE} =50 V _{LE} =50 V _{LE} =1A 8
Saturation Voltage V _{CE} (sat) I _C =5A, I _B =1A 1.5 V
Staturation Voltage V(BR)CEO I _C =50MA, I _B =0 1500 V
Freakdown Voltage V(BR)CEO I _C =100MA, R _{BE} =∞ 800 V
Freakdown Voltage V(BR)CEO I _C =100MA, R _{BE} =∞ 800 V
Freakdown Voltage V(BR)CEO I _C =200MA, I _C =0 7 V
Freakdown Voltage V(BR)CEO I _C =100MA, R _{BE} =∞ 800 V
Freakdown Voltage Stature V(BR)CEO I _C =200MA, I _C =0 7 V
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Freakdown Voltage Stature Stat

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| Collector to Base Voltage V _{CBO} 1500 V
Collector to Emitter Voltage V _{CBO} 800 V
Collector Current I _C 6 A
Peak Collector Current I _C 60 W
Junction Temperature Tj 150 °C
Storage Temperature Tj 150 °C
Storage Temperature Tj 150 °C
Storage Temperature Tstg -55 to +150 °C
Storage Temperature Tstg -56 to +150 °C
Storage Tstg -56 to

 | . High breakdown voltage
. Micaless package facil | (V _{CBO} =15
itating m | 00V).
ounting operation | • | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
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| Collector to Base Voltage V _{CBO} 1500 V
Collector to Emitter Voltage V _{CBO} 800 V
Collector Current I _C 6 A
Peak Collector Current I _C 60 W
Junction Temperature Tj 150 °C
Storage Temperature Tj 150 °C
Storage Temperature Tj 150 °C
Storage Temperature Tstg -55 to +150 °C
Storage Temperature Tstg -56 to +150 °C
Storage Tstg -56 to

 | Absolute Maximum Ratings a | t Ta=25°C | | | unit | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
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| Collector to Emitter Voltage VEBO
Emitter to Base Voltage VEBO
Collector Current 1_{C} $T_{C}=25^{\circ}C$ 60 W
Junction Temperature T_{J} $150^{\circ}C$
Storage Temperature T_{J} $150^{\circ}C$
Storage Temperature T_{J} $150^{\circ}C$
Storage Temperature T_{C} $T_{C}=25^{\circ}C$ min typ max unit
Collector Cutoff Current I_{CBO} $V_{CB}=800V, I_{E}=0$ $10^{\circ}uA$
Emitter Cutoff Current I_{CBO} $V_{CB}=5V, I_{C}=0$ $1^{\circ}uA$
Collector Cutoff Current I_{CBO} $V_{CB}=5V, I_{C}=0$ $1^{\circ}uA$
Gain Bankdidth Product f_{T} $V_{CE}=5V, I_{C}=1A$ 8
fr $V_{CE}(sat)$ $I_{C}=5A, I_{B}=1A$ $5^{\circ}V$
Saturation Voltage
Collector to Emitter $V_{EB}(sat)$ $I_{C}=5A, I_{B}=1A$ $1.5^{\circ}V$
Saturation Voltage
Collector to Emitter $V_{(BR)CBO}$ $I_{C}=100aA, R_{BE}=\infty$ 800 V
Ereakdown Voltage
Fall Time t_{T} $I_{C}=5A, I_{B}=1A$ 0.4° us
Switching Time Test Circuit Case Outline 2039
$(unit:mm)$ $a_{D} = \frac{200}{3A} = \frac{20}{A} = \frac{20}{A}$

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| Peak Collector Current 1
Collector Dissipation P_{C} $T_{C}=25^{\circ}C$ 60 w
Junction Temperature Tj 150 $^{\circ}C$
Storage Temperature Tatg -55 to +150 $^{\circ}C$
Storage Temperature Tatg -55 to +150 $^{\circ}C$
Stectrical Characteristics at Ta=25 $^{\circ}C$ min typ max unit
Collector Cutoff Current I_{CBO} $V_{CB}=50V, I_{C}=0$ 10 uA
Emitter Cutoff Current I_{EBO} $V_{CB}=5V, I_{C}=10$ 8
Gain Bandwidth Product f_{T} $V_{CE}=5V, I_{C}=1A$ 8
Gain Bandwidth Product f_{T} $V_{CE}(sat)$ $I_{C}=5A, I_{B}=1A$ 5 V
Saturation Voltage
Base to Emitter $V_{EE}(sat)$ $I_{C}=5A, I_{B}=1A$ 1.5 V
Saturation Voltage $V_{(BR)CBO}$ $I_{C}=5mA, I_{E}=0$ 1500 V
Breakdown Voltage $V_{(BR)CBO}$ $I_{C}=100mA, R_{BE}=\infty$ 800 V
Breakdown Voltage $V_{(BR)CEO}$ $I_{E}=200mA, I_{C}=0$ 7 V
Fall Time t_{f} $I_{C}=5A, I_{B}=1A$ 0.4 us
$I_{B2}=-2A$ $I_{C}=200mA, I_{C}=0$ 7 V
$I_{C}=5A, I_{B}=1A, 0.4$ us
$I_{B2}=-2A$ $I_{C}=100mA, I_{C}=0$ $I_{C}=$

 | _ | V _{EB} | 0 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
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| Collector Dissipation r_{C}^{QD} $r_{C}=25^{\circ}C$ 60 W
Junction Temperature Ti 150 $\circ C$
Storage Temperature Tstg -55 to +150 $\circ C$
Sleetrical Characteristics at Ta=25 $\circ C$ min typ max unit
Collector Cutoff Current I_{CBO} $V_{CB}=800V, I_{E}=0$ 1 0 uA
Emitter Cutoff Current I_{EBO} $V_{EB}=5V, I_{C}=10$ 1 mA
DC Current Gain h_{FE} $V_{CE}=5V, I_{C}=1A$ 8
Gain Bandwidth Product f_{T} $V_{CE}=10V, I_{C}=1A$ 8
Gain Bandwidth Product $V_{CE}(sat)$ $I_{C}=5A, I_{B}=1A$ 1.5 V
Saturation Voltage
Base to Emitter $V_{BE}(sat)$ $I_{C}=5A, I_{B}=1A$ 1.5 V
Saturation Voltage $V_{(BR)CEO}$ $I_{C}=100mA, R_{BE}=co$ 800 V
Breakdown Voltage $V_{(BR)CEO}$ $I_{C}=100mA, R_{BE}=co$ 800 V
Breakdown Voltage $V_{(BR)CEO}$ $I_{C}=200mA, I_{C}=0$ 7 V
Breakdown Voltage $I_{B}=200mA, I_{C}=0$ 7 V
Fall Time t_{f} $I_{C}=5A, I_{B}=1A$ 0.4 us
$I_{B2}=-2A$ $I_{C}=0$ $I_{C}=I_{C}=I_{C}$ $I_{C}=I_{C}=I_{C}$ $I_{C}=I_{C}=I_{C}$ $I_{C}=I_{C}=I_{C}=I_{C}$ $I_{C}=I$

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| Junction Temperature Tj 150 °C
Storage Temperature Tstg -55 to +150 °C
Slectrical Characteristics at Ta=25°C min typ max unit
Collector Cutoff Current ICB0 VCB=800V, IE=0 10 uA
Emitter Cutoff Current IEB0 VCB=5V, IC=0 1 mA
DC Current Gain FFE VCB=5V, IC=0 1 mA
Gain Bandwidth Product f_T VCE=10V, $f_C=1A$ 8
Gain Bandwidth Product f_T VCE(sat) IC=5A, IB=1A 5 V
Saturation Voltage
Base to Emitter VEE(sat) IC=5A, IB=1A 1.5 V
Saturation Voltage
Collector to Base V(BR)CB0 IC=5mA, IE=0 1500 V
Breakdown Voltage
Emitter to Base V(BR)CE0 IC=100mA, RBE=0 800 V
Breakdown Voltage
Fall Time tr IC=5A, IB=1A, 0.4 us
IB=2=-2A
Switching Time Test Circuit Case Outline 2039
(unit:mm) $\frac{400}{220}$ $\frac{210}{220}$ $\frac{210}{20}$ \frac

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| Storage TemperatureTstg-55 to +150°CSleetrical Characteristics at Ta=25°Cmin typ max unitCollector Cutoff CurrentICB0VCB=800V, IE=010uAEmitter Cutoff Current GainICB0VCB=5V, IC=01mADC Current GainhFEVCB=5V, IC=1A81mACollector to EmitterVCB=10V, Tc=1A3MHzSaturation VoltageVCE(sat)IC=5A, IB=1A1.5VBase to EmitterVEB(sat)IC=5mA, IE=01500VSaturation VoltageV(BR)CE0IC=5mA, IE=01500VCollector to EmitterV(BR)CE0IC=200MA, RBE=∞800VBreakdown VoltageV(BR)CE0IE=200MA, IC=07VEmitter to BaseV(BR)EB0IE=200MA, IC=07VFall TimetrIC=5A, IB=1A,0.4usSwitching Time Test CircuitCase Outline 2039Imit trPW=200x, Dury SitsCurrentCase Outline 2039EnitterCilectorSuitching Time Test CircuitCase Outline 2039EnitterCilectorBaseOutputImit reprSuitching Time Test CircuitCase Outline 2039EnitterCilector <tr <td="">Base<td>_</td><td>÷C
Ti</td><td>10-25 0</td><td></td><td></td><td></td></tr> <tr><td>Collector Cutoff Current I_{CBO} V_{CB}=800V, $I_E=0$ 10 uA
Emitter Cutoff Current I_{EBO} V_{EB}=5V, I_C=70 1 mA
DC Current Gain h_{FE} V_{CE}=5V, I_C=71A 8
Gain Bandwidth Product f_T V_{CE}=10V, I_C=1A 8
Collector to Emitter $V_{CE}(sat)$ I_C=5A, I_B=1A 5 V
Saturation Voltage
Base to Emitter $V_{BE}(sat)$ I_C=5A, I_B=1A 1.5 V
Saturation Voltage
Collector to Base $V_{(BR)CEO}$ I_C=100mA, R_{BE}=∞ 800 V
Breakdown Voltage $V_{(BR)CEO}$ I_C=100mA, R_{BE}=∞ 800 V
Breakdown Voltage $V_{(BR)CEO}$ I_C=200mA, $I_C=0$ 7 V
Breakdown Voltage I_E=200mA, $I_C=0$ 7 V
$I_B = 2-2A$ $I_E = 10$ $I_E = 200$ $I_E = I_E = I_E$</td><td></td><td></td><td>g</td><td></td><td>· · · ·</td><td></td></tr> <tr><td>Collector Cutoff Current I_{CBO} V_{CB}=800V, $I_E=0$ 10 uA
Emitter Cutoff Current I_{EBO} V_{EB}=5V, I_C=70 1 mA
DC Current Gain h_{FE} V_{CE}=5V, I_C=71A 8
Gain Bandwidth Product f_T V_{CE}=10V, I_C=1A 8
Collector to Emitter $V_{CE}(sat)$ I_C=5A, I_B=1A 5 V
Saturation Voltage
Base to Emitter $V_{BE}(sat)$ I_C=5A, I_B=1A 1.5 V
Saturation Voltage
Collector to Base $V_{(BR)CEO}$ I_C=100mA, R_{BE}=∞ 800 V
Breakdown Voltage $V_{(BR)CEO}$ I_C=100mA, R_{BE}=∞ 800 V
Breakdown Voltage $V_{(BR)CEO}$ I_C=200mA, $I_C=0$ 7 V
Breakdown Voltage I_E=200mA, $I_C=0$ 7 V
$I_B = 2-2A$ $I_E = 10$ $I_E = 200$ $I_E = I_E = I_E$</td><td>Electrical Characteristics</td><td>at Ta=25</td><td>°c</td><td>min ty</td><td>p max unit</td><td></td></tr> <tr><td>Emitter Cutoff Current
DC Current Gain
h_{FE} $V_{CE}=5V, I_C=1A$ 8
Gain Bandwidth Product
Collector to Emitter
Collector to Emitter
Saturation Voltage
Base to Emitter
Saturation Voltage
Collector to Base
Collector to Base
Collector to Base
$V_{(BR)CE0}$ $I_C=5A, I_B=1A$ 1.5 V
$V_{BR}(CE0$ $I_C=5MA, I_E=0$ 1500 V
Breakdown Voltage
Collector to Base
Breakdown Voltage
Fall Time
$V_{(BR)EE0}$ $I_C=200mA, I_C=0$ 7 V
F_{F} $I_C=5A, I_B=1A, 0.4$ us
$I_{B2}=-2A$
Switching Time Test Circuit
$V_{(BR)} = 0$ $V_{(BR)} = 0$ $V_{(BR)} = 0$
$V_{(BR)} = 0$ $V_{(BR)} = 0$</td><td>Collector Cutoff Current</td><td>ICBO</td><td></td><td></td><td></td><td></td></tr> <tr><td>DC Current Gain hFE V_{CE}=5V, I_c=1A 8
Gain Bandwidth Product f_T V_{CE}=5V, I_c=1A 3 MHz
Collector to Emitter V_{CE(sat}) I_c=5A, I_B=1A 5 V
Saturation Voltage
Base to Emitter V_{BE(sat}) I_c=5A, I_B=1A 1.5 V
Collector to Base V_{(BR)CBO} I_c=5mA, I_E=0 1500 V
Breakdown Voltage
Collector to Emitter V_{(BR)CBO} I_c=5mA, I_E=0 1500 V
Breakdown Voltage
Emitter to Base V_{(BR)CBO} I_c=200mA, I_c=0 7 V
Breakdown Voltage
Fall Time test Circuit Case Outline 2039
$f_{R} = \frac{102}{100} \frac{100}{100} \frac{100}{$</td><td>Emitter Cutoff Current</td><td>I_{EBO}</td><td>$V_{\rm ED}=5V_{\bullet}I_{\rm C}=0$</td><td></td><td>1 mA</td><td></td></tr> <tr><td>Saturation Voltage
Base to Emitter V_E(sat) $I_C=5A, I_B=1A$ 5 V
Saturation Voltage
Collector to Base V_{(BR)CE0} $I_C=5A, I_B=1A$ 1.5 V
Saturation Voltage
Collector to Base V_{(BR)CE0} $I_C=5mA, I_E=0$ 1500 V
Breakdown Voltage
Emitter to Base V_{(BR)CE0} $I_C=100mA, R_{BE}=\infty$ 800 V
Breakdown Voltage
Emitter to Base V_{(BR)CE0} $I_C=100mA, I_C=0$ 7 V
Breakdown Voltage
Fall Time transformer Test Circuit Case Outline 2039
$I_{B2}=-2A$ 0.4 us
$I_{B2}=-2A$ $I_{B1}=1A,$ 0.4 us
$I_{B1}=1A,$ 0.4 us
$I_{B2}=-2A,$ $I_{B1}=1A,$ 0.4 us
$I_{B2}=-2A,$ $I_{B1}=1A,$ 0.4 us
$I_{B1}=1A,$ 0.4 us
$I_{B1}=1$</td><td></td><td>hFE</td><td>V_{CE}^{-1}=5V, I_{C}^{-1}</td><td>8</td><td></td><td></td></tr> <tr><td>Saturation Voltage
Base to Emitter V_E(sat) $I_C=5A, I_B=1A$ 5 V
Saturation Voltage
Collector to Base V_{(BR)CE0} $I_C=5A, I_B=1A$ 1.5 V
Saturation Voltage
Collector to Base V_{(BR)CE0} $I_C=5mA, I_E=0$ 1500 V
Breakdown Voltage
Emitter to Base V_{(BR)CE0} $I_C=100mA, R_{BE}=\infty$ 800 V
Breakdown Voltage
Emitter to Base V_{(BR)CE0} $I_C=100mA, I_C=0$ 7 V
Breakdown Voltage
Fall Time transformer Test Circuit Case Outline 2039
$I_{B2}=-2A$ 0.4 us
$I_{B2}=-2A$ $I_{B1}=1A,$ 0.4 us
$I_{B1}=1A,$ 0.4 us
$I_{B2}=-2A,$ $I_{B1}=1A,$ 0.4 us
$I_{B2}=-2A,$ $I_{B1}=1A,$ 0.4 us
$I_{B1}=1A,$ 0.4 us
$I_{B1}=1$</td><td></td><td>f_{T}</td><td>$V_{CE} = 10V, I_{C} = 1A$</td><td></td><td>-</td><td></td></tr> <tr><td>Saturation Voltage
Base to Emitter $V_{BE(sat)} I_C = 5A, I_B = 1A$ 1.5 V
Saturation Voltage
Collector to Base $V_{(BR)CBO} I_C = 5mA, I_E = 0$ 1500 V
Breakdown Voltage
Collector to Emitter $V_{(BR)CEO} I_C = 100mA, R_{BE} = \infty$ 800 V
Breakdown Voltage
Emitter to Base $V_{(BR)EBO} I_E = 200mA, I_C = 0$ 7 V
Breakdown Voltage
Fall Time $t_f I_C = 5A, I_B = 1A,$ 0.4 us
$I_{B2} = -2A$
Switching Time Test Circuit Case Outline 2039
(unit:mm) $SO(H) \leq 1K = 0$
$SWICH I = 100 = 0$ $SO(H) \leq 1K = 0$ $SO(H) = 0$ SO</td><td></td><td>V_{CE(sat)}</td><td>I_C=5A,I_B=1A</td><td></td><td>.5 V</td><td></td></tr> <tr><td>Saturation Voltage
Collector to Base
V(BR)CBO $I_C=5mA, I_E=0$ 1500 V
Breakdown Voltage
Collector to Emitter
V(BR)CEO $I_C=100mA, R_{BE}=\infty$ 800 V
Breakdown Voltage
Fall Time
V(BR)EBO $I_E=200mA, I_C=0$ 7 V
Breakdown Voltage
Fall Time
tr
I_C=5A, I_B1=1A, 0.4 us
I_B2=-2A
Switching Time Test Circuit
Case Outline 2039
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So the state of the state o</td><td></td><td></td><td></td><td></td><td></td><td></td></tr> <tr><td>Collector to Base $V_{(BR)CBO}$ $I_C=5mA, I_E=0$ 1500 V
Breakdown Voltage
Collector to Emitter $V_{(BR)CEO}$ $I_C=100mA, R_{BE}=\infty$ 800 V
Breakdown Voltage
Emitter to Base $V_{(BR)EBO}$ $I_E=200mA, I_C=0$ 7 V
Breakdown Voltage
Fall Time t_f $I_C=5A, I_{B1}=1A$, 0.4 us
Switching Time Test Circuit $Case Outline$ 2039
$V_{(Unit:mm)}$ $S_{O} = \frac{102}{100} = \frac{102}{1$</td><td></td><td>VBE(sat)</td><td>$^{1}C^{=5A}, ^{1}B^{=1A}$</td><td></td><td>1.5 V</td><td></td></tr> <tr><td>$\begin{array}{c} \text{Breakdown Voltage} \\ \text{Collector to Emitter} \\ \text{Breakdown Voltage} \\ \text{Emitter to Base} \\ \text{Emitter to Base} \\ \text{Breakdown Voltage} \\ \text{Fall Time} \\ \text{V}(BR)EBO I_E=200mA, I_C=0 \\ \text{T}_E=200mA, I_C=0 \\ \text{T}_C=5A, I_{B1}=1A, \\ I_{B2}=-2A \\ \end{array}$</td><td></td><td>V</td><td>T 5m1 T -0</td><td>1500</td><td>v</td><td></td></tr> <tr><td>Collector to Emitter
Breakdown Voltage
Emitter to Base
Breakdown Voltage
Fall Time
$V_{(BR)EBO}$ $I_{E}=200mA, I_{C}=0$ 7 V
$V_{(BR)EBO}$ $I_{E}=200mA, I_{C}=0$ 7 V
$I_{C}=5A, I_{B1}=1A,$ 0.4 us
$I_{B2}=-2A$
Switching Time Test Circuit
$PW=20us, Duty \le 1^{s}$ OUTPUT
I_{B1} I_{C} $I_{C}=5A, I_{B1}=1A,$ 0.4 us
$I_{B2}=-2A$ $I_{C}=0$ I_{C}</td><td></td><td>'(BR)CBO</td><td>-C-2mu, E</td><td>. 1900</td><td>Ŷ</td><td></td></tr> <tr><td>Emitter to Base
Breakdown Voltage
Fall Time $V_{(BR)EBO} I_E = 200 \text{ MA}, I_C = 0$ 7 V
France $T_E = 5A, I_B = 1A$, 0.4 us
$I_B = -2A$
Switching Time Test Circuit
$PW = 20 \text{ us}, \text{Duty} \le 1\%$
$VW = 20 \text{ us}, \text{Duty} \le 1\%$
VW = 20 us, Duty = 1%
VW = 1%
VW = 1%</td><td>Collector to Emitter</td><td>V(BR)CEO</td><td>I_{C}=100mA, R_{BE}=∞</td><td>800</td><td>V</td><td></td></tr> <tr><td>Fall Time t_{f} $I_{C}=5A, I_{B1}=1A,$ 0.4 us
Switching Time Test Circuit
$PW=20us, Duty \leq 1's$ output (unit:mm) $S_{0} = 0.4$ Us $S_{0} =$</td><td>Emitter to Base</td><td>V(BR)EBO</td><td>I_E=200mA,I_C=0</td><td>7</td><td>v</td><td></td></tr> <tr><td>Switching Time Test Circuit
$PW=20us, Duty \leq 1's$ output
$IB1 \rightarrow IB2$
$IB1 \rightarrow IB2$</td><td></td><td>to</td><td>Ic=5A. Inc=1A.</td><td></td><td>0.4 us</td><td></td></tr> <tr><td>$PW = 20 \text{ us}, Duty \leq 1\%$ $VR \qquad (unit:mm)$ $S_{0} \qquad (unit:mm)$</td><td></td><td>-T</td><td>I_{B2}=-2A</td><td></td><td></td><td></td></tr> <tr><td>50 = 100 +</td><td>Switching Time Test Circui</td><td>t C</td><td>ase Outline 2039</td><td></td><td></td><td></td></tr> <tr><td>$\begin{array}{c} 30 \\ H \\$</td><td>PW=20us, Duty≤1% OUTPUT</td><td>(1</td><td>La. VIV</td><td>22.0 20.4</td><td>3.5</td><td></td></tr> <tr><td>$\begin{array}{c} 1 \\ 1 \\ 1 \\ 1 \\ 1 \\ 1 \\ 1 \\ 1 \\ 1 \\ 1$</td><td></td><td>•</td><td>5.0</td><td></td><td></td><td></td></tr> <tr><td>$\begin{array}{c} 1 \\ 1 \\ 1 \\ 1 \\ 1 \\ 1 \\ 1 \\ 1 \\ 1 \\ 1$</td><td></td><td></td><td>j þ</td><td></td><td>[▶]T 18 [4]</td><td></td></tr> <tr><td>50 z z VR</td><td></td><td></td><td>¥ -Ø</td><td></td><td>¥°g []]</td><td></td></tr> <tr><td>$\begin{array}{c} \begin{array}{c} \begin{array}{c} \begin{array}{c} \end{array} \\ \begin{array}{c} \end{array} \\ \end{array} \\ \end{array} \\ \begin{array}{c} \end{array} \\ \end{array} \\ \end{array} \\ \end{array} \\ \begin{array}{c} \end{array} \\ \end{array} \\ \begin{array}{c} \end{array} \\ \end{array} \\ \end{array} \\ \begin{array}{c} \end{array} \\ \end{array} \\ \begin{array}{c} \end{array} \\ \end{array} \\ \end{array} \\ \end{array} \\ \begin{array}{c} \end{array} \\ \end{array} \\ \end{array} \\ \end{array} \\ \begin{array}{c} \end{array} \\ \end{array} \\ \end{array} \\ \end{array} \\ \end{array} \\ \end{array} \\ \begin{array}{c} \end{array} \\ \end{array}$</td><td>AL AD</td><td></td><td>) í þ</td><td></td><td>at "</td><td></td></tr> <tr><td>$\begin{array}{c} \begin{array}{c} & & \\ & & \\ & & \\ \end{array} \end{array} \\ \begin{array}{c} & \\ & \\ \end{array} \end{array} \\ \begin{array}{c} & \\ & \\ \end{array} \end{array} \\ \begin{array}{c} & \\ & \\ & \\ \end{array} \\ \begin{array}{c} & \\ & \\ & \\ \end{array} \\ \begin{array}{c} & \\ & \\ & \\ \end{array} \\ \begin{array}{c} & \\ & \\ & \\ \end{array} \\ \begin{array}{c} & \\ & \\ & \\ \end{array} \\ \begin{array}{c} & \\ & \\ & \\ \end{array} \\ \begin{array}{c} & \\ & \\ & \\ \end{array} \\ \begin{array}{c} & \\ & \\ & \\ & \\ \end{array} \\ \begin{array}{c} & \\ & \\ & \\ \end{array} \\ \begin{array}{c} & \\ & \\ & \\ & \\ \end{array} \\ \begin{array}{c} & \\ & \\ & \\ & \\ \end{array} \\ \begin{array}{c} & \\ & \\ & \\ & \\ \end{array} \\ \begin{array}{c} & \\ & \\ & \\ & \\ & \\ \end{array} \\ \begin{array}{c} & \\ & \\ & \\ & \\ \end{array} \\ \begin{array}{c} & \\ & \\ & \\ & \\ & \\ \end{array} \\ \begin{array}{c} & \\ & \\ & \\ & \\ \end{array} \\ \begin{array}{c} & \\ & \\ & \\ & \\ & \\ \end{array} \\ \begin{array}{c} & \\ & \\ & \\ & \\ \end{array} \\ \begin{array}{c} & \\ & \\ & \\ & \\ & \\ \end{array} \\ \begin{array}{c} & \\ & \\ & \\ & \\ & \\ & \\ \end{array} \\ \begin{array}{c} & \\ & \\ & \\ & \\ \end{array} \\ \begin{array}{c} & \\ & \\ & \\ & \\ & \\ \end{array} \\ \begin{array}{c} & \\ & \\ & \\ & \\ \end{array} \\ \begin{array}{c} & \\ & \\ & \\ & \\ \end{array} \\ \begin{array}{c} & \\ & \\ & \\ & \\ \end{array} \\ \begin{array}{c} & \\ & \\ & \\ & \\ \end{array} \\ \begin{array}{c} & \\ & \\ & \\ & \\ \end{array} \\ \begin{array}{c} & \\ & \\ & \\ \end{array} \\ \begin{array}{c} & \\ & \\ & \\ \end{array} \\ \begin{array}{c} & \\ & \\ & \\ \end{array} \\ \begin{array}{c} & \\ & \\ & \\ & \\ \end{array} \\ \begin{array}{c} & \\ & \\ & \\ \end{array} \\ \begin{array}{c} & \\ & \\ & \\ \end{array} \\ \begin{array}{c} & \\ & \\ & \\ \end{array} \\ \begin{array}{c} & \\ & \\ & \\ \end{array} \\ \begin{array}{c} & \\ & \\ & \\ \end{array} \\ \end{array} \\ \begin{array}{c} & \\ & \\ \end{array} \\ \begin{array}{c} & \\ & \\ & \\ \end{array} \\ \begin{array}{c} & \\ & \\ \end{array} \\ \begin{array}{c} & \\ & \\ & \\ \end{array} \\ \end{array} \\ \begin{array}{c} & \\ & \\ & \\ \end{array} \\ \end{array} \\ \begin{array}{c} & \\ & \\ \end{array} \\ \end{array} \\ \begin{array}{c} & \\ & \\ \end{array} \\ \end{array} \\ \begin{array}{c} & \\ & \\ \end{array} \\ \end{array} \\ \begin{array}{c} & \\ & \\ \end{array} \\ \end{array} \\ \end{array} \\ \begin{array}{c} & \\ & \\ \end{array} \\ \end{array} \\ \end{array} \\ \begin{array}{c} & \\ & \\ \end{array} \\ \end{array} \\ \end{array} \\ \begin{array}{c} & \\ & \\ \end{array} \\ \end{array} \\ \end{array} \\ \end{array} \\ \begin{array}{c} & \\ & \\ \end{array} \\ \end{array} \\ \end{array} \\ \end{array} \\ \end{array} \\ \end{array} \\ \begin{array}{c} & \\ & \\ \end{array} \\$</td><td>50,≢ <i>≸</i>VR</td><td></td><td>-</td><td>4.0-4-0</td><td>E. Emitter</td><td></td></tr> <tr><td></td><td></td><td></td><td></td><td></td><td></td><td></td></tr> <tr><td>VBER-SV VCE-200V ***********************************</td><td>୷ │ 100 u ୷ 470 u │</td><td></td><td>······</td><td>D</td><td>B: Base</td><td></td></tr> <tr><td>ମ୍ୟି
</td><td>VBE=-5 V VC=200V</td><td></td><td></td><td>/ <u>] 0.6</u></td><td>SANYO: TO 3PML</td><td></td></tr> <tr><td>·</td><td></td><td></td><td>ri
H</td><td></td><td></td><td></td></tr> <tr><td>•</td><td></td><td></td><td></td><td></td><td></td><td></td></tr> <tr><td></td><td></td><td></td><td></td><td>•</td><td></td><td></td></tr> | _ | ÷C
Ti | 10-25 0 | | | | Collector Cutoff Current I _{CBO} V_{CB} =800V, $I_E=0$ 10 uA
Emitter Cutoff Current I _{EBO} V_{EB} =5V, I_C =70 1 mA
DC Current Gain h_{FE} V_{CE} =5V, I_C =71A 8
Gain Bandwidth Product f_T V_{CE} =10V, I_C =1A 8
Collector to Emitter $V_{CE}(sat)$ I_C =5A, I_B =1A 5 V
Saturation Voltage
Base to Emitter $V_{BE}(sat)$ I_C =5A, I_B =1A 1.5 V
Saturation Voltage
Collector to Base $V_{(BR)CEO}$ I_C =100mA, R_{BE} = ∞ 800 V
Breakdown Voltage $V_{(BR)CEO}$ I_C =100mA, R_{BE} = ∞ 800 V
Breakdown Voltage $V_{(BR)CEO}$ I_C =200mA, $I_C=0$ 7 V
Breakdown Voltage I_E =200mA, $I_C=0$ 7 V
$I_B = 2-2A$ $I_E = 10$ $I_E = 200$ $I_E = I_E = I_E$ | | | g | | · · · · | | Collector Cutoff Current I _{CBO} V_{CB} =800V, $I_E=0$ 10 uA
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DC Current Gain h_{FE} V_{CE} =5V, I_C =71A 8
Gain Bandwidth Product f_T V_{CE} =10V, I_C =1A 8
Collector to Emitter $V_{CE}(sat)$ I_C =5A, I_B =1A 5 V
Saturation Voltage
Base to Emitter $V_{BE}(sat)$ I_C =5A, I_B =1A 1.5 V
Saturation Voltage
Collector to Base $V_{(BR)CEO}$ I_C =100mA, R_{BE} = ∞ 800 V
Breakdown Voltage $V_{(BR)CEO}$ I_C =100mA, R_{BE} = ∞ 800 V
Breakdown Voltage $V_{(BR)CEO}$ I_C =200mA, $I_C=0$ 7 V
Breakdown Voltage I_E =200mA, $I_C=0$ 7 V
$I_B = 2-2A$ $I_E = 10$ $I_E = 200$ $I_E = I_E = I_E$ | Electrical Characteristics | at Ta=25 | °c | min ty | p max unit | | Emitter Cutoff Current
DC Current Gain
h_{FE} $V_{CE}=5V, I_C=1A$ 8
Gain Bandwidth Product
Collector to Emitter
Collector to Emitter
Saturation Voltage
Base to Emitter
Saturation Voltage
Collector to Base
Collector to Base
Collector to Base
$V_{(BR)CE0}$ $I_C=5A, I_B=1A$ 1.5 V
$V_{BR}(CE0$ $I_C=5MA, I_E=0$ 1500 V
Breakdown Voltage
Collector to Base
Breakdown Voltage
Fall Time
$V_{(BR)EE0}$ $I_C=200mA, I_C=0$ 7 V
F_{F} $I_C=5A, I_B=1A, 0.4$ us
$I_{B2}=-2A$
Switching Time Test Circuit
$V_{(BR)} = 0$ $V_{(BR)} = 0$ $V_{(BR)} = 0$
$V_{(BR)} = 0$ $V_{(BR)} = 0$ | Collector Cutoff Current | ICBO | | | | | DC Current Gain hFE V _{CE} =5V, I _c =1A 8
Gain Bandwidth Product f_T V _{CE} =5V, I _c =1A 3 MHz
Collector to Emitter V _{CE(sat}) I _c =5A, I _B =1A 5 V
Saturation Voltage
Base to Emitter V _{BE(sat}) I _c =5A, I _B =1A 1.5 V
Collector to Base V _{(BR)CBO} I _c =5mA, I _E =0 1500 V
Breakdown Voltage
Collector to Emitter V _{(BR)CBO} I _c =5mA, I _E =0 1500 V
Breakdown Voltage
Emitter to Base V _{(BR)CBO} I _c =200mA, I _c =0 7 V
Breakdown Voltage
Fall Time test Circuit Case Outline 2039
$f_{R} = \frac{102}{100} \frac{100}{100} \frac{100}{$ | Emitter Cutoff Current | I _{EBO} | $V_{\rm ED}=5V_{\bullet}I_{\rm C}=0$ | | 1 mA | | Saturation Voltage
Base to Emitter V _E (sat) $I_C=5A, I_B=1A$ 5 V
Saturation Voltage
Collector to Base V _{(BR)CE0} $I_C=5A, I_B=1A$ 1.5 V
Saturation Voltage
Collector to Base V _{(BR)CE0} $I_C=5mA, I_E=0$ 1500 V
Breakdown Voltage
Emitter to Base V _{(BR)CE0} $I_C=100mA, R_{BE}=\infty$ 800 V
Breakdown Voltage
Emitter to Base V _{(BR)CE0} $I_C=100mA, I_C=0$ 7 V
Breakdown Voltage
Fall Time transformer Test Circuit Case Outline 2039
$I_{B2}=-2A$ 0.4 us
$I_{B2}=-2A$ $I_{B1}=1A,$ 0.4 us
$I_{B1}=1A,$ 0.4 us
$I_{B2}=-2A,$ $I_{B1}=1A,$ 0.4 us
$I_{B2}=-2A,$ $I_{B1}=1A,$ 0.4 us
$I_{B1}=1A,$ 0.4 us
$I_{B1}=1$ | | hFE | V_{CE}^{-1} =5V, I_{C}^{-1} | 8 | | | Saturation Voltage
Base to Emitter V _E (sat) $I_C=5A, I_B=1A$ 5 V
Saturation Voltage
Collector to Base V _{(BR)CE0} $I_C=5A, I_B=1A$ 1.5 V
Saturation Voltage
Collector to Base V _{(BR)CE0} $I_C=5mA, I_E=0$ 1500 V
Breakdown Voltage
Emitter to Base V _{(BR)CE0} $I_C=100mA, R_{BE}=\infty$ 800 V
Breakdown Voltage
Emitter to Base V _{(BR)CE0} $I_C=100mA, I_C=0$ 7 V
Breakdown Voltage
Fall Time transformer Test Circuit Case Outline 2039
$I_{B2}=-2A$ 0.4 us
$I_{B2}=-2A$ $I_{B1}=1A,$ 0.4 us
$I_{B1}=1A,$ 0.4 us
$I_{B2}=-2A,$ $I_{B1}=1A,$ 0.4 us
$I_{B2}=-2A,$ $I_{B1}=1A,$ 0.4 us
$I_{B1}=1A,$ 0.4 us
$I_{B1}=1$ | | f_{T} | $V_{CE} = 10V, I_{C} = 1A$ | | - | | Saturation Voltage
Base to Emitter $V_{BE(sat)} I_C = 5A, I_B = 1A$ 1.5 V
Saturation Voltage
Collector to Base $V_{(BR)CBO} I_C = 5mA, I_E = 0$ 1500 V
Breakdown Voltage
Collector to Emitter $V_{(BR)CEO} I_C = 100mA, R_{BE} = \infty$ 800 V
Breakdown Voltage
Emitter to Base $V_{(BR)EBO} I_E = 200mA, I_C = 0$ 7 V
Breakdown Voltage
Fall Time $t_f I_C = 5A, I_B = 1A,$ 0.4 us
$I_{B2} = -2A$
Switching Time Test Circuit Case Outline 2039
(unit:mm) $SO(H) \leq 1K = 0$
$SWICH I = 100 = 0$ $SO(H) \leq 1K = 0$ $SO(H) = 0$ SO | | V _{CE(sat)} | I _C =5A,I _B =1A | | .5 V | | Saturation Voltage
Collector to Base
V(BR)CBO $I_C=5mA, I_E=0$ 1500 V
Breakdown Voltage
Collector to Emitter
V(BR)CEO $I_C=100mA, R_{BE}=\infty$ 800 V
Breakdown Voltage
Fall Time
V(BR)EBO $I_E=200mA, I_C=0$ 7 V
Breakdown Voltage
Fall Time
tr
I_C=5A, I_B1=1A, 0.4 us
I_B2=-2A
Switching Time Test Circuit
Case Outline 2039
(unit:mm)
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Switching Time Test Circuit
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Switching Time Test Circuit
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So the state of the state o | | | | | | | Collector to Base $V_{(BR)CBO}$ $I_C=5mA, I_E=0$ 1500 V
Breakdown Voltage
Collector to Emitter $V_{(BR)CEO}$ $I_C=100mA, R_{BE}=\infty$ 800 V
Breakdown Voltage
Emitter to Base $V_{(BR)EBO}$ $I_E=200mA, I_C=0$ 7 V
Breakdown Voltage
Fall Time t_f $I_C=5A, I_{B1}=1A$, 0.4 us
Switching Time Test Circuit $Case Outline$ 2039
$V_{(Unit:mm)}$ $S_{O} = \frac{102}{100} = \frac{102}{1$ | | VBE(sat) | $^{1}C^{=5A}, ^{1}B^{=1A}$ | | 1.5 V | | $\begin{array}{c} \text{Breakdown Voltage} \\ \text{Collector to Emitter} \\ \text{Breakdown Voltage} \\ \text{Emitter to Base} \\ \text{Emitter to Base} \\ \text{Breakdown Voltage} \\ \text{Fall Time} \\ \text{V}(BR)EBO I_E=200mA, I_C=0 \\ \text{T}_E=200mA, I_C=0 \\ \text{T}_C=5A, I_{B1}=1A, \\ I_{B2}=-2A \\ \end{array}$ | | V | T 5m1 T -0 | 1500 | v | | Collector to Emitter
Breakdown Voltage
Emitter to Base
Breakdown Voltage
Fall Time
$V_{(BR)EBO}$ $I_{E}=200mA, I_{C}=0$ 7 V
$V_{(BR)EBO}$ $I_{E}=200mA, I_{C}=0$ 7 V
$I_{C}=5A, I_{B1}=1A,$ 0.4 us
$I_{B2}=-2A$
Switching Time Test Circuit
$PW=20us, Duty \le 1^{s}$ OUTPUT
I_{B1} I_{C} $I_{C}=5A, I_{B1}=1A,$ 0.4 us
$I_{B2}=-2A$ $I_{C}=0$ I_{C} | | '(BR)CBO | -C-2mu, E | . 1900 | Ŷ | | Emitter to Base
Breakdown Voltage
Fall Time $V_{(BR)EBO} I_E = 200 \text{ MA}, I_C = 0$ 7 V
France $T_E = 5A, I_B = 1A$, 0.4 us
$I_B = -2A$
Switching Time Test Circuit
$PW = 20 \text{ us}, \text{Duty} \le 1\%$
$VW = 20 \text{ us}, \text{Duty} \le 1\%$
VW = 20 us, Duty = 1%
VW = 1%
VW = 1% | Collector to Emitter | V(BR)CEO | I_{C} =100mA, R_{BE} = ∞ | 800 | V | | Fall Time t_{f} $I_{C}=5A, I_{B1}=1A,$ 0.4 us
Switching Time Test Circuit
$PW=20us, Duty \leq 1's$ output (unit:mm) $S_{0} = 0.4$ Us $S_{0} =$ | Emitter to Base | V(BR)EBO | I _E =200mA,I _C =0 | 7 | v | | Switching Time Test Circuit
$PW=20us, Duty \leq 1's$ output
$IB1 \rightarrow IB2$
$IB1 \rightarrow IB2$ | | to | Ic=5A. Inc=1A. | | 0.4 us | | $PW = 20 \text{ us}, Duty \leq 1\%$ $VR \qquad (unit:mm)$ $S_{0} \qquad (unit:mm)$ | | - T | I _{B2} =-2A | | | | 50 = 100 + | Switching Time Test Circui | t C | ase Outline 2039 | | | | $\begin{array}{c} 30 \\ H \\ $ | PW=20us, Duty≤1% OUTPUT | (1 | La. VIV | 22.0 20.4 | 3.5 | | $\begin{array}{c} 1 \\ 1 \\ 1 \\ 1 \\ 1 \\ 1 \\ 1 \\ 1 \\ 1 \\ 1 $ | | • | 5.0 | | | | $\begin{array}{c} 1 \\ 1 \\ 1 \\ 1 \\ 1 \\ 1 \\ 1 \\ 1 \\ 1 \\ 1 $ | | | j þ | | [▶] T 18 [4] | | 50 z z VR | | | ¥ -Ø | | ¥°g []] | | $ \begin{array}{c} \begin{array}{c} \begin{array}{c} \begin{array}{c} \end{array} \\ \begin{array}{c} \end{array} \\ \end{array} \\ \end{array} \\ \begin{array}{c} \end{array} \\ \end{array} \\ \end{array} \\ \end{array} \\ \begin{array}{c} \end{array} \\ \end{array} \\ \begin{array}{c} \end{array} \\ \end{array} \\ \end{array} \\ \begin{array}{c} \end{array} \\ \end{array} \\ \begin{array}{c} \end{array} \\ \end{array} \\ \end{array} \\ \end{array} \\ \begin{array}{c} \end{array} \\ \end{array} \\ \end{array} \\ \end{array} \\ \begin{array}{c} \end{array} \\ \end{array} \\ \end{array} \\ \end{array} \\ \end{array} \\ \end{array} \\ \begin{array}{c} \end{array} \\ \end{array} $ | AL AD | |) í þ | | at " | | $\begin{array}{c} \begin{array}{c} & & \\ & & \\ & & \\ \end{array} \end{array} \\ \begin{array}{c} & \\ & \\ \end{array} \end{array} \\ \begin{array}{c} & \\ & \\ \end{array} \end{array} \\ \begin{array}{c} & \\ & \\ & \\ \end{array} \\ \begin{array}{c} & \\ & \\ & \\ \end{array} \\ \begin{array}{c} & \\ & \\ & \\ \end{array} \\ \begin{array}{c} & \\ & \\ & \\ \end{array} \\ \begin{array}{c} & \\ & \\ & \\ \end{array} \\ \begin{array}{c} & \\ & \\ & \\ \end{array} \\ \begin{array}{c} & \\ & \\ & \\ \end{array} \\ \begin{array}{c} & \\ & \\ & \\ & \\ \end{array} \\ \begin{array}{c} & \\ & \\ & \\ \end{array} \\ \begin{array}{c} & \\ & \\ & \\ & \\ \end{array} \\ \begin{array}{c} & \\ & \\ & \\ & \\ \end{array} \\ \begin{array}{c} & \\ & \\ & \\ & \\ \end{array} \\ \begin{array}{c} & \\ & \\ & \\ & \\ & \\ \end{array} \\ \begin{array}{c} & \\ & \\ & \\ & \\ \end{array} \\ \begin{array}{c} & \\ & \\ & \\ & \\ & \\ \end{array} \\ \begin{array}{c} & \\ & \\ & \\ & \\ \end{array} \\ \begin{array}{c} & \\ & \\ & \\ & \\ & \\ \end{array} \\ \begin{array}{c} & \\ & \\ & \\ & \\ \end{array} \\ \begin{array}{c} & \\ & \\ & \\ & \\ & \\ \end{array} \\ \begin{array}{c} & \\ & \\ & \\ & \\ & \\ & \\ \end{array} \\ \begin{array}{c} & \\ & \\ & \\ & \\ \end{array} \\ \begin{array}{c} & \\ & \\ & \\ & \\ & \\ \end{array} \\ \begin{array}{c} & \\ & \\ & \\ & \\ \end{array} \\ \begin{array}{c} & \\ & \\ & \\ & \\ \end{array} \\ \begin{array}{c} & \\ & \\ & \\ & \\ \end{array} \\ \begin{array}{c} & \\ & \\ & \\ & \\ \end{array} \\ \begin{array}{c} & \\ & \\ & \\ & \\ \end{array} \\ \begin{array}{c} & \\ & \\ & \\ \end{array} \\ \begin{array}{c} & \\ & \\ & \\ \end{array} \\ \begin{array}{c} & \\ & \\ & \\ \end{array} \\ \begin{array}{c} & \\ & \\ & \\ & \\ \end{array} \\ \begin{array}{c} & \\ & \\ & \\ \end{array} \\ \begin{array}{c} & \\ & \\ & \\ \end{array} \\ \begin{array}{c} & \\ & \\ & \\ \end{array} \\ \begin{array}{c} & \\ & \\ & \\ \end{array} \\ \begin{array}{c} & \\ & \\ & \\ \end{array} \\ \end{array} \\ \begin{array}{c} & \\ & \\ \end{array} \\ \begin{array}{c} & \\ & \\ & \\ \end{array} \\ \begin{array}{c} & \\ & \\ \end{array} \\ \begin{array}{c} & \\ & \\ & \\ \end{array} \\ \end{array} \\ \begin{array}{c} & \\ & \\ & \\ \end{array} \\ \end{array} \\ \begin{array}{c} & \\ & \\ \end{array} \\ \end{array} \\ \begin{array}{c} & \\ & \\ \end{array} \\ \end{array} \\ \begin{array}{c} & \\ & \\ \end{array} \\ \end{array} \\ \begin{array}{c} & \\ & \\ \end{array} \\ \end{array} \\ \end{array} \\ \begin{array}{c} & \\ & \\ \end{array} \\ \end{array} \\ \end{array} \\ \begin{array}{c} & \\ & \\ \end{array} \\ \end{array} \\ \end{array} \\ \begin{array}{c} & \\ & \\ \end{array} \\ \end{array} \\ \end{array} \\ \end{array} \\ \begin{array}{c} & \\ & \\ \end{array} \\ \end{array} \\ \end{array} \\ \end{array} \\ \end{array} \\ \end{array} \\ \begin{array}{c} & \\ & \\ \end{array} \\$ | 50,≢ <i>≸</i> VR | | - | 4.0-4-0 | E. Emitter | | | | | | | | | VBER-SV VCE-200V *********************************** | ୷ │ 100 u ୷ 470 u │ | | ······ | D | B: Base | | ମ୍ ୟ ି
 | VBE=-5 V VC=200V | | | / <u>] 0.6</u> | SANYO: TO 3PML | | · | | | ri
H | | | | • | | | | | | | | | | | • | | |
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Ti | 10-25 0 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
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| Collector Cutoff Current I _{CBO} V_{CB} =800V, $I_E=0$ 10 uA
Emitter Cutoff Current I _{EBO} V_{EB} =5V, I_C =70 1 mA
DC Current Gain h_{FE} V_{CE} =5V, I_C =71A 8
Gain Bandwidth Product f_T V_{CE} =10V, I_C =1A 8
Collector to Emitter $V_{CE}(sat)$ I_C =5A, I_B =1A 5 V
Saturation Voltage
Base to Emitter $V_{BE}(sat)$ I_C =5A, I_B =1A 1.5 V
Saturation Voltage
Collector to Base $V_{(BR)CEO}$ I_C =100mA, R_{BE} = ∞ 800 V
Breakdown Voltage $V_{(BR)CEO}$ I_C =100mA, R_{BE} = ∞ 800 V
Breakdown Voltage $V_{(BR)CEO}$ I_C =200mA, $I_C=0$ 7 V
Breakdown Voltage I_E =200mA, $I_C=0$ 7 V
$I_B = 2-2A$ $I_E = 10$ $I_E = 200$ $I_E = I_E = I_E$

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| Collector Cutoff Current I _{CBO} V_{CB} =800V, $I_E=0$ 10 uA
Emitter Cutoff Current I _{EBO} V_{EB} =5V, I_C =70 1 mA
DC Current Gain h_{FE} V_{CE} =5V, I_C =71A 8
Gain Bandwidth Product f_T V_{CE} =10V, I_C =1A 8
Collector to Emitter $V_{CE}(sat)$ I_C =5A, I_B =1A 5 V
Saturation Voltage
Base to Emitter $V_{BE}(sat)$ I_C =5A, I_B =1A 1.5 V
Saturation Voltage
Collector to Base $V_{(BR)CEO}$ I_C =100mA, R_{BE} = ∞ 800 V
Breakdown Voltage $V_{(BR)CEO}$ I_C =100mA, R_{BE} = ∞ 800 V
Breakdown Voltage $V_{(BR)CEO}$ I_C =200mA, $I_C=0$ 7 V
Breakdown Voltage I_E =200mA, $I_C=0$ 7 V
$I_B = 2-2A$ $I_E = 10$ $I_E = 200$ $I_E = I_E = I_E$

 | Electrical Characteristics | at Ta=25 | °c | min ty | p max unit | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
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| Emitter Cutoff Current
DC Current Gain
h_{FE} $V_{CE}=5V, I_C=1A$ 8
Gain Bandwidth Product
Collector to Emitter
Collector to Emitter
Saturation Voltage
Base to Emitter
Saturation Voltage
Collector to Base
Collector to Base
Collector to Base
$V_{(BR)CE0}$ $I_C=5A, I_B=1A$ 1.5 V
$V_{BR}(CE0$ $I_C=5MA, I_E=0$ 1500 V
Breakdown Voltage
Collector to Base
Breakdown Voltage
Fall Time
$V_{(BR)EE0}$ $I_C=200mA, I_C=0$ 7 V
F_{F} $I_C=5A, I_B=1A, 0.4$ us
$I_{B2}=-2A$
Switching Time Test Circuit
$V_{(BR)} = 0$ $V_{(BR)} = 0$ $V_{(BR)} = 0$
$V_{(BR)} = 0$ $V_{(BR)} = 0$

 | Collector Cutoff Current | ICBO | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
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| DC Current Gain hFE V _{CE} =5V, I _c =1A 8
Gain Bandwidth Product f_T V _{CE} =5V, I _c =1A 3 MHz
Collector to Emitter V _{CE(sat}) I _c =5A, I _B =1A 5 V
Saturation Voltage
Base to Emitter V _{BE(sat}) I _c =5A, I _B =1A 1.5 V
Collector to Base V _{(BR)CBO} I _c =5mA, I _E =0 1500 V
Breakdown Voltage
Collector to Emitter V _{(BR)CBO} I _c =5mA, I _E =0 1500 V
Breakdown Voltage
Emitter to Base V _{(BR)CBO} I _c =200mA, I _c =0 7 V
Breakdown Voltage
Fall Time test Circuit Case Outline 2039
$f_{R} = \frac{102}{100} \frac{100}{100} \frac{100}{$

 | Emitter Cutoff Current | I _{EBO} | $V_{\rm ED}=5V_{\bullet}I_{\rm C}=0$ | | 1 mA | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
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| Saturation Voltage
Base to Emitter V _E (sat) $I_C=5A, I_B=1A$ 5 V
Saturation Voltage
Collector to Base V _{(BR)CE0} $I_C=5A, I_B=1A$ 1.5 V
Saturation Voltage
Collector to Base V _{(BR)CE0} $I_C=5mA, I_E=0$ 1500 V
Breakdown Voltage
Emitter to Base V _{(BR)CE0} $I_C=100mA, R_{BE}=\infty$ 800 V
Breakdown Voltage
Emitter to Base V _{(BR)CE0} $I_C=100mA, I_C=0$ 7 V
Breakdown Voltage
Fall Time transformer Test Circuit Case Outline 2039
$I_{B2}=-2A$ 0.4 us
$I_{B2}=-2A$ $I_{B1}=1A,$ 0.4 us
$I_{B1}=1A,$ 0.4 us
$I_{B2}=-2A,$ $I_{B1}=1A,$ 0.4 us
$I_{B2}=-2A,$ $I_{B1}=1A,$ 0.4 us
$I_{B1}=1A,$ 0.4 us
$I_{B1}=1$

 | | hFE | V_{CE}^{-1} =5V, I_{C}^{-1} | 8 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
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| Saturation Voltage
Base to Emitter V _E (sat) $I_C=5A, I_B=1A$ 5 V
Saturation Voltage
Collector to Base V _{(BR)CE0} $I_C=5A, I_B=1A$ 1.5 V
Saturation Voltage
Collector to Base V _{(BR)CE0} $I_C=5mA, I_E=0$ 1500 V
Breakdown Voltage
Emitter to Base V _{(BR)CE0} $I_C=100mA, R_{BE}=\infty$ 800 V
Breakdown Voltage
Emitter to Base V _{(BR)CE0} $I_C=100mA, I_C=0$ 7 V
Breakdown Voltage
Fall Time transformer Test Circuit Case Outline 2039
$I_{B2}=-2A$ 0.4 us
$I_{B2}=-2A$ $I_{B1}=1A,$ 0.4 us
$I_{B1}=1A,$ 0.4 us
$I_{B2}=-2A,$ $I_{B1}=1A,$ 0.4 us
$I_{B2}=-2A,$ $I_{B1}=1A,$ 0.4 us
$I_{B1}=1A,$ 0.4 us
$I_{B1}=1$

 | | f_{T} | $V_{CE} = 10V, I_{C} = 1A$ | | - | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
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| Saturation Voltage
Base to Emitter $V_{BE(sat)} I_C = 5A, I_B = 1A$ 1.5 V
Saturation Voltage
Collector to Base $V_{(BR)CBO} I_C = 5mA, I_E = 0$ 1500 V
Breakdown Voltage
Collector to Emitter $V_{(BR)CEO} I_C = 100mA, R_{BE} = \infty$ 800 V
Breakdown Voltage
Emitter to Base $V_{(BR)EBO} I_E = 200mA, I_C = 0$ 7 V
Breakdown Voltage
Fall Time $t_f I_C = 5A, I_B = 1A,$ 0.4 us
$I_{B2} = -2A$
Switching Time Test Circuit Case Outline 2039
(unit:mm) $SO(H) \leq 1K = 0$
$SWICH I = 100 = 0$ $SO(H) \leq 1K = 0$ $SO(H) = 0$ SO

 | | V _{CE(sat)} | I _C =5A,I _B =1A | | .5 V | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
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| Saturation Voltage
Collector to Base
V(BR)CBO $I_C=5mA, I_E=0$ 1500 V
Breakdown Voltage
Collector to Emitter
V(BR)CEO $I_C=100mA, R_{BE}=\infty$ 800 V
Breakdown Voltage
Fall Time
V(BR)EBO $I_E=200mA, I_C=0$ 7 V
Breakdown Voltage
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tr
I_C=5A, I_B1=1A, 0.4 us
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| Collector to Base $V_{(BR)CBO}$ $I_C=5mA, I_E=0$ 1500 V
Breakdown Voltage
Collector to Emitter $V_{(BR)CEO}$ $I_C=100mA, R_{BE}=\infty$ 800 V
Breakdown Voltage
Emitter to Base $V_{(BR)EBO}$ $I_E=200mA, I_C=0$ 7 V
Breakdown Voltage
Fall Time t_f $I_C=5A, I_{B1}=1A$, 0.4 us
Switching Time Test Circuit $Case Outline$ 2039
$V_{(Unit:mm)}$ $S_{O} = \frac{102}{100} = \frac{102}{1$

 | | VBE(sat) | $^{1}C^{=5A}, ^{1}B^{=1A}$ | | 1.5 V | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
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| $\begin{array}{c} \text{Breakdown Voltage} \\ \text{Collector to Emitter} \\ \text{Breakdown Voltage} \\ \text{Emitter to Base} \\ \text{Emitter to Base} \\ \text{Breakdown Voltage} \\ \text{Fall Time} \\ \text{V}(BR)EBO I_E=200mA, I_C=0 \\ \text{T}_E=200mA, I_C=0 \\ \text{T}_C=5A, I_{B1}=1A, \\ I_{B2}=-2A \\ \end{array}$

 | | V | T 5m1 T -0 | 1500 | v | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
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| Collector to Emitter
Breakdown Voltage
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Breakdown Voltage
Fall Time
$V_{(BR)EBO}$ $I_{E}=200mA, I_{C}=0$ 7 V
$V_{(BR)EBO}$ $I_{E}=200mA, I_{C}=0$ 7 V
$I_{C}=5A, I_{B1}=1A,$ 0.4 us
$I_{B2}=-2A$
Switching Time Test Circuit
$PW=20us, Duty \le 1^{s}$ OUTPUT
I_{B1} I_{C} $I_{C}=5A, I_{B1}=1A,$ 0.4 us
$I_{B2}=-2A$ $I_{C}=0$ I_{C}

 | | '(BR)CBO | -C-2mu, E | . 1900 | Ŷ | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
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| Emitter to Base
Breakdown Voltage
Fall Time $V_{(BR)EBO} I_E = 200 \text{ MA}, I_C = 0$ 7 V
France $T_E = 5A, I_B = 1A$, 0.4 us
$I_B = -2A$
Switching Time Test Circuit
$PW = 20 \text{ us}, \text{Duty} \le 1\%$
$VW = 20 \text{ us}, \text{Duty} \le 1\%$
VW = 20 us, Duty = 1%
VW = 1%
VW = 1%

 | Collector to Emitter | V(BR)CEO | I_{C} =100mA, R_{BE} = ∞ | 800 | V | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
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| Fall Time t_{f} $I_{C}=5A, I_{B1}=1A,$ 0.4 us
Switching Time Test Circuit
$PW=20us, Duty \leq 1's$ output (unit:mm) $S_{0} = 0.4$ Us $S_{0} =$

 | Emitter to Base | V(BR)EBO | I _E =200mA,I _C =0 | 7 | v | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
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| Switching Time Test Circuit
$PW=20us, Duty \leq 1's$ output
$IB1 \rightarrow IB2$
$IB1 \rightarrow IB2$

 | | to | Ic=5A. Inc=1A. | | 0.4 us | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
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| $PW = 20 \text{ us}, Duty \leq 1\%$ $VR \qquad (unit:mm)$ $S_{0} \qquad (unit:mm)$

 |
 | - T | I _{B2} =-2A | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
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 | Switching Time Test Circui | t C | ase Outline 2039 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
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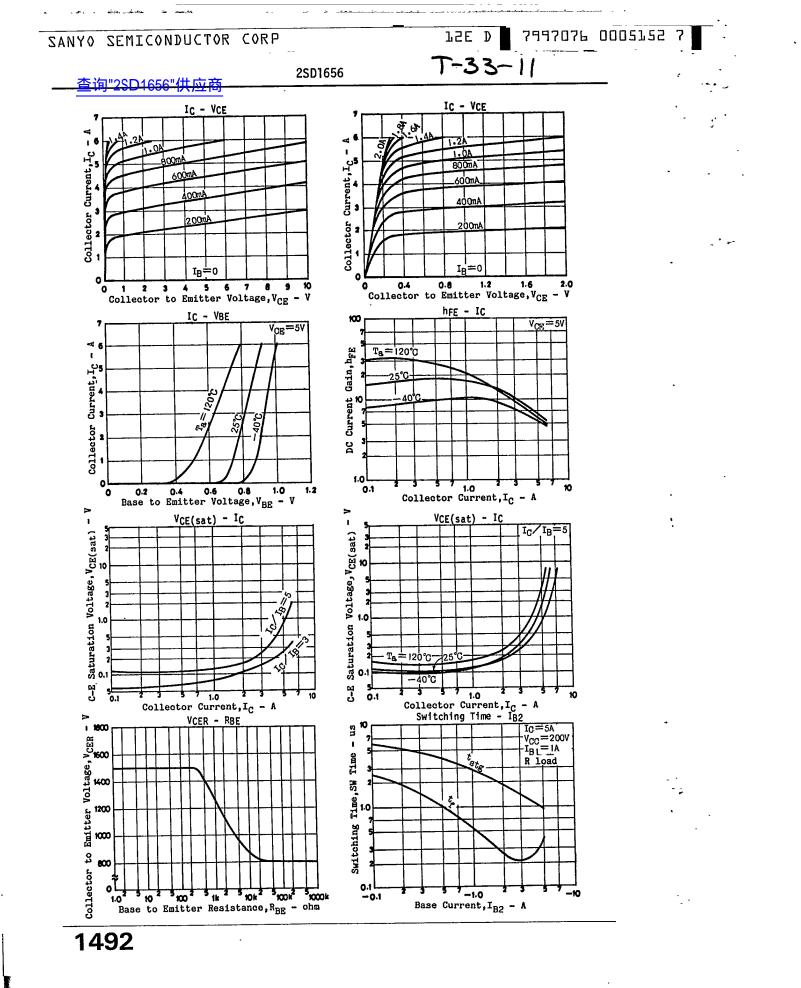
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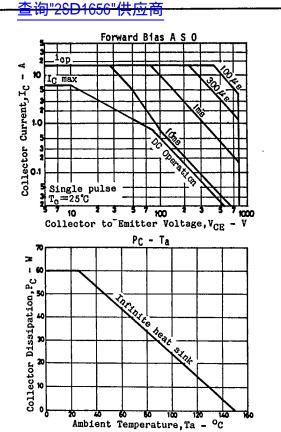
SANYO SEMICONDUCTOR CORP

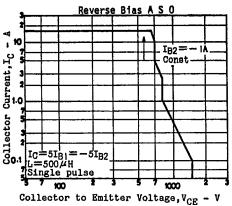
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SANYO SEMICONDUCTOR CORP

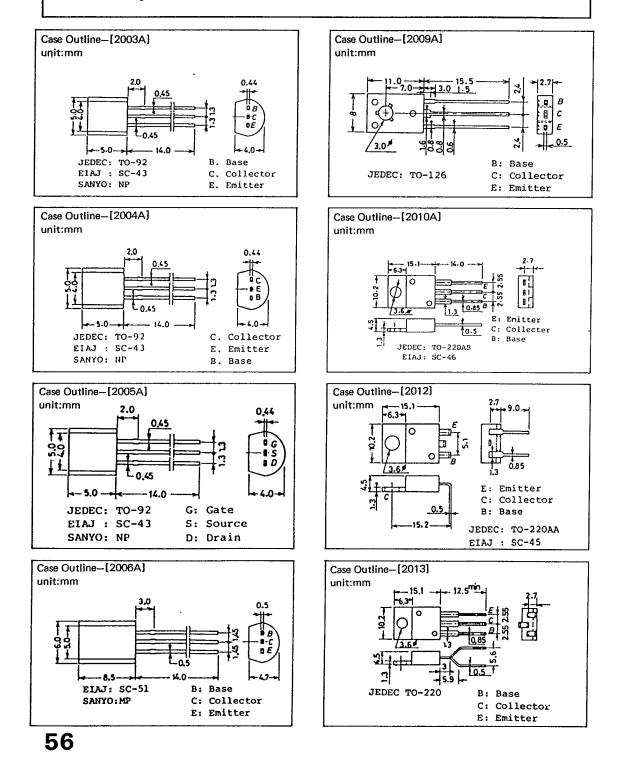
75E D 248

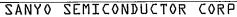
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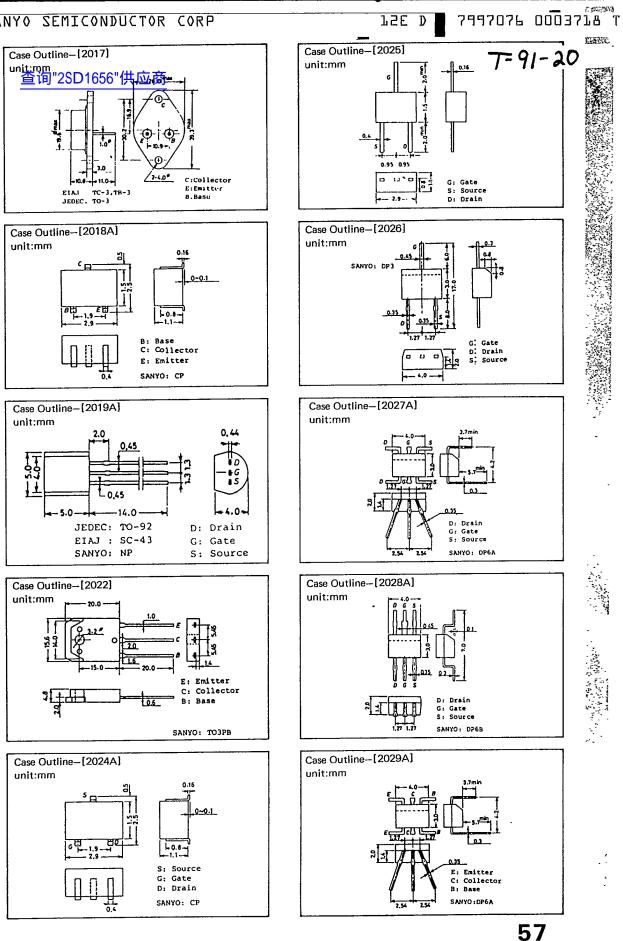
查询"2SDCASE OUTLINES AND ATTACHMENTS

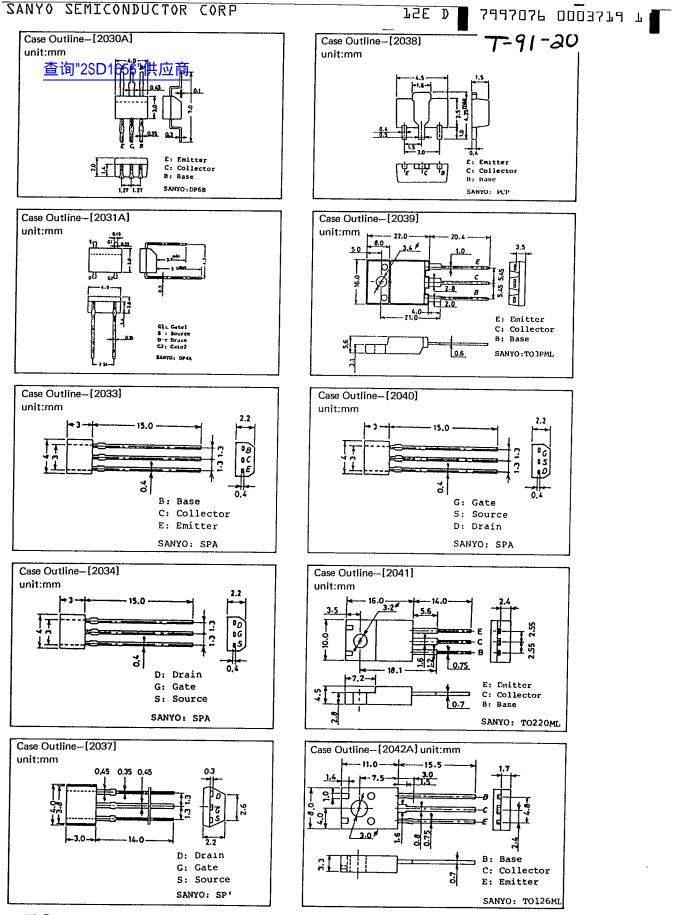
- •All of Sanyo Transistor case outlines are illustrated below.
- •All dimensions are in mm, and dimensions which are not followed by min. or max. are represented by typical values.
- •No marking is indicated.



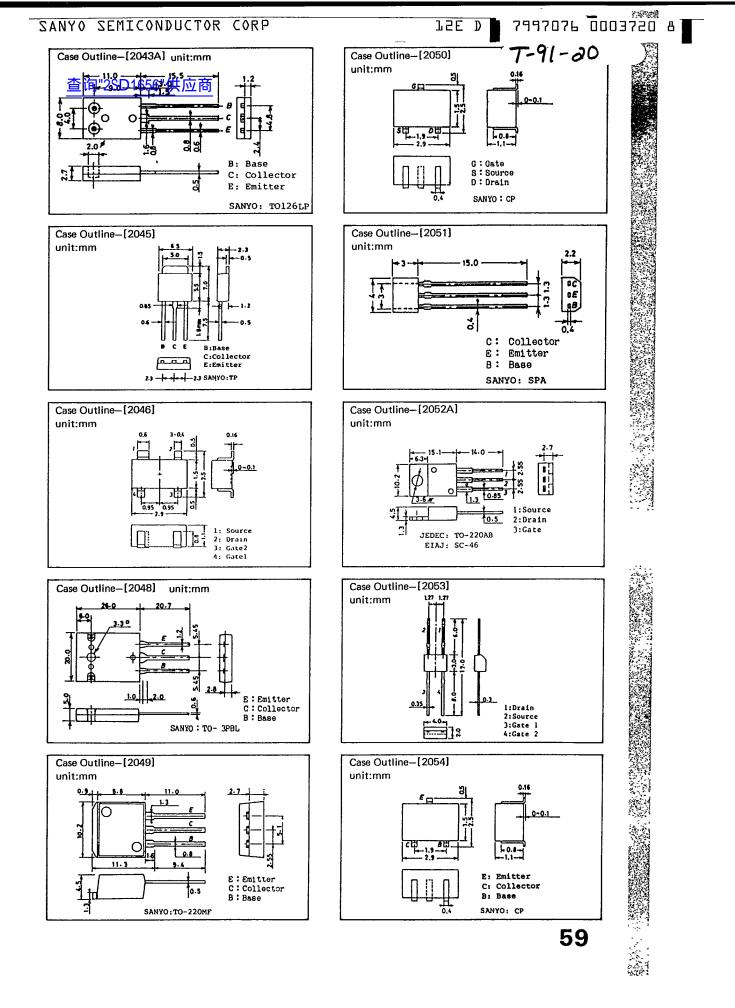


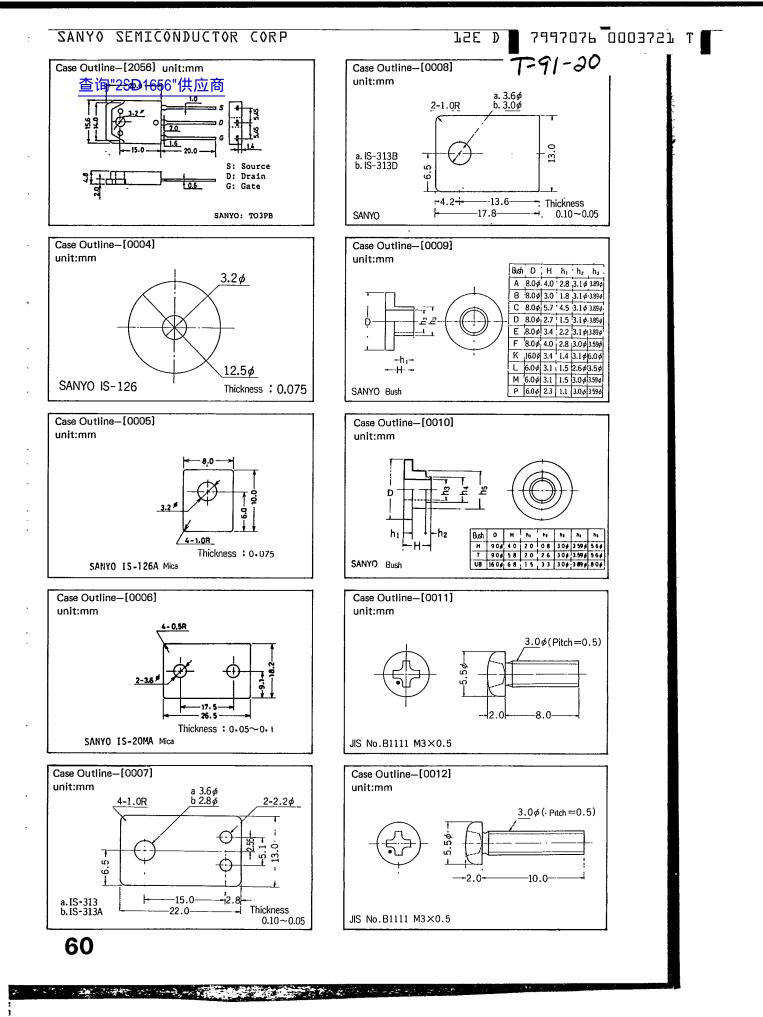
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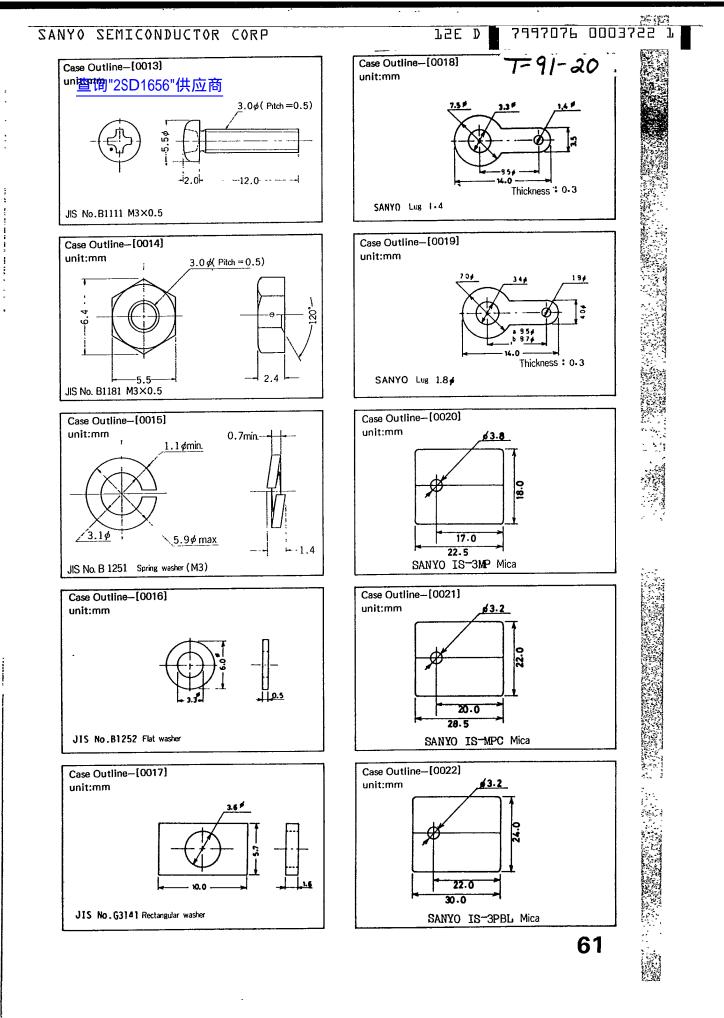




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