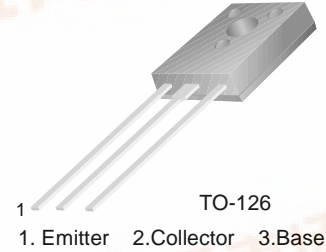


**FAIRCHILD**  
SEMICONDUCTOR™

## KSC3502

### CRT Display, Video Output

- High Voltage :  $V_{CE0}=200V$
- Low Reverse Transfer Capacitance:  $C_{re}=1.2pF @ V_{CB}=30V$



### NPN Epitaxial Silicon Transistor

#### Absolute Maximum Ratings $T_C=25^{\circ}C$ unless otherwise noted

Symbol	Parameter	Value	Units
$V_{CBO}$	Collector-Base Voltage	200	V
$V_{CEO}$	Collector-Emitter Voltage	200	V
$V_{EBO}$	Emitter-Base Voltage	5	V
$I_C$	Collector Current (DC)	100	mA
$I_{CP}$	Collector Current (Pulse)	200	mA
$P_C$	Collector Dissipation ( $T_C=25^{\circ}C$ )	5	W
$P_C$	Collector Dissipation ( $T_a=25^{\circ}C$ )	1.2	W
$T_J$	Junction Temperature	150	$^{\circ}C$
$T_{STG}$	Storage Temperature	- 55 ~ 150	$^{\circ}C$

#### Electrical Characteristics $T_C=25^{\circ}C$ unless otherwise noted

Symbol	Parameter	Test Condition	Min.	Typ.	Max.	Units
$BV_{CBO}$	Collector-Base Breakdown Voltage	$I_C = 10\mu A, I_E = 0$	200			V
$BV_{CEO}$	Collector-Emitter Breakdown Voltage	$I_C = 1mA, I_B = 0$	200			V
$BV_{EBO}$	Emitter-Base Breakdown Voltage	$I_E = 10\mu A, I_C = 0$	5			V
$I_{CBO}$	Collector Cut-off Current	$V_{CB} = 150V, I_E = 0$			0.1	$\mu A$
$I_{EBO}$	Emitter Cut-off Current	$V_{EB} = 4V, I_C = 0$			0.1	$\mu A$
$h_{FE}$	DC Current Gain	$V_{CE} = 10V, I_C = 10mA$	40		320	
$V_{CE(sat)}$	Collector-Emitter Saturation Voltage	$I_C = 20mA, I_B = 2mA$			0.6	V
$V_{BE(sat)}$	Base-Emitter Saturation Voltage	$I_C = 20mA, I_B = 2mA$			1	V
$f_T$	Current Gain Bandwidth Product	$V_{CE} = 30V, I_C = 10mA$		150		MHz
$C_{ob}$	Output Capacitance	$V_{CB} = 30V, f = 1MHz$		1.7		pF
$C_{re}$	Reverse Transfer Capacitance	$V_{CB} = 30V, f = 1MHz$		1.2		pF

### $h_{FE}$ Classification

Classification	C	D	E	F
$h_{FE}$	40 ~ 80	60 ~ 120	100 ~ 200	160 ~ 320



# Typical Characteristics

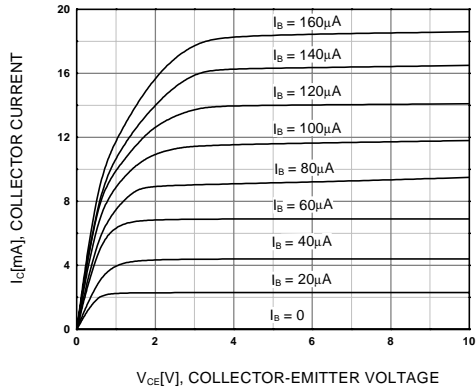


Figure 1. Static Characteristic

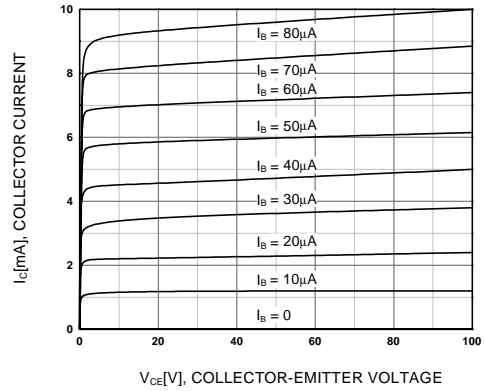


Figure 2. Static Characteristic

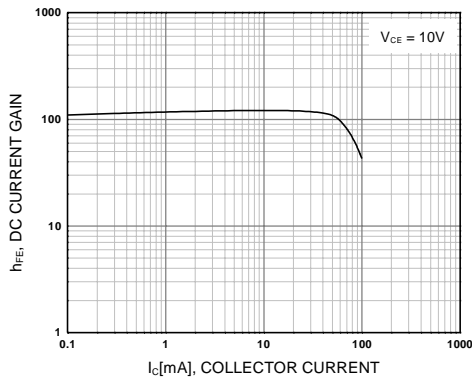


Figure 3. DC current Gain

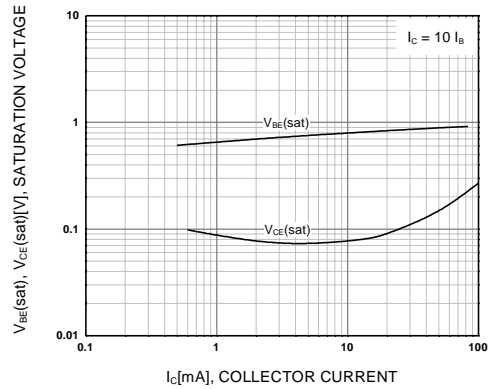


Figure 4. Base-Emitter Saturation Voltage  
Collector-Emitter Saturation Voltage

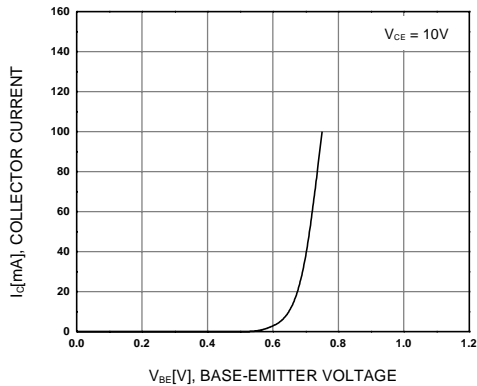


Figure 5. Base-Emitter On Voltage

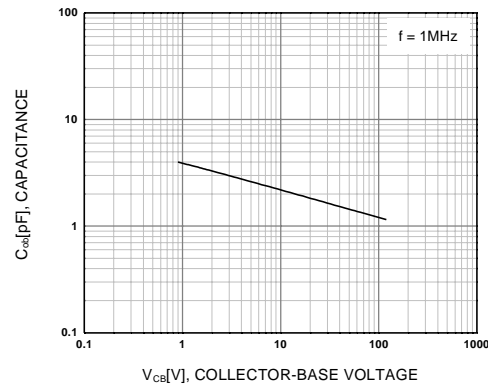


Figure 6. Collector Output Capacitance

Typical Characteristics (Continued)

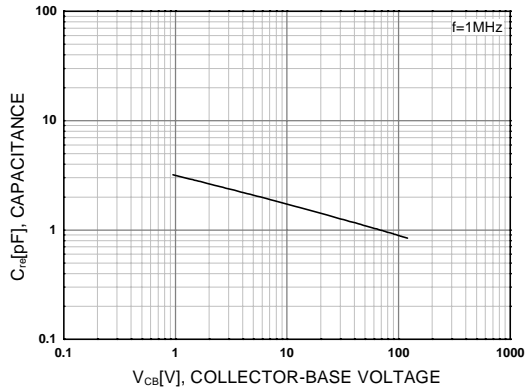


Figure 7. Reverse Transfer Capacitance

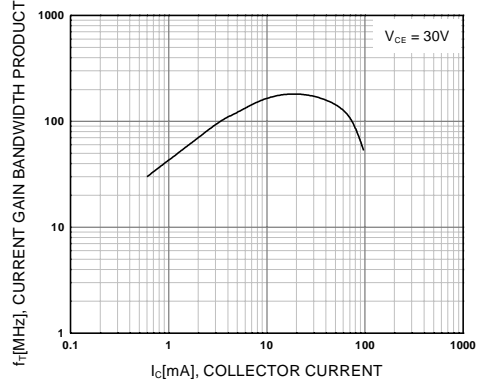


Figure 8. Current Gain Bandwidth Product

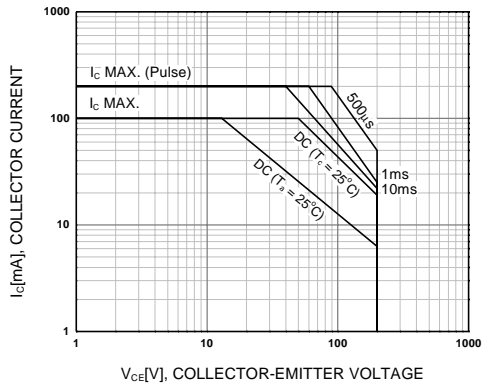


Figure 9. Safe Operating Area

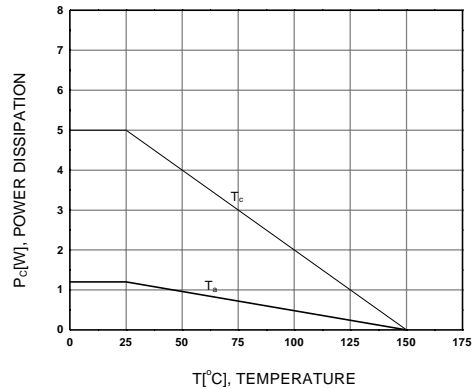
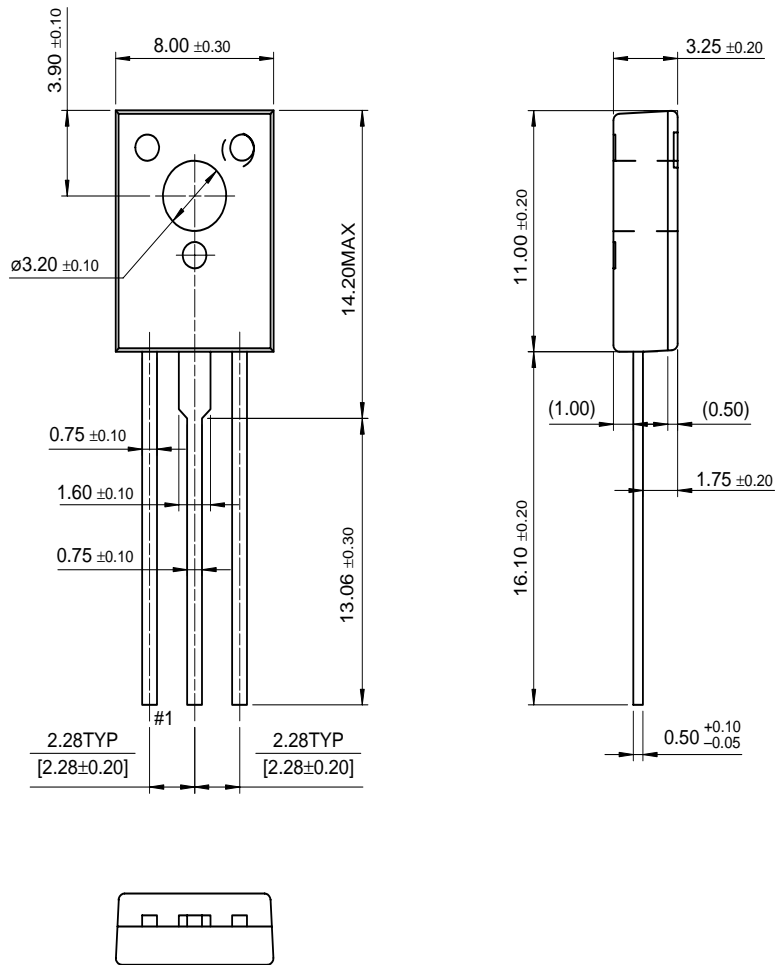


Figure 10. Power Derating

# Package Demensions

## TO-126



Dimensions in Millimeters

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CROSSVOLT™	POPT™	UHC™
E <sup>2</sup> CMOS™	PowerTrench®	VCX™
FACT™	QFET™	
FACT Quiet Series™	QST™	
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GTO™	SuperSOT™-6	

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## PRODUCT STATUS DEFINITIONS

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No Identification Needed	Full Production	This datasheet contains final specifications. Fairchild Semiconductor reserves the right to make changes at any time without notice in order to improve design.
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