

SAMSUNG SEMICONDUCTOR INC

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KSD5007

**NPN TRIPLE DIFFUSED
PLANAR SILICON TRANSISTOR**

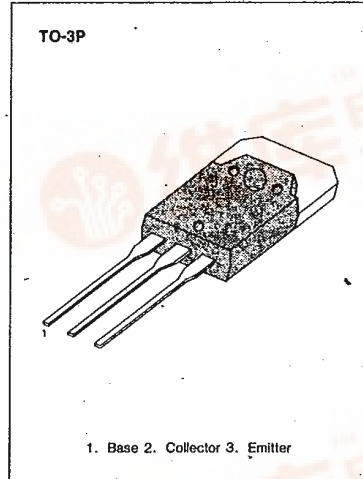
T-33-13

**COLOR TV HORIZONTAL OUTPUT
APPLICATIONS**

High Collector-Base Voltage $V_{CB0}=1500V$

ABSOLUTE MAXIMUM RATINGS ($T_a=25^{\circ}C$)

Characteristic	Symbol	Rating	Unit
Collector-Base Voltage	V_{CB0}	1500	V
Collector-Emitter Voltage	V_{CE0}	800	V
Emitter-Base Voltage	V_{EB0}	7	V
Collector Current	I_C	6	A
Collector Current (Peak)	I_C	16	A
Collector Dissipation ($T_C=25^{\circ}C$)	P_C	120	W
Junction Temperature	T_J	150	$^{\circ}C$
Storage Temperature	T_{stg}	-55~150	$^{\circ}C$



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ELECTRICAL CHARACTERISTICS ($T_a=25^{\circ}C$)

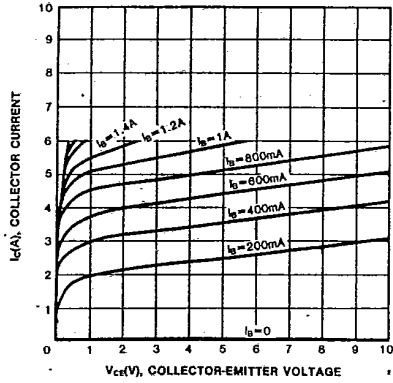
Characteristic	Symbol	Test Condition	Min	Typ	Max	Unit
Collector Cutoff Current	I_{CBO}	$V_{CB}=800V, I_E=0$			10	μA
Emitter Cutoff Current	I_{EBO}	$V_{EB}=5V, I_C=0$			1	mA
DC Current Gain	h_{FE}	$V_{CE}=5V, I_C=1A$	8			
Collector Emitter Saturation Voltage	$V_{CE(sat)}$	$I_C=5A, I_B=1A$			5	V
Base-Emitter Saturation Voltage	$V_{BE(sat)}$	$I_C=5A, I_B=1A$			1.5	V
Current Gain Bandwidth Product	f_T	$V_{CE}=10V, I_C=1A$		3		MHz
Fall Time	t_f	$I_C=5A, I_B1=1A, I_B2=-2A, R_L=40\Omega$			0.4	μS



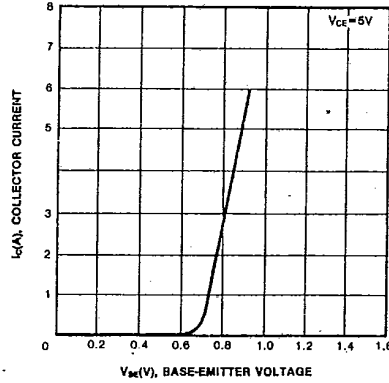
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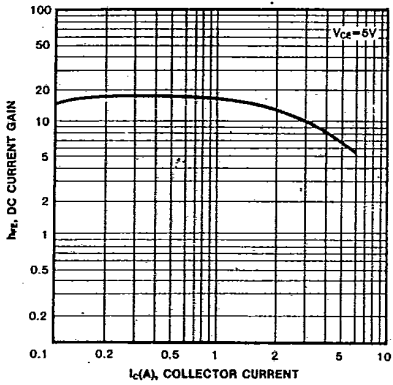
STATIC CHARACTERISTIC



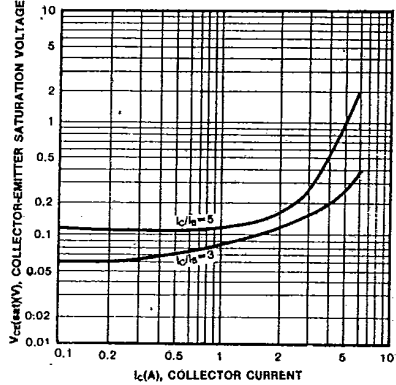
BASE-EMITTER ON VOLTAGE



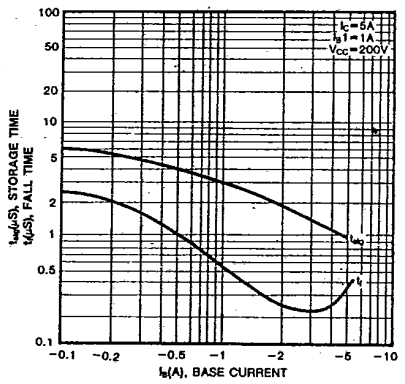
DC CURRENT GAIN



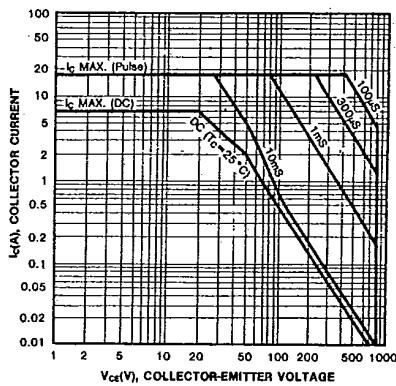
COLLECTOR-EMITTER SATURATION VOLTAGE



TURN ON TIME



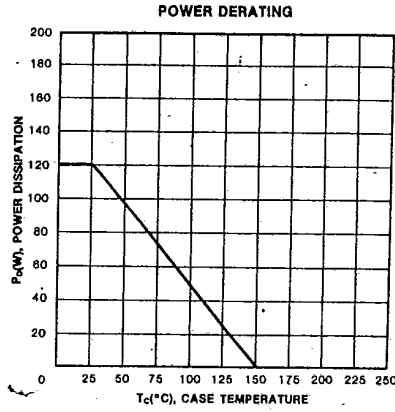
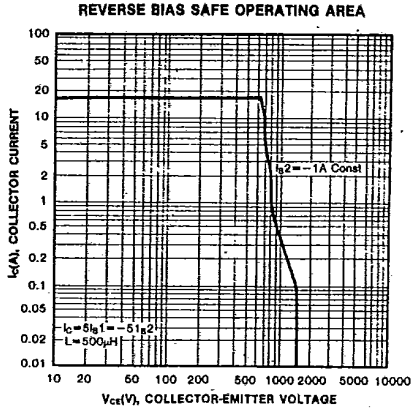
SAFE OPERATING AREA



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**NPN TRIPLE DIFFUSED
PLANAR SILICON TRANSISTOR**

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**NPN TRIPLE DIFFUSED
PLANAR SILICON TRANSISTOR**

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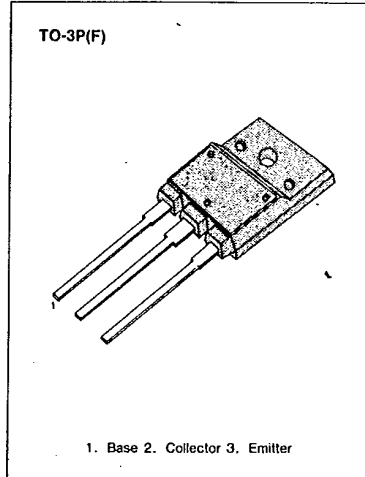
T-33-11

**COLOR TV HORIZONTAL OUTPUT
APPLICATIONS (DAMPER DIODE BUILT IN)**

High Collector-Base Voltage $V_{CBO} = 1500V$

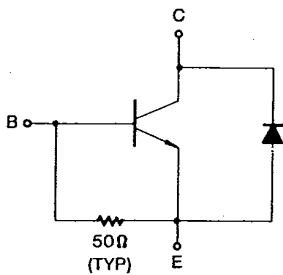
ABSOLUTE MAXIMUM RATINGS ($T_a = 25^\circ C$)

Characteristic	Symbol	Rating	Unit
Collector-Base Voltage	V_{CBO}	1500	V
Collector-Emitter Voltage	V_{CEO}	800	V
Emitter-Base Voltage	V_{EBO}	6	V
Collector Current	I_C	2.5	A
Collector Current (Peak)	I_C	10	A
Collector Dissipation ($T_c = 25^\circ C$)	P_C	50	W
Junction Temperature	T_j	150	$^\circ C$
Storage Temperature	T_{stg}	-55~150	$^\circ C$



ELECTRICAL CHARACTERISTICS ($T_a = 25^\circ C$)

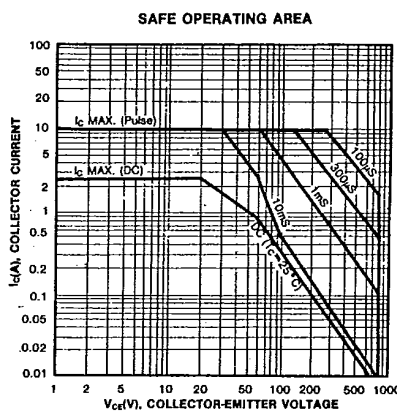
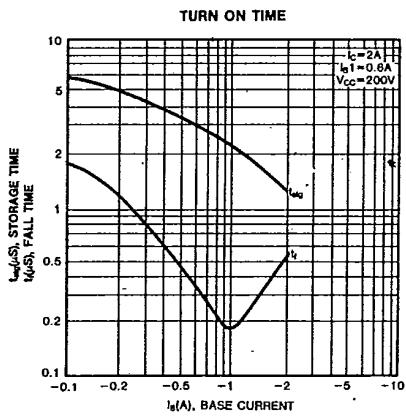
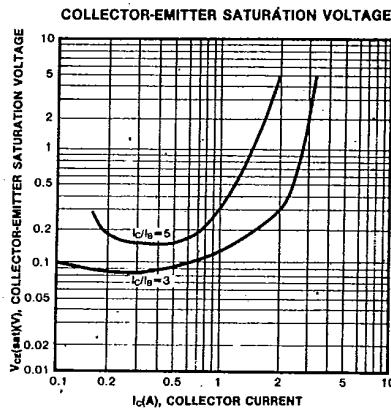
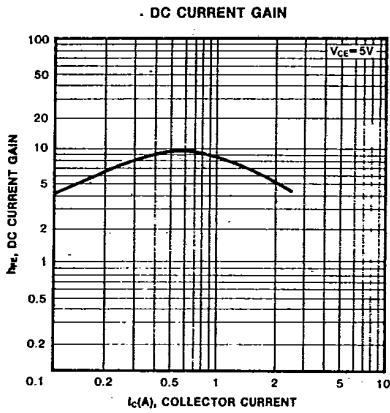
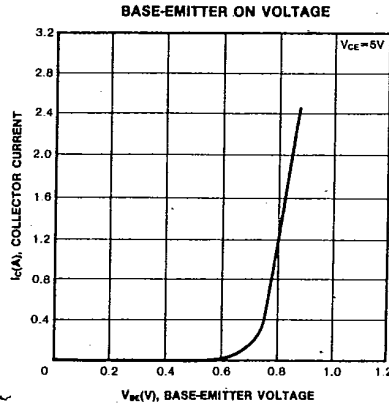
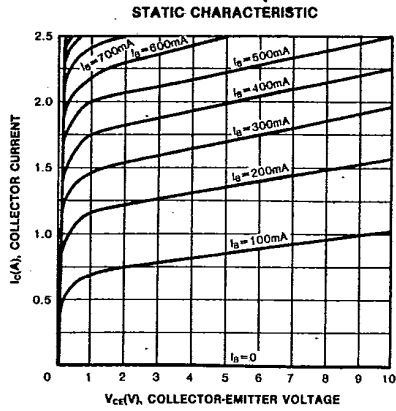
Characteristic	Symbol	Test Condition	Min	Typ	Max	Unit
Collector Cutoff Current	I_{CBO}	$V_{CB} = 800V, I_E = 0$			10	μA
Emitter Cutoff Current	I_{EBO}	$V_{EB} = 4V, I_C = 0$	40		130	mA
DC Current Gain	h_{FE}	$V_{CE} = 5V, I_C = 0.5A$	8			
Collector Emitter Saturation Voltage	$V_{CE(sat)}$	$I_C = 2A, I_B = 0.6A$			8	V
Base-Emitter Saturation Voltage	$V_{BE(sat)}$	$I_C = 2A, I_B = 0.6A$			1.5	V
Current Gain Bandwidth Product	f_T	$V_{CE} = 10V, I_C = 0.5A$		3		MHz
Damper Diode Turn On Voltage	V_i	$I_i = 2.5A$			2	V
Fall Time	t_f	$I_C = 2A, I_{B1} = 0.6A$ $I_{B2} = -1.2A, V_{CC} = 200V$ $R_L = 100\Omega$			0.4	μS



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