X00151

2N5007 AND 2N5009
10 AMP
HIGH SPEED PNP TRANSISTOR
100 VOLTS

SSDI

14830 Valley View Avenue
La Mirada, California 90638
(213) 921-9660
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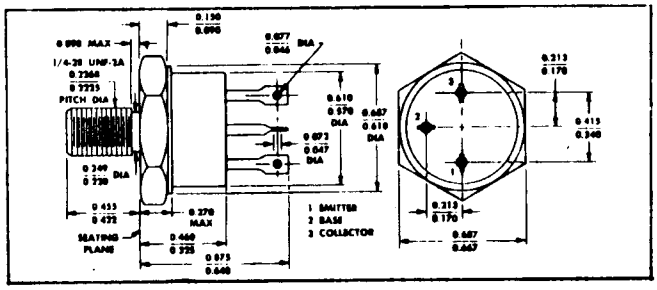
CASE STYLE T
JEDEC TO–61
ALL TERMINALS ISOLATED FROM CASE



FEATURES

- RADIATION TOLERANT
- FAST SWITCHING, 100 NSEC MAX td
- HIGH FREQUENCY, TYPICAL f_T 100 MHZ
- BVCEO 80 VOLTS MIN
- HIGH LINEAR GAIN, LOW SATURATION VOLTAGE
- 200°C OPERATING, GOLD EUTECTIC DIE ATTACH
- DESIGNED FOR COMPLEMENTARY USE WITH 2N5006 AND 2N5008

MAXIMUM RATINGS

Rating	Symbol	Value	Unit
Collector - Emitter Voltage	V_{CEO}	80	Volts
Collector - Base Voltage	V_{CBO}	100	Volts
Emitter - Base Voltage	V_{EBO}	5.5	Volts
Collector Current	I_C	10	Amps
Base Current	I_B	3	Amps
Total Device Dissipation @ TC = 50 °C Derate above 50 °C	P_D	100 667	Watts mW/°C
Operating and Storage Temperature	Tj, Tstg	-65 to +200	°C

THERMAL CHARACTERISTICS

Characteristics	Symbol	Value	Unit
Thermal Resistance, Junction to Case	RθJC	1.5	°C/W

ELECTRICAL CHARACTERISTICS

Characteristics	Symbol	Min.	Max.	Unit
Collector - Emitter Breakdown Voltage* (I_C= 200 mAdc)	BV_{CEO}*	80		Vdc
Collector - Base Breakdown Voltage (I_C= 200 u Adc)	BV_{CBO}	100		Vdc
Emitter - Base Breakdown Voltage (I_E= 200 uAdc)	BV_{EBO}	5.5		Vdc

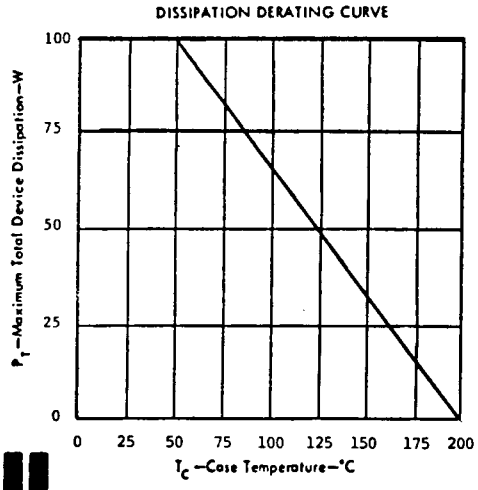
NOTE: All specifications subject to change without notice.

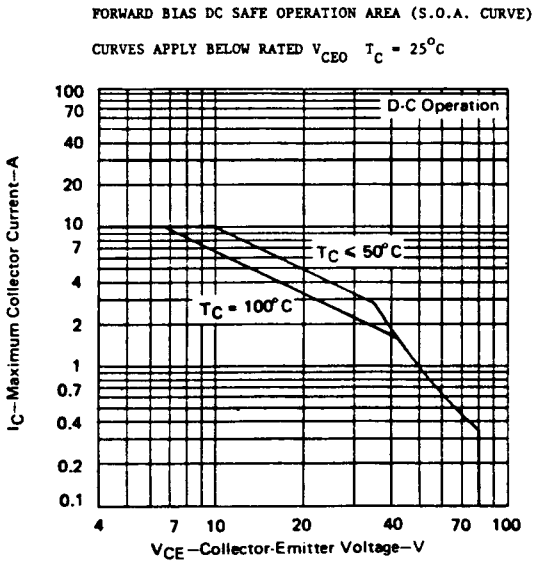
ELECTRICAL CHARACTERISTICS

Characteristics		Symbol	Min.	Max.	Unit
Collector Cutoff Current (VCE = 40 Vdc) (VCE = 60 Vdc)		I_{CEO} I_{CES}		50 1.0	uAdc uAdc
Collector Cutoff Current (VCE = 100Vdc) (VCE = 60 Vdc, VBE = 2 Vdc, TC = 150°C)		I_{CEX} I_{CEX}		1.0 500	mAdc uAdc
Emitter Cutoff Current (VEB = 4 Vdc) (VEB = 5.5 Vdc)		I_{EBO}		1.0 1.0	uAdc mAdc
DC Current Gain*	2N5007 2N5009	h_{FE}*	20 50		
(I_C = 100 mAdc, V_{CE} = 5 Vdc)	2N5007 2N5009		30 70	90 200	
(I_C = 5 Adc, V_{CE} = 5 Vdc)	2N5007 2N5009		20 45		
(I_C = 10 Adc, V_{CE} = 5 Vdc)					
Collector - Emitter Saturation Voltage* (I_C = 5 Adc, I_B = 500 mAdc) (I_C = 10 Adc, I_B = 500 mAdc)		$V_{CE(SAT)}$*		0.9 1.5	Vdc
Base - Emitter Saturation Voltage* (I_C = 5 Adc, I_B = 500 mAdc) (I_C = 10 Adc, I_B = 1 Adc)		$V_{BE(SAT)}$*		1.8 2.2	Vdc
Current - Gain - Bandwith Product (I_C = 500 m Adc, V_{CE} = 5 Vdc, f = 20 M Hz)	2N5007 2N5009	f_T	35 40		M Hz
Output Capacitance (V_{CB} = 10 Vdc I_E = 0, f = 1 MHz)		C_{ob}		500	pf
Base - Emitter Voltage* (V_{CE} = 5 Vdc, IC = 5 Adc)		V_{BE}(ON)*		1.8	Vdc
Delay Time	(V_{CC} = 40 Vdc.	t_d		100	ns
Rise Time	V_{EB}(Off) = 3.0 Vdc,	t_r		100	ns
Storage Time	I_C = 2 Adc,	t_s		2.0	us
Fall Time	I_{B1} = I_{B2} = 200 mAdc)	t_f		200	ns

*Pulse Test: Pulse width = 300 us, DutyCycle = 2%

TYPICAL OPERATING CURVES





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