NPN Power Silicon Transistor

NEW

Features

- Available in JAN, JANTX, and JANTXV per MIL-PRF-19500/407
- TO-3 (TO-204AA) Package



Maximum Ratings

Ratings	Symbol	Value	Units
Collector - Emitter Voltage	V _{CEO}	70	Vdc
Collector - Base Voltage	V _{CBO}	100	Vdc
Emitter - Base Voltage	V _{EBO}	7.0	Vdc
Base Current	Ι _Β	7.0	Adc
Collector Current	IC	15	Adc
Total Power Dissipation @ $T_A = 25 ^{\circ}C^{(1)}$	P _T	6.0	W
Operating & Storage Temperature Range	T _{op} , T _{stg}	-65 to +200	°C

¹⁾ Derate linearly @ 34.2 mW / °C for $T_A = 25$ °C

Thermal Characteristics

Characteristics	Symbol	Maximum	Units
Thermal Resistance, Junction-to-Case	$R_{\theta JC}$	1.5	°C/W

Electrical Characteristics

OFF Characteristics	Symbol	Mimimum	Maximum	Units
Collector - Emitter Breakdown Voltage $I_C = 200 \text{ mAdc}$	V _(BR) CEO	70		Vdc
Collector - Emitter Breakdown Voltage $I_C = 200 \text{ mAdc}, R_{BE} = 100 \Omega$	V _(BR) CER	80		Vdc
Collector - Emitter Breakdown Voltage $V_{BE} = -1.5 \text{ Vdc}, I_C = 200 \text{ mAdc}$	V _(BR) CEX	90		Vdc
Collector - Emitter Cutoff Current $V_{CE} = 60 \text{Vdc}$	I _{CEO}		1.0	mAdc
Collector - Emitter Cutoff Current $V_{BE} = -1.5 \text{ Vdc}, V_{CE} = 100 \text{ Vdc}$	ICEX		1.0	mAdc
Emitter - Base Cutoff Current $V_{EB} = 7.0 \text{ Vdc}$	I _{EBO}		1.0	mAdc
ON Characteristics			-	
Forward Current Transfer Ratio $I_C = 0.5 \text{ Adc}, V_{CE} = 4.0 \text{ Vdc}$ $I_C = 4.0 \text{ Adc}, V_{CE} = 4.0 \text{ Vdc}$ $I_C = 10.0 \text{ Adc}, V_{CE} = 4.0 \text{ Vdc}$	H _{FE}	40 20 5	 60 	
Collector - Emitter Saturation Voltage $I_C = 4.0$ Adc, $I_B = 0.4$ Adc $I_C = 10.0$ Adc, $I_B = 3.3$ Adc	V _{CE(sat)}		0.75 2.0	Vdc
Emitter - Base Saturation Voltage $I_C = 4.0 \text{ Adc}, V_{CE} = 4.0 \text{ Vdc}$	V _{BE(sat)}		1.4	Vdc





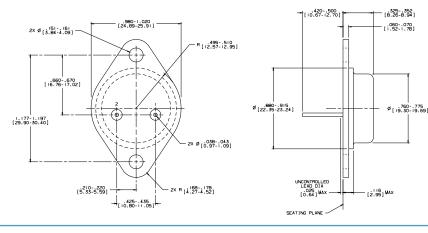
Electrical Characteristics -con't

DYNAMIC Characteristics	Symbol	Mimimum	Maximum	Units
Magnitude of Common Emitter Small-Signal Short-Circuit Forward Current Transfer Ratio $I_C = 1.0 \text{ Adc}, V_{CE} = 4.0 \text{ Vdc}, f = 100 \text{ kHz}$	h _{fe}	8.0	40.0	
Output Capacitance $V_{CB} = 10 \text{ Vdc}, I_E = 0, 100 \text{ kHz} \le f \le 1.0 \text{ MHz}$	C _{obo}		700	pF
SWITCHING Characteristics				
Tum-On Time $V_{CC} = 30 \text{ Vdc}$; $I_C = 4.0 \text{ Adc}$; $I_{B1} = 0.4 \text{ Adc}$	t _{on}		6	μs
Tum-offTime $V_{CC} = 30 \text{ Vdc}$; $I_C = 4.0 \text{ Adc}$; $I_{B1} = -I_{B2} = 0.4 \text{ Adc}$	t _{off}		12	μs

SAFE OPERATING AREA

 $\begin{array}{lll} \mbox{DC Tests:} & \mbox{$T_C = +25$ °C, I Cycle, $t = 1.0$ s} \\ \mbox{Test 1:} & \mbox{$V_{CE} = 7.8$ Vdc, $I_C = 15$ Adc} \\ \mbox{Test 2:} & \mbox{$V_{CE} = 70.0$ Vdc, $I_C = 1.67$ Adc} \\ \end{array}$

Outline Drawing



NOTES:

STANDARD HEADER TYPE SOLID BASE.
STANDARD LEAD FINISH:PER MIL-M-38510 TYPE X OR EQUIVALENT.

ISO 9001: 2008 certified companies

2. STANDARD LEAD FINISH: PER MIL-M-38510 TYPE X OR EQUIVALENT
3. LEAD NOT BENT GREATER THAN 15*.
4. DIMENSIONS BASED ON JEDSC STANDARD TO X DIRLICATION OF DI

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Our passion for performance is defined by three attributes represented by these three icons: solution-minded, performance-driven and customer-focused.

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