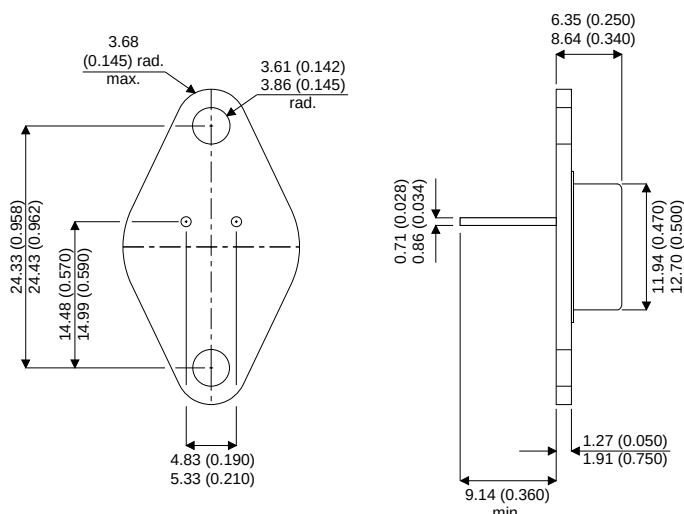


MECHANICAL DATA

Dimensions in mm(inches)



TO-66

PIN 1 — Base PIN 2 — Emitter Case is Collector.

HOMETAXIAL-BASE MEDIUM POWER SILICON NPN TRANSISTOR

FEATURES

- $f_T = 800$ kHz at 0.2A
- Maximum Safe-area of operation curves for dc and pulse operation.
- $V_{CEV(sus)} = 90V$ min
- Low Saturation Voltage:
 $V_{CE(sat)} = 1.0V$ at $I_C = 0.5A$

APPLICATIONS

- Power Switching Circuits
- Series and shunt-regulator driver and output stages
- High-fidelity amplifiers
- Solenoid Drivers

ABSOLUTE MAXIMUM RATINGS ($T_{case} = 25^\circ C$ unless otherwise stated)

V_{CBO}	Collector – Base Voltage	90V
V_{CEO}	Collector – Emitter Voltage (with base open)	80V
$V_{CER(sus)}$	External Base – Emitter ($R_{BE} = 100\Omega$)	85V
$V_{CEV(sus)}$	Collector – Emitter Voltage (with base reverse biased)	90V
V_{EBO}	Emitter to Base Voltage	7V
I_C	Continuous Collector Current	4A
I_B	Continuous Base Current	2A
P_D	Total Power Dissipation at $T_{case} = 25^\circ C$ Derate above $25^\circ C$	50W 0.200°C
T_j, T_{stg}	Operating and Storage Junction Temperature Range	-65 to 200°C

In accordance with JEDEC registration data format

THERMAL CHARACTERISTICS

$R_{\theta JC}$	Thermal Resistance, Junction to Case	3.5 °C/W
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ELECTRICAL CHARACTERISTICS ($T_{\text{case}} = 25^{\circ}\text{C}$ unless otherwise stated)

Parameter	Test Conditions	Min.	Typ.	Max.	Unit
I_{CEO} Collector Cut-off Current with base open	$V_{\text{CE}} = 60\text{V}$ $I_{\text{B}} = 0$			0.5	mA
I_{CEV} Collector – Cut-off Current	$V_{\text{CE}} = 80\text{V}$ $V_{\text{BE}} = -1.5\text{V}$ $T_{\text{c}} = 150^{\circ}\text{C}$			0.5 1.0	
I_{EBO} Emitter Cut-off Current	$V_{\text{BE}} = -7\text{V}$ $I_{\text{B}} = 0$			0.2	
$V_{\text{CEO(sus)}}$ Collector – Emitter Sustaining Voltage with base open*	$I_{\text{C}} = 0.1\text{A}$ $I_{\text{B}} = 0$	80			V
$V_{\text{CER(sus)}}$ External Base to Emitter Resistance	$V_{\text{BE}} = 5\text{V}$ $(R_{\text{BE}}) = 100\Omega$	85			
h_{FE} D.C Forward Current*	$V_{\text{CE}} = 2\text{V}$ $I_{\text{C}} = 4\text{A}$	5			—
	$V_{\text{CE}} = 2\text{V}$ $I_{\text{C}} = 1.5\text{A}$	25	100		
$V_{\text{CE(sat)}}$ Collector to Emitter Saturation Voltage*	$I_{\text{C}} = 1.5\text{A}$ $I_{\text{B}} = .0.15\text{A}$			0.5	V
V_{BE} Base – Emitter Voltage	$V_{\text{CE}} = 2\text{V}$ $I_{\text{C}} = 1.5$			1.5	
f_{hfe} Common Emitter Small Signal Short Circuit, Forward Current Transfer Ratio Cut off Frequency	$V_{\text{CE}} = 4\text{V}$ $I_{\text{C}} = 0.1$	0.03			MHz

*Pulse test $t_{\text{p}} = 300\mu\text{s}$ $\delta \leq 1.8\%$