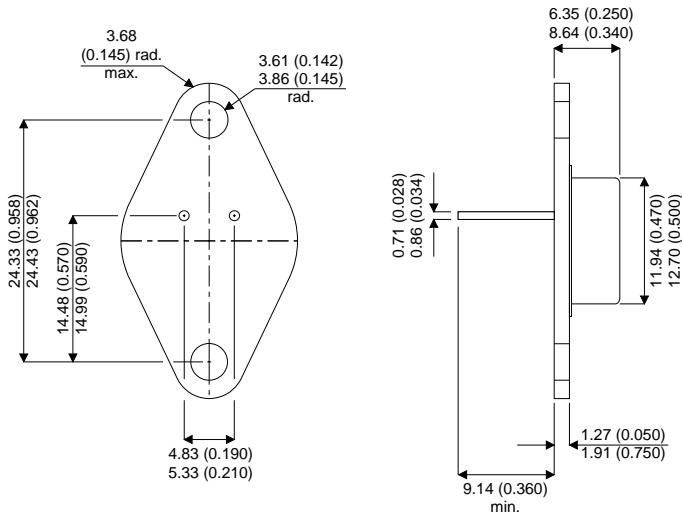


MECHANICAL DATA

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

Parameter	Test Conditions	Min.	Typ.	Max.	Unit
I_{CEO}	Collector Cut-off Current with base open $V_{CE} = 60V$ $I_B = 0$			0.5	mA
I_{CEV}	Collector – Cut-off Current $V_{CE} = 80V$ $V_{BE} = -1.5V$ $T_C = 150^{\circ}C$			0.5 1.0	
I_{EBO}	Emitter Cut-off Current $V_{BE} = -7V$ $I_B = 0$			0.2	
$V_{CEO(sus)}$	Collector – Emitter Sustaining Voltage with base open* $I_C = 0.1A$ $I_B = 0$	80			V
$V_{CER(sus)}$	External Base to Emitter Resistance $V_{BE} = 5V$ $(R_{BE}) = 100\Omega$	85			
h_{FE}	D.C Forward Current* $V_{CE} = 2V$ $I_C = 4A$ $V_{CE} = 2V$ $I_C = 1.5A$	5 25	100		—
$V_{CE(sat)}$	Collector to Emitter Saturation Voltage* $I_C = 1.5A$ $I_B = .015A$			0.5	V
V_{BE}	Base – Emitter Voltage $V_{CE} = 2V$ $I_C = 1.5$			1.5	
f_{hfe}	Common Emitter Small Signal Short Circuit, Forward Current Transfer Ratio Cut off Frequency $V_{CE} = 4V$ $I_C = 0.1$	0.03			MHz

*Pulse test $t_p = 300\mu s$ $\delta \leq 1.8\%$