

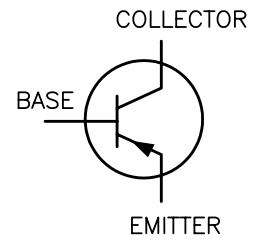


Description:

High Power TO-3, PNP, Silicon Transistor designed for use in industrial military power amplifier and switching circuit applications.

**RoHS
Compliant**

PNP



Features:

- Low Collector Saturation Voltage $V_{CE(sat)} = 1V$ (Max.) @ $I_C = 10A$
- High Collector Emitter Saturation Voltage $V_{CEO} = 120V$ (Min)

Absolute Maximum Ratings:

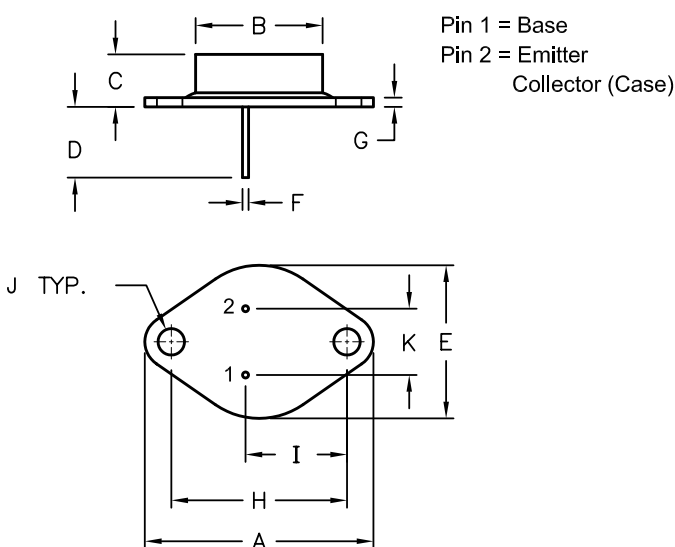
Characteristic	Symbol	Rating
Collector - Base Voltage	V_{CBO}	140V
Collector - Emitter Voltage	V_{CEO}	120V
Emitter-Base Voltage	V_{EBO}	6V
Continuous Collector Current	I_C	25A
Base Current	I_B	10A
Total Device Dissipation ($T_C = +25^\circ C$) Derate above $25^\circ C$	P_D	200W 1.14mW/ $^\circ C$
Operating Junction Temperature Range	T_J	$-65^\circ C$ to $+200^\circ C$
Storage Temperature Range	T_{STG}	$-65^\circ C$ to $+200^\circ C$

Electrical Characteristics ($T_A = 25^\circ C$ unless otherwise specified)

Parameter	Symbol	Test Conditions	Min.	Max.	Unit
OFF Characteristics					
Collector - Emitter Breakdown Voltage	$V_{(BR)CEO}$	$I_C = 50mA, I_B = 0$ (Note 1)	120	-	V
Collector Cut-off Current	I_{CEX}	$V_{CE} = 130V, V_{EB(off)} = 1.5V$	-	10	μA
	I_{CBO}	$V_{CB} = 140V, I_E = 0$	-	10	μA
	I_{CEO}	$V_{CB} = 60V, I_B = 0$	-	50	μA
Emitter Cut-off Current	I_{EBO}	$V_{EB} = 6V, I_C = 0$	-	100	μA
ON Characteristics (Note 1)					
DC Current Gain	h_{FE}	$V_{CE} = 2V, I_C = 0.5A$	30	-	-
		$V_{CE} = 2V, I_C = 10A$	20	80	-
		$V_{CE} = 2V, I_C = 25A$	12	-	-
Collector - Emitter Saturation Voltage	$V_{CE(sat)}$	$I_C = 10A, I_B = 1A$	-	1	V
		$I_C = 25A, I_B = 2.5A$	-	1.8	
Base - Emitter Saturation Voltage	$V_{BE(sat)}$	$I_C = 10A, I_B = 1A$	-	1.8	V
		$I_C = 25A, I_B = 2.5A$	-	2.5	

Parameter	Symbol	Test Conditions	Min.	Max.	Unit
Small-Signal Characteristics					
Current Gain-Bandwidth Product	f_T	$V_{CE} = 10V, I_C = 1A, f = 1MHz$	40	-	MHz
Output Capacitance	C_{obo}	$V_{CB} = 10V, I_E = 0, f = 0.1kHz$	-	700	pF
Switching Characteristics					
Rise Time	t_r	$V_{CC} = 80V, I_C = 10A, V_{BE(off)} = 6V, I_{B1} = 1A$	-	0.3	μs
Storage Time	t_s	$V_{CC} = 80V, I_C = 10A, V_{BE(off)} = 6V, I_{B1} = I_{B2} = 1A$	-	1	
Fall Time	t_f		-	0.25	

Note 1: Pulse Test : Pulse Width $\leq 300\mu s$, Duty Cycle $\leq 2\%$



Dim.	Min.	Max.
A	38.75	39.96
B	19.28	22.23
C	7.96	9.23
D	11.18	12.19
E	25.2	26.67
F	0.92	1.09
G	1.38	1.62
H	29.9	30.4
I	16.64	17.3
J	3.88	4.36
K	10.67	11.18

Dimensions : Millimetres

Part Number Table

Description	Part Number
High Power Transistor, TO-3, PNP, 25A, 120V	2N6438

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