

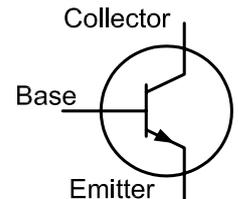


Description:

High voltage, TO-3, NPN, Silicon, Power Transistor. Designed for high voltage inverters, switching regulators and line - operated amplifier applications. Especially well suited for switching power supply applications in associated consumer products.

**RoHS
Compliant**

NPN



Features:

- Low Collector Emitter Saturation Voltage : $V_{CE(sat)}$ 1.5(Max.) @ $I_c = 3A$
- Current Gain-Bandwidth Product : $f_r = 5MHz$ (Min.) @ $I_c = 0.3A$

Absolute Maximum Ratings:

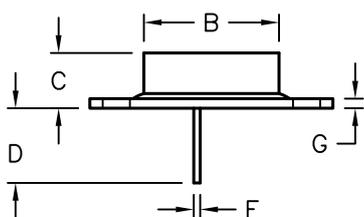
Characteristic	Symbol	Rating
Collector - Base Voltage	V_{CBO}	700V
Collector - Emitter Voltage	V_{CEO}	350V
Emitter - Base Voltage	V_{EBO}	8V
Continuous Collector Current	I_c	8A
Base Current	I_B	4A
Total Device Dissipation ($T_c = +25^\circ C$) Derate above $25^\circ C$	P_D	125W 0.714mW/ $^\circ C$
Operating 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)

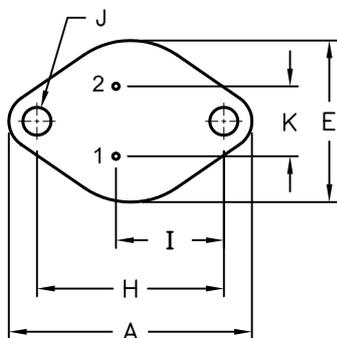
Parameter	Symbol	Test Conditions	Min.	Max.	Unit
OFF Characteristics					
Collector - Emitter Breakdown Voltage (Note 1)	$V_{(BR)CEO}$	$I_c = 100mA, I_B = 0$	350	-	V
Collector Cut-off Current	I_{CEX}	$V_{CE} = 700V, V_{EB(off)} = 1.5V$	-	0.5	mA
	I_{CEO}	$V_{CB} = 350V, I_B = 0$	-	0.5	mA
Emitter Cut-off Current	I_{EBO}	$V_{EB} = 8V, I_c = 0$	-	1	mA
ON Characteristics (Note 1)					
DC Current Gain	h_{FE}	$V_{CE} = 5V, I_c = 3A$	12	60	-
		$V_{CE} = 5V, I_c = 8A$	3	-	-
Collector - Emitter Saturation Voltage	$V_{CE(sat)}$	$I_c = 3A, I_B = 0.6A$	-	1.5	V
		$I_c = 8A, I_B = 2.67A$	-	5	
Base - Emitter Saturation Voltage	$V_{BE(sat)}$	$I_c = 8A, I_B = 2.67A$	-	5	
Base - Emitter on Voltage	$V_{BE(on)}$	$I_c = 3A, V_{CE} = 5V$	-	1.5	

Parameter	Symbol	Test Conditions	Min.	Max.	Unit
Small-Signal Characteristics					
Current Gain-Bandwidth Product	f_T	$V_{CB} = 10V, I_C = 0.3A, f = 1MHz$	5	-	MHz
Output Capacitance	C_{obo}	$V_{CB} = 10V, I_E = 0, f = 1MHz$	-	250	pF
Switching Characteristics					
Rise Time	t_r	$V_{CC} = 125V, I_C = 3A, I_B = 0.6A$	-	0.6	μs
Storage Time	t_s	$V_{CC} = 125V, I_C = 3A, I_{B1} = 6, I_{B2} = 1.5A$	-	1.6	
Fall Time	t_f		-	0.4	

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



Pin 1 = Base
Pin 2 = Emitter
Collector (Case)



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, NPN, 350A, 8V	2N6308

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