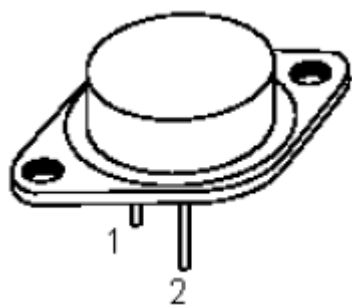




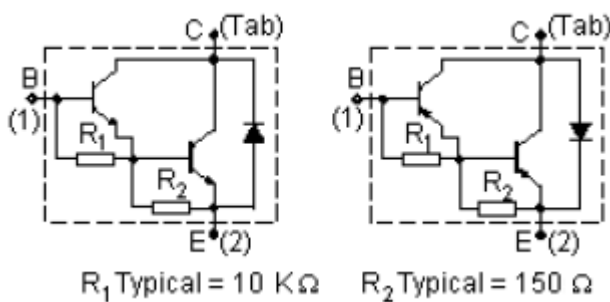
Description

The MJ3001 is a silicon epitaxial-base NPN power transistors in monolithic darlington configuration and are mounted in JEDEC TO-3 metal case. They are intended for use in power linear and switching applications

TO-3



Internal Schematic Diagram



Absolute Maximum Ratings

Parameter	Symbol	Value	Unit
Collector-Base Voltage ($I_E = 0$)	V_{CBO}	80	V
Collector-Emitter Voltage ($I_B = 0$)	V_{CEO}		
Emitter-Base Voltage ($I_C = 0$)	V_{EBO}		
Collector Current	I_C	10	A
Base Current	I_B	0.2	
Total Dissipation at $T_c \leq 25^\circ\text{C}$	P_{tot}	150	W
Storage Temperature	T_{stg}	-65 to 200	
Maximum Operating Junction Temperature	T_j	200	$^\circ\text{C}$

Thermal Characteristics

Maximum Thermal Resistance Junction-case	$R_{thj-case}$	1.17	$^\circ\text{C}/\text{W}$
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Electrical Characteristics ($T_{case} = 25^\circ\text{C}$ unless otherwise specified)

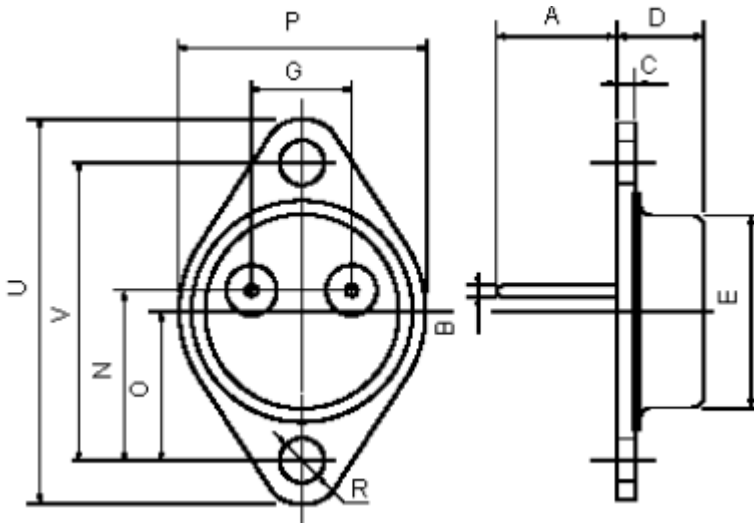
Parameter	Test Conditions	Symbol	Minimum	Maximum	Unit
Collector Cut-off Current ($R_{BE} = 1\text{ K}\Omega$)	$V_{CE} = 80\text{ V}$	I_{CER}	-	1	μA
	$T_{case} = 150^\circ\text{C}$ $V_{CE} = 80\text{ V}$			5	
Collector Cut-off Current ($I_B = 0$)	$V_{CE} = 30\text{ V}$	I_{CEO}	-	1	
	$V_{CE} = 40\text{ V}$			1	

Electrical Characteristics ($T_{case} = 25^{\circ}C$ unless otherwise specified)

Parameter	Test Conditions	Symbol	Minimum	Maximum	Unit
Emitter Cut-off Current ($I_C = 0$)	$V_{EB} = 5 V$	I_{EBO}	-	2	-
Collector-Emitter Sustaining Voltage ($I_B = 0$)	$I_C = 100 mA$	$V_{CEO(sus)*}$	80	-	V
Collector-Emitter Saturation Voltage	$I_C = 5 A$ $I_B = 20 mA$ $I_C = 10 A$ $I_B = 50 mA$	$V_{CE(sat)*}$	-	2 4	
Base-Emitter Voltage	$I_C = 5 A$ $V_{CE} = 3 V$	V_{BE*}	-	3	
DC Current Gain	$I_C = 5 A$ $V_{CE} = 3 V$	h_{FE*}	1,000	-	-

* Pulsed: Pulse Duration = 300 μ s, Duty Cycle 1.5%.

TO-3 Mechanical Data



Dimensions	Minimum	Maximum
A	11 (0.433)	13.1 (0.516)
B	0.97 (0.038)	1.15 (0.045)
C	1.5 (0.59)	1.65 (0.065)
D	8.32 (0.327)	8.92 (0.351)
E	19 (0.748)	20 (0.787)
G	10.7 (0.421)	11.1 (0.437)
N	16.5 (0.649)	17.2 (0.677)
P	25 (0.984)	26 (1.023)
R	4 (0.157)	4.09 (0.161)
U	38.5 (1.515)	39.3 (1.547)
V	30 (1.187)	30.3 (1.193)

Dimensions : Inches (Millimetres)

Part Number Table

Description	Part Number
Darlington Transistor, TO-3	MJ3001

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