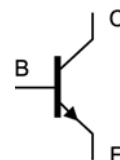


MJ15003

NPN Power Transistor

Features

- High DC current gain - $h_{FE}=25$ (Min) @ $I_C=5A$
- Wide area of safe operation
- Complement to the PNP MJ15004
- Minimum lot-to-lot variations for robust device performance and reliable operation



Applications

Designed for high power audio, disk head positioners and other linear applications.

TO-3

Schematic Diagram

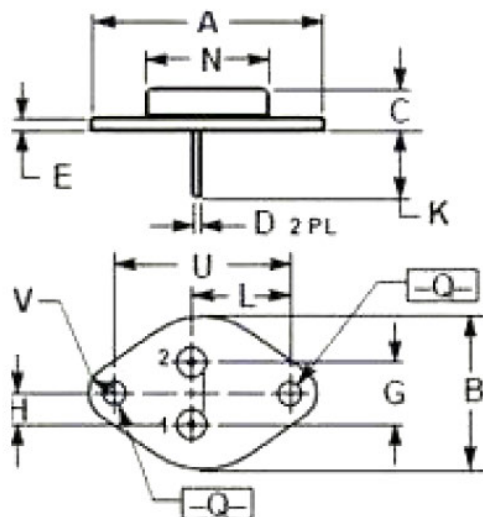
Absolute Maximum Ratings ($T_A=25^{\circ}C$ unless otherwise noted)

Parameter	Symbol	Value	Unit
Collector-Base Voltage	V_{CBO}	140	V
Collector-Emitter Voltage	V_{CEO}	140	V
Emitter-Base Voltage	V_{EBO}	5	V
Collector Current -Continuous	I_C	20	A
Base Current -Continuous	I_B	5	A
Total Power Dissipation @ $T_C=25^{\circ}C$	P_D	250	W
Junction Temperature	T_J	200	$^{\circ}C$
Storage Temperature Range	T_{STG}	-65 to 200	$^{\circ}C$
Thermal Resistance, Junction to Case	$R_{th(j-c)}$	0.7 (Max)	$^{\circ}C/W$

Electrical Characteristics ($T_J=25^{\circ}C$ unless otherwise noted)

Parameter	Symbol	Conditions	Min	Max	Unit
Collector-Emitter Sustaining Voltage	$V_{CEO(SUS)}$	$I_C=50mA, I_B=0$	140	-	V
Collector-Emitter Saturation Voltage	$V_{CE(sat)}$	$I_C=5A, I_B=0.5A$	-	1	V
Base-Emitter On Voltage	$V_{BE(on)}$	$I_C=5A, V_{CE}=2V$	-	2	V
Collector Cutoff Current	I_{CEO}	$V_{CE}=140V, I_B=0$	-	0.25	mA
Collector Cutoff Current	I_{CBO}	$V_{CB}=140V, I_E=0$	-	0.1	mA
		$V_{CB}=140V, I_E=0, T_C=150^{\circ}C$	-	2.0	
Emitter Cutoff Current	I_{EBO}	$V_{EB}=5V, I_C=0$	-	0.1	mA
DC Current Gain	h_{FE}	$I_C=5A, V_{CE}=2V$	25	150	-
Second Breakdown Collector Current with Base Forward Biased	$I_{s/b}$	$V_{CE}=100V, t=1s, \text{Nonrepetitive}$	1	-	A
Output Capacitance	C_{OB}	$I_E=0, V_{CB}=10V, f_{test}=1.0MHz$	-	1000	pF
Current-Gain—Bandwidth Product	f_T	$I_C=0.5A, V_{CE}=10V, f_{test}=0.5MHz$	2	-	MHz

Package Outline Dimensions (TO-3)



PIN
 1. Base
 2. Emitter
 3. Collector(Case)

Symbol	Dimensions in Millimeters		Dimensions in Inches	
	Min	Max	Min	Max
A	39.00 Typ		1.535 Typ	
B	25.30	26.67	0.996	1.050
C	7.80	8.50	0.307	0.335
D	0.90	1.10	0.035	0.043
E	1.40	1.60	0.055	0.063
G	10.92 Typ		0.430 Typ	
H	5.46 Typ		0.215 Typ	
K	11.30	13.50	0.445	0.531
L	16.75	17.05	0.659	0.671
N	19.40	19.62	0.764	0.772
Q	4.00	4.20	0.157	0.165
U	30.00	30.20	1.181	1.189
V	4.30	4.50	0.169	0.177