SMD Darlington Power Transistor (NPN)

Features

- Designed for general purpose amplifier and low speed switching applications
- RoHS compliance

D-PACK
(TO-252)

RoHS
Compliant

Mechanical Data

Case:	D-PACK(TO-252), Plastic Package
Terminals:	Solderable per MIL-STD-202G, Method 208
Weight:	0.3 grams

Maximum Ratings *($T_{Ambient}$=25ºC unless noted otherwise)*

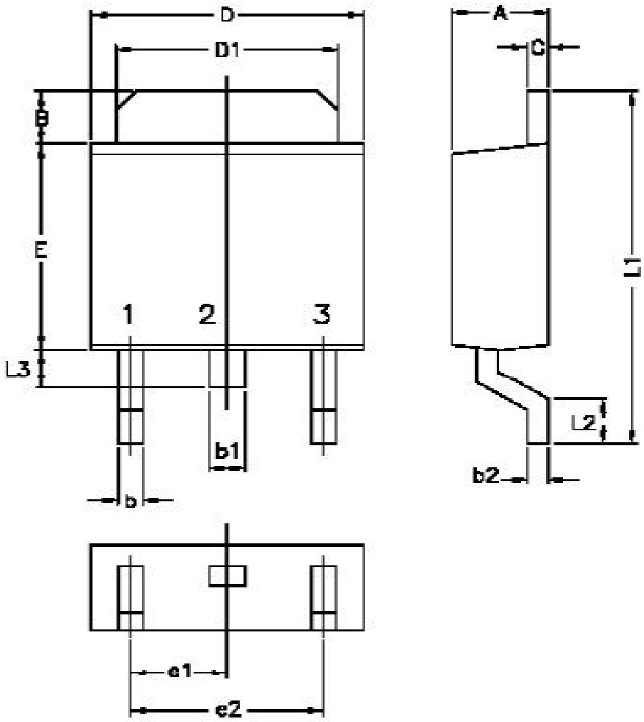
Symbol	Description	MJD122	Unit
V_{CBO}	Collector-Base Voltage	100	V
V_{CEO}	Collector-Emitter Voltage	100	V
V_{EBO}	Emitter-Base Voltage	5	V
I_C	Collector Current Continuous	8	A
	Collector Current Peak	16	A
I_B	Base Current	120	mA
P_D	Power Dissipation at T_C=25°C	20	W
	Derate above 25°C	0.16	W/° C
R_{thJC}	Thermal Resistance from Junction to Case	6.25	° C/W
T_J, T_{STG}	Operating and Storage Junction Temperature Range	-65 to +150	° C

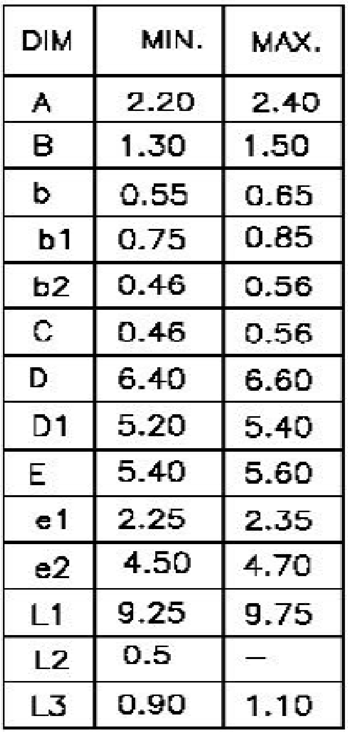
Electrical Characteristics *(T Ambient=25ºC unless noted otherwise)*

Symbol	Description	MJD122		Unit	Conditions
		Min.	Max.		
V_{CEO}	Collector Emitter Voltage	100	-	V	I_C=30mA, I_B=0
I_{CEO}	Collector Cut-off Current	-	10	μA	V_{CE}=50V, I_B=0
I_{CBO}	Collector Cut-off Current	-	10	μA	V_{CB}=100V, I_E=0
I_{EBO}	Emitter Cut-off Current	-	2	mA	V_{EB}=5V, I_C=0
h_{FE}	D.C. Current Gain	1000	12000		V_{CE}=4V, I_C=4A
		100	-		V_{CE}=4V, I_C=8A
$V_{CE(sat)}$	Collector Emitter Saturation Voltage	-	2	V	I_C=4A, I_B=16mA
		-	4	V	I_C=8A, I_B=80mA
*$V_{BE(sat)}$	Base Emitter Saturation Voltage	-	4.5	V	I_C=8A, I_B=80mA
$V_{BE(on)}$	Base Emitter on Voltage	-	2.8	V	V_{CE}=4V, I_C=4A
$\|h_{fe}\|$	Current Gain Bandwidth Product	4	-	MHz	V_{CE}=4V, I_C=3A, f=1MHz
C_{ob}	Out-Put Capacitance	-	200	pF	V_{CB}=10V, I_E=0, f=0.1MHz
h_{fe}	Small Signal Current Gain	300	-		V_{CE}=4V, I_C=3A, f=1KHz

**Note: ***Pulse Test: Pulse Width≤300μs, Duty Cycle≤2%

Dimensions in mm





DIM	MIN.	MAX.
A	2.20	2.40
B	1.30	1.50
b	0.55	0.65
b1	0.75	0.85
b2	0.46	0.56
C	0.46	0.56
D	6.40	6.60
D1	5.20	5.40
E	5.40	5.60
e1	2.25	2.35
e2	4.50	4.70
L1	9.25	9.75
L2	0.5	—
L3	0.90	1.10

PIN CONFIGURATION

1. BASE
2. COLLECTOR
3. EMITTER

D-PACK
(TO-252)

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