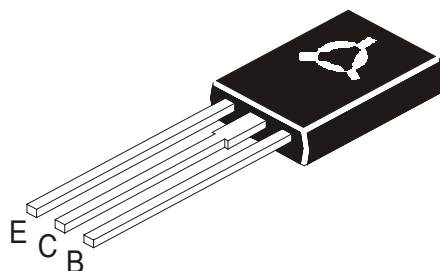


NPN EPITAXIAL SILICON POWER TRANSISTOR

MJE243

TO-126
Plastic Package



Complementary MJE253

Designed for Low Power Audio Amplifier and Low-Current, High-Speed Switching Applications

ABSOLUTE MAXIMUM RATINGS

DESCRIPTION	SYMBOL	Value	UNIT
Collector Base Voltage	V_{CBO}	100	V
Collector Emitter Voltage	V_{CEO}	100	V
Emitter Base Voltage	V_{EBO}	7.0	V
Continuous Collector Current	I_C	4.0	A
Peak		8.0	
Base Current	I_B	1.0	A
Total Power Dissipation @ $T_c=25^\circ\text{C}$	P_D	15	W
Derate Above 25°C		0.12	W/ $^\circ\text{C}$
Total Power Dissipation @ $T_a=25^\circ\text{C}$	P_D	1.5	W
Derate Above 25°C		0.012	W/ $^\circ\text{C}$
Operating and Storage Junction Temperature Range	T_j, T_{stg}	- 65 to +150	$^\circ\text{C}$

Thermal Characteristics

Junction to Case	$R_{th(j-c)}$	8.34	$^\circ\text{C/W}$
Junction to Ambient	$R_{th(j-a)}$	83.4	$^\circ\text{C/W}$

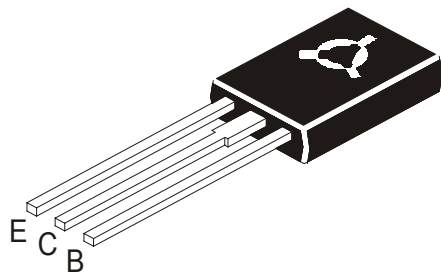
ELECTRICAL CHARACTERISTICS ($T_a=25^\circ\text{C}$ unless specified otherwise)

DESCRIPTION	SYMBOL	TEST CONDITION	MIN	TYP	MAX	UNIT
Collector Emitter Sustaining Voltage	$V_{CEO(Sus)}$	$I_C=10\text{mA}, I_B=0$	100			V
Collector Cut off Current	I_{CBO}	$V_{CB}=100\text{V}, I_E=0$			0.1	μA
		$T_C=125^\circ\text{C}$ $V_{CB}=100\text{V}, I_E=0$			0.1	mA
Emitter Cut off Current	I_{EBO}	$V_{BE}=7\text{V}, I_C=0$			0.1	μA
DC Current Gain	h_{FE}	$I_C=200\text{mA}, V_{CE}=1\text{V}$ $I_C=1\text{A}, V_{CE}=1\text{V}$	40 15		180	
Collector Emitter Saturation Voltage	$V_{CE(Sat)}$	$I_C=500\text{mA}, I_B=50\text{mA}$ $I_C=1\text{A}, I_B=100\text{mA}$			0.3 0.6	V
Base Emitter Saturation Voltage	$V_{BE(Sat)}$	$I_C=2\text{A}, I_B=200\text{mA}$			1.8	V
Base Emitter on Voltage	$V_{BE(on)}$	$I_C=500\text{mA}, V_{CE}=1\text{V}$			1.5	V

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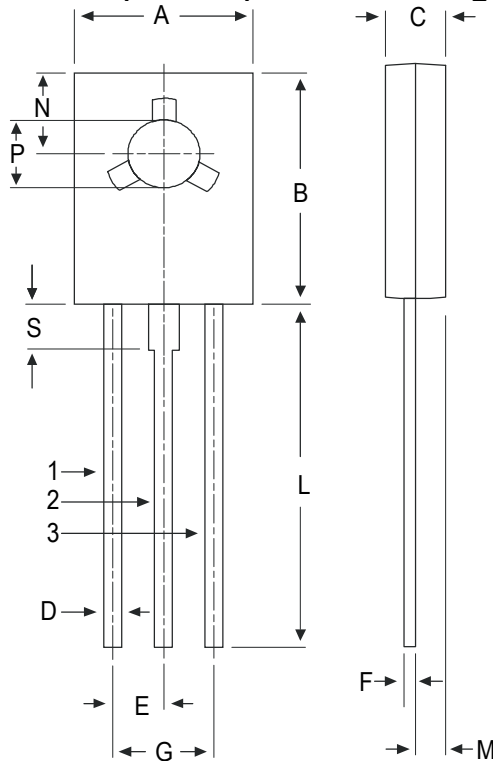


ELECTRICAL CHARACTERISTICS (T_a=25°C unless specified otherwise)

Dynamic Characteristics

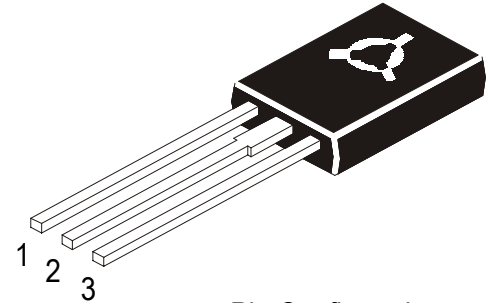
DESCRIPTION	SYMBOL	TEST CONDITION	MIN	TYP	MAX	UNIT
Current Gain-Bandwidth Product	f _T	I _C =100mA, V _{CE} =10V, f=10MHz	40			MHz
Output Capacitance	C _{ob}	I _E =0, V _{CB} =10V, f=0.1MHz			50	pF

TO-126 (SOT-32) Plastic Package



DIM	MIN	MAX
A	7.4	7.8
B	10.5	10.8
C	2.4	2.7
D	0.7	0.9
E	2.25 TYP.	
F	0.49	0.75
G	4.5 TYP.	
L	15.7 TYP.	
M	1.27 TYP.	
N	3.75 TYP.	
P	3.0	3.2
S	2.5 TYP.	

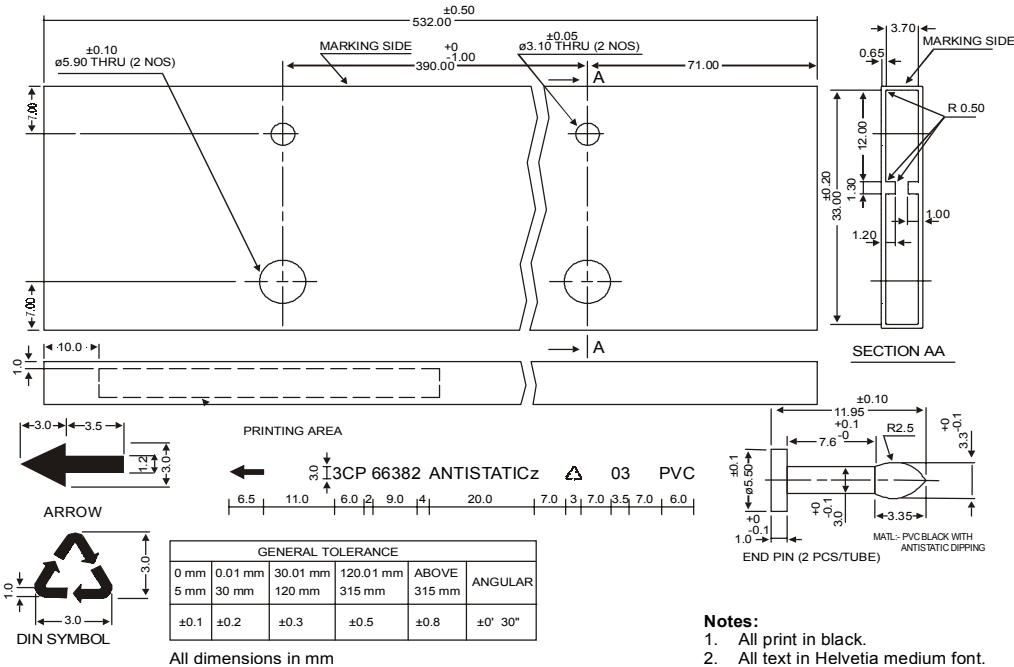
All dimensions in mm.



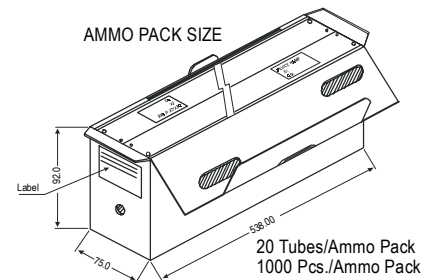
Pin Configuration

1. Emitter
2. Collector
3. Base

TO-126 TUBE PACKING



- Notes:
1. All print in black.
 2. All text in Helvetia medium font.



Packing Detail

PACKAGE	STANDARD PACK		INNER CARTON BOX		OUTER CARTON BOX		
	Details	Net Weight/Qty	Size	Qty	Size	Qty	Gr Wt
TO-126 Bulk	500 pcs/polybag	340 gm/500 pcs	3" x 7.5" x 7.5"	2K	17" x 15" x 13.5"	32K	31 kgs
TO-126 Tube	50 pcs/tube	73 gm/50 pcs	3" x 3.7" x 21.5"	1K	19" x 19" x 19"	10K	15 kgs

Disclaimer

The product information and the selection guides facilitate selection of the CDIL's Discrete Semiconductor Device(s) best suited for application in your product(s) as per your requirement. It is recommended that you completely review our Data Sheet(s) so as to confirm that the Device(s) meet functionality parameters for your application. The information furnished in the Data Sheet and on the CDIL Web Site/CD is believed to be accurate and reliable. CDIL however, does not assume responsibility for inaccuracies or incomplete information. Furthermore, CDIL does not assume liability whatsoever, arising out of the application or use of any CDIL product; neither does it convey any license under its patent rights nor rights of others. These products are not designed for use in life saving/support appliances or systems. CDIL customers selling these products (either as individual Discrete Semiconductor Devices or incorporated in their end products), in any life saving/support appliances or systems or applications do so at their own risk and CDIL will not be responsible for any damages resulting from such sale(s).

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