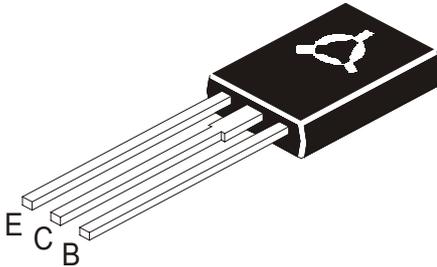


**NPN EPITAXIAL SILICON POWER TRANSISTOR**

**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 $25^\circ\text{C}$		0.12	W/ $^\circ\text{C}$
Total Power Dissipation @ $T_a=25^\circ\text{C}$	$P_D$	1.5	W
Derate Above $25^\circ\text{C}$		0.012	W/ $^\circ\text{C}$
Operating And Storage Junction Temperature Range	$T_j, T_{stg}$	- 65 to +150	$^\circ\text{C}$

**Thermal Characteristics**

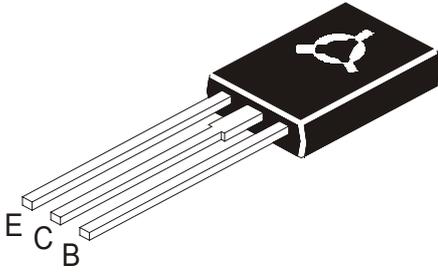
Junction to Case	$R_{th(j-c)}$	8.34	$^\circ\text{C}/\text{W}$
Junction to Ambient	$R_{th(j-a)}$	83.4	$^\circ\text{C}/\text{W}$

**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	$\mu\text{A}$
		$T_C=125^\circ\text{C}$ $V_{CB}=100\text{V}, I_E=0$			0.1	mA
Emitter Cut Off Current	$I_{EBO}$	$V_{BE}=7\text{V}, I_C=0$			0.1	$\mu\text{A}$
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

# NPN EPITAXIAL SILICON POWER TRANSISTOR

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TO-126  
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## ELECTRICAL CHARACTERISTICS ( $T_a=25^{\circ}\text{C}$ unless specified otherwise )

### Dynamic Characteristics

DESCRIPTION	SYMBOL	TEST CONDITION	MIN	TYP	MAX	UNIT
Current Gain-Bandwidth Product	$f_T$	$I_C=100\text{mA}$ , $V_{CE}=10\text{V}$ , $f=10\text{MHz}$	40			MHz
Output Capacitance	$C_{ob}$	$I_E=0$ , $V_{CB}=10\text{V}$ , $f=0.1\text{MHz}$			50	pF



### **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 are 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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