

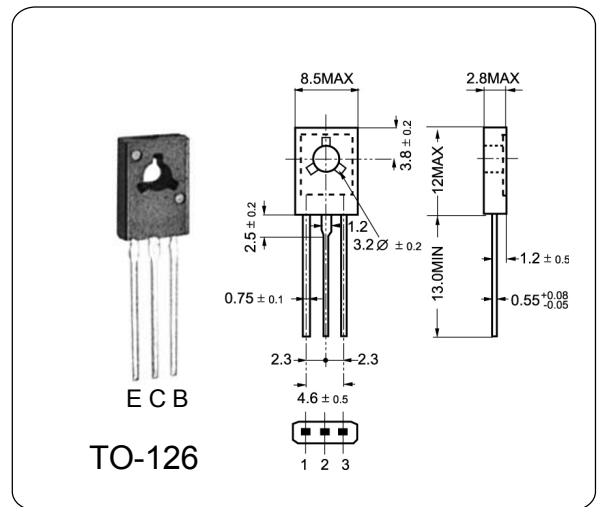
NPN SILICON TRANSISTOR
BD139-16
DESCRIPTION

The BD139-16 is silicon epitaxial planar NPN transistors in Jedec TO-126 plastic package, designed for audio amplifiers and drivers utilizing complementary or quasi complementary circuits.

The complementary PNP types are the BD140-16

ABSOLUTE MAXIMUM RATINGS (Ta = 25 °C)

Parameter	Symbol	Value	Unit
Collector-Base Voltage	V_{CBO}	80	V
Collector-Emitter Voltage	V_{CEO}	80	V
Emitter-Base Voltage	V_{EBO}	5.0	V
Collector Current	I_C	1.5	A
Base Current	I_B	0.5	A
Total Dissipation at	P_{tot}	12.5	W
Max. Operating Junction Temperature	T_j	150	°C
Storage Temperature	T_{stg}	-55~150	°C


ELECTRICAL CHARACTERISTICS (Ta = 25 °C)

Parameter	Symbol	Test Conditions	Min.	Typ.	Max.	Unit
Collector Cut-off Current	I_{CBO}	$V_{CB} = 80V, I_E = 0$	—	—	10	μA
Emitter Cut-off Current	I_{EBO}	$V_{EB} = 5.0V, I_C = 0$	—	—	10	μA
Collector-Emitter Sustaining Voltage	V_{CEO}	$I_C = 1.0mA, I_B = 0$	80	—	—	V
DC Current Gain	h_{FE}	$V_{CE} = 2.0V, I_C = 0.15A$	100	—	250	
		$V_{CE} = 2.0V, I_C = 0.5A$	100	—	—	
Collector-Emitter Saturation Voltage	$V_{CE(sat)}$	$I_C = 0.5A, I_B = 0.05A$	—	—	0.5	V
Base-Emitter Voltage	V_{BE}	$I_C = 0.5A, V_{CE} = 2.0V$	—	—	1.0	V
Transition Frequency	f_T	$V_{CE} = 5V, I_C = 50mA$	80	—	—	MHz