NPN BD136 – BD138 – BD140

SILICON PLANAR EPITAXIAL POWER TRANSISTORS.

The BD136-BD138-BD140 are PNP Transistors
They are recommended for driver stages in hi-fi amplifiers and television circuits.
They are mounted in Jedec TO-126 plastic package.
NPN complements are BD135-BD137-BD139.
Compliance to RoHS.

ABSOLUTE MAXIMUM RATINGS

Symbol	Ratings		Value	Unit
$-V_{CBO}$	Collector-Base Voltage (I_E= 0)	BD135	45	V
		BD137	60	
		BD139	100	
$-V_{CEO}$	Collector-Emitter Voltage (I_B= 0)	BD135	45	V
		BD137	60	
		BD139	80	
$-V_{CER}$	Collector-Emitter Voltage (R_{BE}= 1 kΩ)	BD135	45	V
		BD137	60	
		BD139	100	
$-V_{EBO}$	Emitter-Base Voltage (I_E= 0)		5	V
$-I_C$	Collector Current	$-I_C$	1.5	A
		$-I_{CM}$	2	
$-I_B$	Base current		0.5	A
P_T	Total power Dissipation @ T_{mb} = 70°C		8	Watts
T_J	*Junction Temperature*		150	°C
T_{Stg}	Storage Temperature		-65 to +150	°C

THERMAL CHARACTERISTICS

Symbol	Ratings	Value	Unit
$R_{thJ\text{-}mb}$	Thermal Resistance, Junction to mouting base	10	K/W
$R_{thJ\text{-}a}$	Thermal Resistance, Junction to ambient in free air	100	K/W

NPN BD136 – BD138 – BD140

ELECTRICAL CHARACTERISTICS

TC=25°C unless otherwise noted

Symbol	Ratings	Test Condition(s)		Min	Typ	Max	Unit
$-I_{CBO}$	Collector cut-off current	I_E=0, $-V_{CB}$= 30 V	BD135	-	-	0,1	µA
			BD137	-	-	0,1	
			BD139	-	-	0,1	
		I_E=0, $-V_{CB}$ = 30V T_j= 125°C	BD135	-	-	10	
			BD137	-	-	10	
			BD139	-	-	10	
$-I_{EBO}$	Emitter cut-offcurrent	I_C=0, $-V_{EB}$=5 V		-	-	10	µA
$-V_{CEO(SUS)}$	Collector-Emitter sustaning Voltage (*)	I_B=0, $-I_C$=30 mA	BD135	45	-	-	V
			BD137	60	-	-	
			BD139	80	-	-	
$-V_{CE(SAT)}$	Collector-Emitter saturation Voltage (*)	$-I_C$=0.5 A, $-I_B$=50 mA		-	-	0,5	V
h_{FE}	DC Current Gain (*)	$-V_{CE}$=2 V, $-I_C$=5 mA		25	-	-	
		$-V_{CE}$=2 V $-I_C$=150 mA	BDxxx	40	-	250	
			BDxxx -10	63	-	160	
			BDxxx -16	100	-	250	
		$-V_{CE}$=2 V, $-I_C$=500 mA		25	-	-	
$-V_{BE}$	Base-Emitter Voltage(*)	$-V_{CE}$=2 V, $-I_C$=500 mA		-	-	1	V
f_T	Transition frequency	$-V_{CE}$=5 V, $-I_C$=50 mA f= 35 MHz		-	75	-	MHz

(*) Measured under pulse conditions :t_P <300µs, δ <2%.

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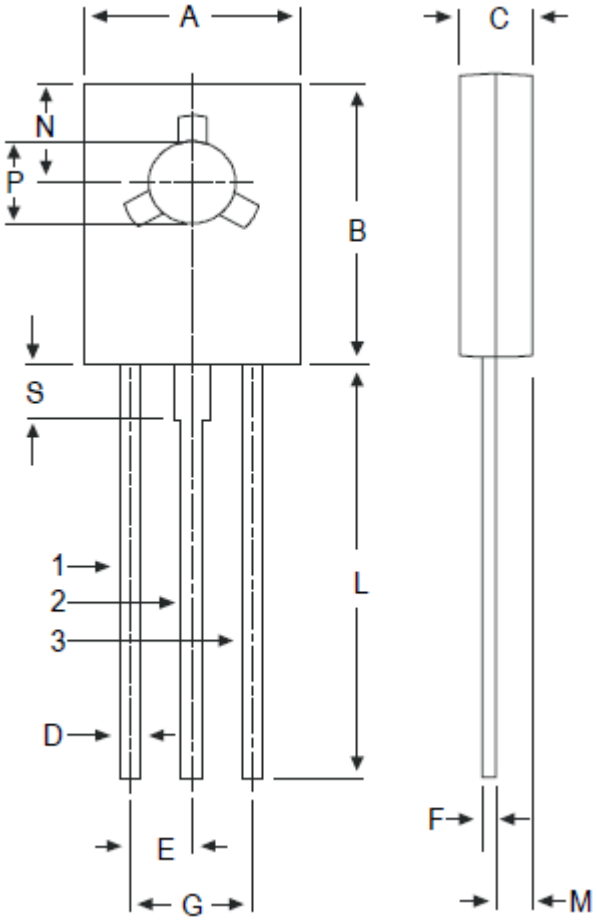
MECHANICAL DATA CASE TO-126

	DIMENSIONS	
	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	4.4 typ.	
L	15.7 typ.	
M	1.27 typ.	
N	3.75 typ.	
P	3.0	3.2
S	2.54 typ.	



Pin 1 :	Emitter
Pin 2 :	Collector
Pin 3 :	Base

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