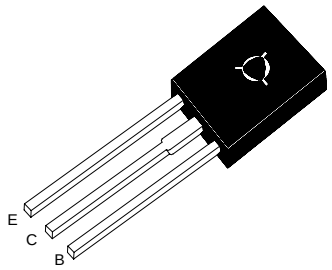
BD136T / BD138T / BD140T

PNP PLASTIC POWER TRANSISTOR

Medium power linear and switching applications



TO-126 Plastic Package

Absolute Maximum Ratings (T_a=25 °C)

Parameter	Symbol	Value			Unit
		BD136T	BD138T	BD140T	
Collector Base Voltage	$-V_{CBO}$	45	60	100	V
Collector Emitter Voltage	$-V_{CEO}$	45	60	80	V
Emitter Base Voltage	$-V_{EBO}$	5			V
Collector Current	$-I_C$	1.5			A
Base Current	$-I_B$	0.5			A
Total Power Dissipation @ T_A=25 °C Derate above 25°C	P_{tot}	1.25 10			W mW/°C
Total Power Dissipation @ T_C=25°C Derate above 25°C	P_{tot}	12.5 100			W mW/°C
Junction Temperature	T_J	150			°C
Storage Temperature Range	T_{stg}	-65 to +150			°C

Thermal Resistance

Parameter	Symbol	Value	Unit
From junction to case	$R_{th\ jc}$	10	W/°C
From junction to ambient	$R_{th\ ja}$	100	W/°C

Characteristics at T_a = 25 °C

Parameter		Symbol	Min.	Max.	Unit
DC Current Gain					
at $-V_{CE}$ = 2 V, $-I_C$ = 5 mA		h_{FE}	25	-	-
at $-V_{CE}$ = 2 V, $-I_C$ = 150 mA	-6	h_{FE}	40	100	-
	-10	h_{FE}	63	160	-
	-16	h_{FE}	100	250	-
	-25	h_{FE}	160	400	-
at $-V_{CE}$ = 2 V, $-I_C$ = 500 mA		h_{FE}	25	-	-
Collector Emitter Breakdown Voltage					
at $-I_C$ = 30 mA	BD136T	$-V_{(BR)CEO(sus)}$	45	-	V
	BD138T		60	-	
	BD140T		80	-	
Collector Base Breakdown Voltage					
at $-I_C$ = 1 mA	BD136T	$-V_{(BR)CBO}$	45	-	V
	BD138T		60	-	
	BD140T		100	-	
Emitter Base Breakdown Voltage at $-I_E$ = 1 mA		$-V_{(BR)EBO}$	5	-	V
Collector Cutoff Current at $-V_{CB}$ = 30 V		$-I_{CBO}$	-	0.1	µA
Emitter Cutoff Current at $-V_{EB}$ = 5 V		$-I_{EBO}$	-	10	µA
Collector Emitter Saturation Voltage at $-I_C$ = 500 mA, $-I_B$ = 50 mA		$-V_{CE(sat)}$	-	0.5	V
Base Emitter Saturation Voltage at $-I_C$ = 500 mA, $-V_{CE}$ = 2 V		$-V_{BE(on)}$	-	1	V