



BD440 – BD442

SILICON PNP POWER TRANSISTORS.

The BD440-BD442 are PNP Transistors mounted in Jedec TO-126 plastic package. They are recommended for use in medium power linear and switching applications. NPN complements are BD439-BD441. Compliance to RoHS.

ABSOLUTE MAXIMUM RATINGS

Symbol	Ratings		Value	Unit
V_{CBO}	Collector-Base Voltage ($I_E = 0$)	BD440	-60	V
		BD442	-80	
V_{CEO}	Collector-Emitter Voltage ($I_B = 0$)	BD440	-60	V
		BD442	-80	
V_{EBO}	Emitter-Base Voltage ($I_C = 0$)		-5	V
I_C	Collector Current		-4	A
I_{CM}	Collector Current Peak		-7	
I_B	Base Current		-1	A
P_C	Total power Dissipation	$T_C = 25^\circ\text{C}$	36	W
T_J	Junction Temperature		150	$^\circ\text{C}$
T_{Stg}	Storage Temperature		-65 to +150	$^\circ\text{C}$

THERMAL CHARACTERISTICS

Symbol	Ratings	Value	Unit
R_{thJ-c}	Thermal Resistance, Junction-Case	3.5	$^\circ\text{C/W}$
R_{thJ-a}	Thermal Resistance, Junction-ambient in free air	100	$^\circ\text{C/W}$

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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} = -60 V	BD440	-	-	-100	μA	
		I _E = 0, V _{CB} = -80 V	BD442					
I _{CES}	Collector cut-off current	V _{BE} = 0, V _{CE} = -60 V	BD440	-	-	-100		
		V _{BE} = 0, V _{CE} = -80 V	BD442					
I _{EBO}	Emitter cut-offcurrent	I _C = 0	BD440	-	-	-1	mA	
		V _{EB} = -5 V	BD442					
V _{CEO(SUS)}	Collector-Emitter sustaning Voltage (*)	I _B = 0	BD440	-60	-	-	V	
		I _C = -100 mA	BD442	-80	-	-		
V _{CE(SAT)}	Collector-Emitter saturation Voltage (*)	I _C = -2 A	BD440	-	-	-0.8	V	
		I _B = -200 mA	BD442					
V _{BE}	Base-Emitter Voltage(*)	I _C = -10 mA V _{CE} = -5 V	BD440	-	-0.58	-	V	
			BD442					
		I _C = -2 A V _{CE} = -1 V	BD440	-	-	-1.5	V	
			BD442					
h _{FE}	DC Current Gain (*)	I _C = -10 mA V _{CE} = -5 V	BD440	20	-	130	-	
			BD442	15	-	130		
		I _C = -500 mA V _{CE} = -1 V	BD440	40	-	140		
			BD442					
		I _C = -2 A V _{CE} = -1 V	BD440	25	-	-		
			BD442	15	-	-		
f _T	Transition frequency	I _C = -250 mA V _{CE} = -1 V	BD440	3	-	-	MHz	
			BD442					

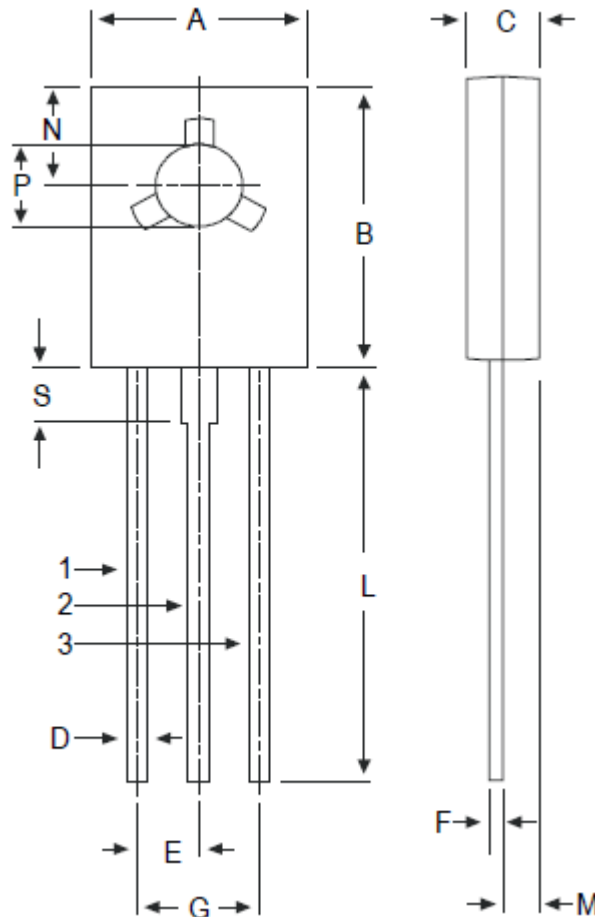
(*) Measured under pulse conditions : $t_p < 300\mu\text{s}$, $\delta < 1.5\%$

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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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