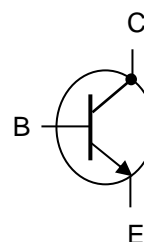


BSX45-BSX46-BSX47

NPN MEDIUM POWER TRANSISTORS

The BSX45-BSX46-BSX47 are NPN transistors mounted in TO-39 metal package. They are intended for use in general industrial applications. High current and low voltage. Compliance to RoHS.



ABSOLUTE MAXIMUM RATINGS

Symbol	Ratings		Value			Unit
			BSX45	BSX46	BSX47	
V _{CEO}	Collector-Emitter Voltage	I _B =0	40	60	80	V
V _{CBO}	Collector-Base Voltage	I _E =0	80	100	120	V
V _{EBO}	Emitter-Base Voltage	I _C =0	7			V
I _C	Collector Current	—	1			A
I _{CM}	Collector Peak Current		1.5			A
I _{BM}	Base Peak Current		200			mA
P _D	Total Power Dissipation	T _{amb} = 25°	6.25			W
T _J	Junction Temperature		200			°C
T _{amb}	Operating ambient temperature		-65 to +150			
T _{Stg}	Storage Temperature range		-65 to +150			

THERMAL CHARACTERISTICS

Symbol	Ratings	Value	Unit
R_{thJ-a}	Thermal Resistance, Junction to ambient	200	°C/W
R_{thJ-c}	Thermal Resistance, Junction to case	28	°C/W

SWITCHING TIMES

Symbol	Ratings		Value	Unit
t_{on}	Turn-on time	$I_{Con} = 100mA; I_{Bon} = 5 mA$ $I_{Boff} = -5 mA$	200	ns
t_{off}	Turn-off time		850	ns

BSX45-BSX46-BSX47

ELECTRICAL CHARACTERISTICS

T_j=25°C unless otherwise specified

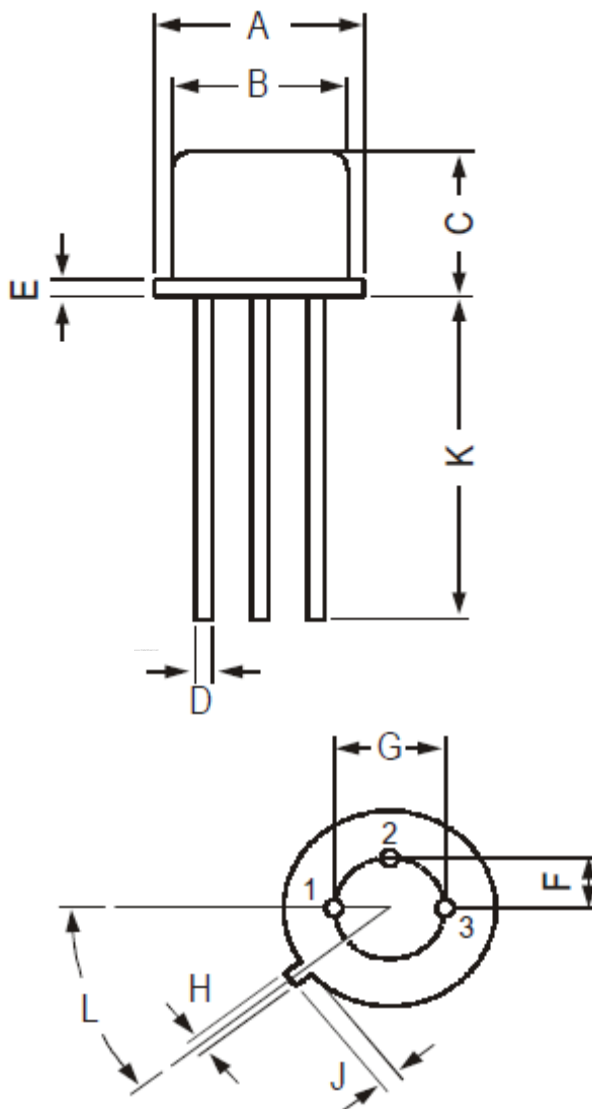
Symbol	Ratings	Test Condition(s)		Min	Typ	Max	Unit
I _{CBO}	Collector Cutoff Current	V _{CB} = 60 V, I _E = 0	BSX45	-	-	30	nA
		BSX46					
		V _{CB} = 80 V, I _E = 0	BSX47	-	-	10	μA
		V _{CB} = 60 V, I _E = 0	BSX45				
		T _j = 150°C	BSX46				
	V _{CB} = 80 V, I _E = 0	BSX47					
I _{EBO}	Emitter Cutoff Current	V _{BE} = 5.0 V, I _C = 0		-	-	10	nA
V _{CE(SAT)}	Collector-Emitter saturation Voltage	I _C = 1 A, I _B = 100 mA	BSX45	-	-	1	V
		BSX46					
		I _C = 500 mA I _B = 25 mA	BSX47	-	-	0.9	
V _{BE}	Base-Emitter Voltage	I _C = 100 mA, V _{CE} = 1 V		-	-	1	V
		I _C = 500 mA, V _{CE} = 1 V		0.75	-	1.5	
		I _C = 1 A, V _{CE} = 1 V		-	-	2	
h _{FE}	DC Current Gain	I _C = 100 μA V _{CE} = 1 V	BSX45/10	15	40	-	-
			BSX46/10				
			BSX47/10				
			BSX45/16	25	90	-	
			BSX46/16				
		I _C = 100 mA V _{CE} = 1 V	BSX45/10	63	100	160	
			BSX46/10				
			BSX47/10				
			BSX45/16	100	160	250	
			BSX46/16				
			BSX47/16				
		I _C = 500 mA V _{CE} = 1 V	BSX45/10	25	40	-	
			BSX46/10				
			BSX47/10				
			BSX45/16	35	60	-	
			BSX46/16				
		I _C = 1 A, V _{CE} = 1 V	BSX45/10	-	20	-	
			BSX46/10				
			BSX47/10				
			BSX45/16	-	30	-	
BSX46/16							
f _T	Transition frequency	I _C = 50 mA, V _{CE} = 10 V f = 100MHz		50	-	-	MHz
F	Noise figure	I _C = 100 μA, V _{CE} = 5 V, RS=1kΩ f = 1kHz, B =200Hz		-	3.5	-	db

BSX45-BSX46-BSX47

MECHANICAL DATA CASE TO-39

DIMENSIONS (mm)		
	min	max
A	8.50	9.39
B	7.74	8.50
C	6.09	6.60
D	0.40	0.53
E	-	0.88
F	2.41	2.66
G	4.82	5.33
H	0.71	0.86
J	0.73	1.02
K	12.70	-
L	42°	48°

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



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