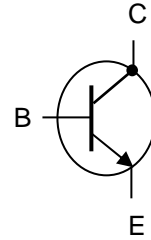


BSX45-BSX46-BSX47

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 $T_{amb} = 25^\circ$	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	200	ns
t_{off}	Turn-off time		
	$I_{Con} = 100mA; I_{Bon} = 5 mA$	850	ns
	$I_{Boff} = -5 mA$		

BSX45-BSX46-BSX47

ELECTRICAL CHARACTERISTICS

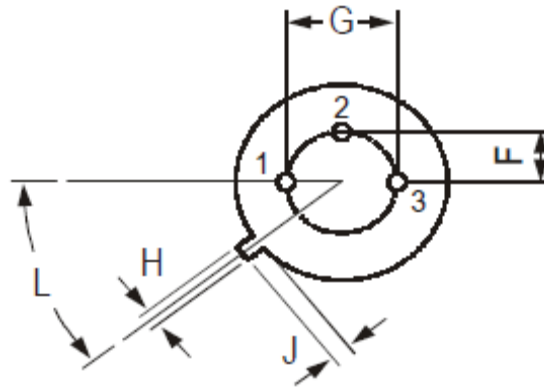
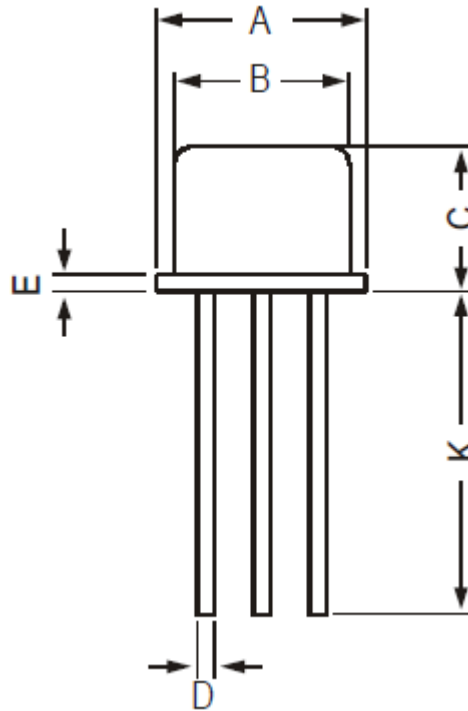
T_j=25°C unless otherwise specified

Symbol	Ratings	Test Condition(s)	Min	Typ	Max	Unit	
I _{CBO}	Collector Cutoff Current	V _{CB} = 60 V, I _E = 0	-	-	30	nA	
		BSX45					
		BSX46					
		V _{CB} = 80 V, I _E = 0	BSX47				
I _{EBO}	Emitter Cutoff Current	V _{CB} = 60 V, I _E = 0	-	-	10	μA	
		T _j = 150°C					
		BSX45					
BSX46							
BSX47							
V _{CE(SAT)}	Collector-Emitter saturation Voltage	V _{BE} = 5.0 V, I _C = 0	-	-	10	nA	
		I _C = 1 A, I _B = 100 mA	-	-	1	V	
V _{BE}	Base-Emitter Voltage	I _C = 500 mA, I _B = 25 mA	-	-	0.9		
		I _C = 100 mA, V _{CE} = 1 V	-	-	1		
h _{FE}	DC Current Gain	I _C = 500 mA, V _{CE} = 1 V	0.75	-	1.5	V	
		I _C = 1 A, V _{CE} = 1 V	-	-	2		
		I _C = 100 μA, V _{CE} = 1 V	15	40	-		
		BSX45/10					
		BSX46/10					
		I _C = 100 mA, V _{CE} = 1 V	BSX47/10	63	100	160	
			BSX45/16				
			BSX46/16				
			I _C = 500 mA, V _{CE} = 1 V	BSX45/10	100	160	250
				BSX46/10			
				BSX47/10			
		I _C = 1 A, V _{CE} = 1 V	BSX45/16	25	40	-	
BSX46/16							
BSX45/10	35		60	-			
BSX46/10							
I _C = 100 μA, V _{CE} = 1 V	BSX47/10	-	20	-			
	BSX45/16						
	BSX46/16	-	30	-			
	BSX47/10						
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, R _S = 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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