

CentralTM Semiconductor Corp.

145 Adams Avenue, Hauppauge, NY 11788 USA
Tel: (631) 435-1110 • Fax: (631) 435-1824

Manufacturers of World Class Discrete Semiconductors

BSX45, -10, -16
BSX46, -10, -16
BSX47, -10,

NPN SILICON TRANSISTORS

JEDEC TO-39 CASE

DESCRIPTION

The CENTRAL SEMICONDUCTOR BSX45 series types are NPN Silicon Epitaxial Transistors designed for general purpose amplifier and switching applications.

MAXIMUM RATINGS (T_A=25°C)

	SYMBOL	BSX45	BSX46	BSX47	UNITS
Collector-Base Voltage	V _{CB0}	80	100	120	V
Collector-Emitter Voltage	V _{CEO}	40	60	80	V
Emitter-Base Voltage	V _{EBO}		7.0		V
Collector Current	I _C		1.0		A
Collector Current (Peak)	I _{CM}		1.5		A
Base Current (Peak)	I _{BM}		200		mA
Power Dissipation (T _C =25°C)	P _D		6.25		W
Power Dissipation	P _D		0.8		W
Operating and Storage					
Junction Temperature	T _J , T _{stg}		-65 to +200		°C
Thermal Resistance	θ _{JC}		28		°C/W
Thermal Resistance	θ _{JA}		219		°C/W

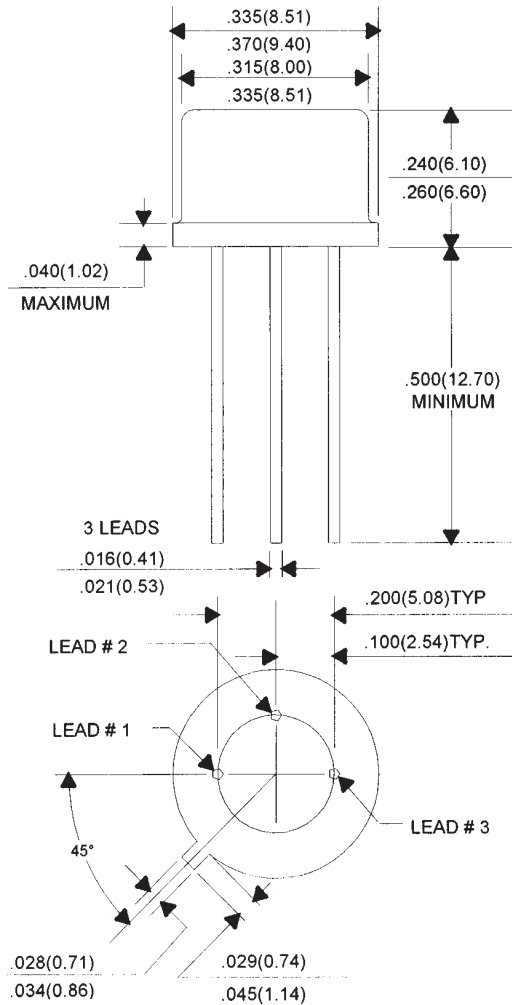
ELECTRICAL CHARACTERISTICS (T_A=25°C unless otherwise noted)

SYMBOL	TEST CONDITIONS	BSX45		BSX46		BSX47		UNITS
		MIN	MAX	MIN	MAX	MIN	MAX	
I _{CBO}	V _{CB} =60V		30		30		-	nA
I _{CBO}	V _{CB} =60V, T _A =150°C		10		10		-	μA
I _{CBO}	V _{CB} =80V		-		-		30	nA
I _{CBO}	V _{CB} =80V, T _A =150°C		-		-		10	μA
I _{EBO}	V _{EB} =5.0V		10		10		10	nA
V _{CE(SAT)}	I _C =1.0A, I _B =100mA		1.0		1.0		-	V
V _{CE(SAT)}	I _C =500mA, I _B =25mA		-		-		0.9	V
V _{BE(ON)}	V _{CE} =1.0V, I _C =100mA		1.0		1.0		1.0	V
V _{BE(ON)}	V _{CE} =1.0V, I _C =500mA	0.75	1.5	0.75	1.5	0.75	1.5	V
V _{BE(ON)}	V _{CE} =1.0V, I _C =1.0A		2.0		2.0		2.0	V
f _T	V _{CE} =10V, I _C =50mA, f=100MHz	50		50		50		MHz
C _c	V _{CB} =10V, I _E =0, f=1.0MHz		25		20		15	pF
C _e	V _{EB} =0.5V, I _C =0, f=1.0MHz		80		80		80	pF
t _{on}	I _C =100mA, I _{B1} =I _{B2} =5.0mA		200		200		200	ns
t _{off}	I _C =100mA, I _{B1} =I _{B2} =5.0mA		850		850		850	ns
NF	V _{CE} =5.0V, I _C =100μA, R _S =1.0kΩ, f=1.0kHz, BW=200Hz		3.5 TYP		3.5 TYP		3.5 TYP	dB

(Continued on Reverse Side)

SYMBOL	TEST CONDITIONS	BSX45-10 BSX46-10 BSX47-10			BSX45-16 BSX46-16			UNITS
		MIN	TYP	MAX	MIN	TYP	MAX	
h_{FE}	$V_{CE}=1.0V, I_C=100\mu A$	15			25			
h_{FE}	$V_{CE}=1.0V, I_C=100mA$	63		160	100		250	
h_{FE}	$V_{CE}=1.0V, I_C=500mA$	25			35			
h_{FE}	$V_{CE}=1.0V, I_C=1.0A$		20			30		

JEDEC TO-39 CASE - MECHANICAL OUTLINE



All Dimensions in Inches (mm).

Lead Code:

1. Emitter
2. Base
3. Collector

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