Central™
Semiconductor Corp.
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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_{CBO}	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

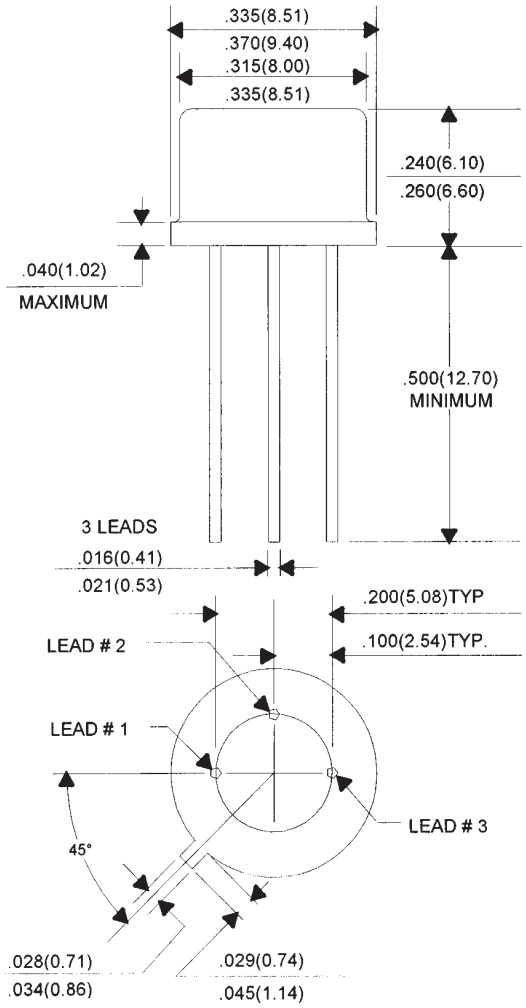
ELECTRICAL CHARACTERISTICS (T_A=25°C unless otherwise noted)

		BSX45		BSX46		BSX47		
SYMBOL	TEST CONDITIONS	MIN	MAX	MIN	MAX	MIN	MAX	UNITS
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 MIN	TYP	MAX	BSX45-16 BSX46-16 MIN	TYP	MAX	UNITS
h_{FE}	V_{CE}=1.0V, I_C=100μA	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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