

CentralTM Semiconductor Corp.

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Manufacturers of World Class Discrete Semiconductors

BSX59
BSX60
BSX61

NPN SILICON TRANSISTORS

JEDEC TO-39 CASE

DESCRIPTION

The CENTRAL SEMICONDUCTOR BSX59 series types are NPN Silicon Transistors designed for high speed switching applications.

MAXIMUM RATINGS (T_C=25°C)

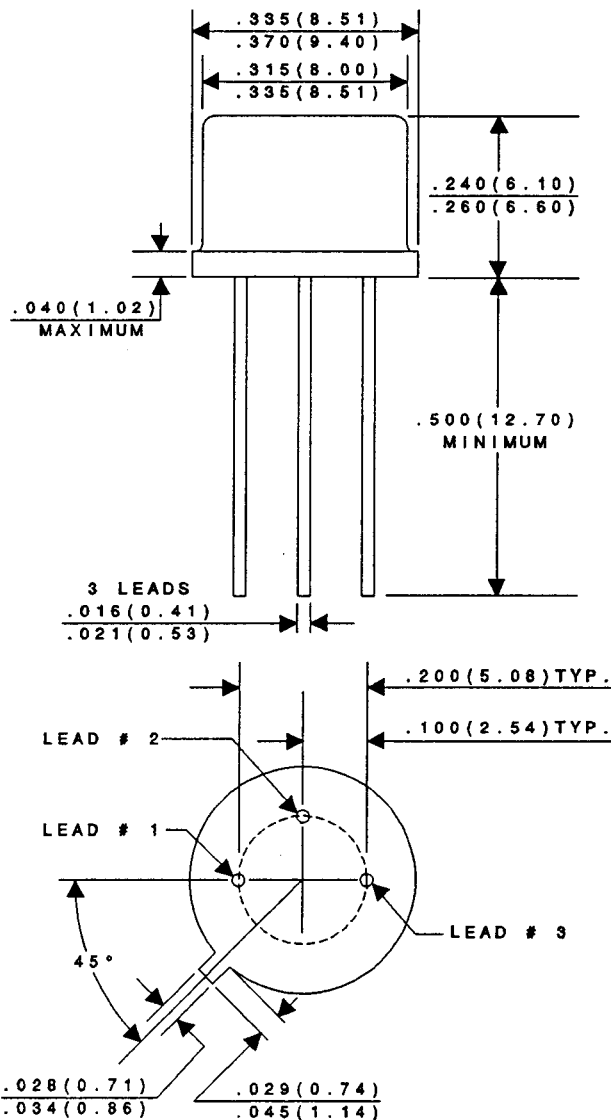
	SYMBOL	BSX59	BSX60	BSX61	UNITS
Collector-Base Voltage	V _{CBO}	70	70	70	V
Collector-Emitter Voltage	V _{CEO}	45	30	45	V
Emitter-Base Voltage	V _{EBO}		5.0		V
Collector Current	I _C		1.0		A
Collector Current (Peak)	I _{CM}		1.0		A
Emitter Current (Peak)	I _{EM}		1.0		A
Power Dissipation	P _D		4.0		W
Power Dissipation (T _A =25°C)	P _D		0.8		W
Operating and Storage					
Junction Temperature	T _J , T _{stg}		-65 to +200		°C
Thermal Resistance	θ _{JC}		43		°C/W
Thermal Resistance	θ _{JA}		219		°C/W

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

SYMBOL	TEST CONDITIONS	BSX59		BSX60		BSX61		UNITS
		MIN	MAX	MIN	MAX	MIN	MAX	
I _{CBO}	V _{CE} =40V		500		500		500	nA
I _{CBO}	V _{CE} =40V, T _C =150°C		300		300		300	μA
I _{CEV}	V _{CE} =40V, V _{EB(off)} =4.0V		500		500		1000	nA
I _{CEV}	V _{CE} =40V, V _{EB(off)} =4.0V, T _C =150°C		300		300		500	μA
I _{EBO}	V _{EB} =4.0V		300		300		500	nA
I _{EBO}	V _{EB} =4.0V, T _C =150°C		50		50		50	μA
V _{CE(SAT)}	I _C =150mA, I _B =15mA		0.3		0.3		0.5	V
V _{CE(SAT)}	I _C =500mA, I _B =50mA		0.5		0.5		0.7	V
V _{CE(SAT)}	I _C =1.0A, I _B =100mA		1.0		1.0		1.3	V
V _{BE(SAT)}	I _C =150mA, I _B =15mA		1.0		1.0		1.0	V
V _{BE(SAT)}	I _C =500mA, I _B =50mA	0.85	1.2	0.7	1.3	0.7	1.3	V
V _{BE(SAT)}	I _C =1.0A, I _B =100mA		1.8		1.8		1.8	V
h _{FE}	V _{CE} =1.0V, I _C =150mA	30		30		30		
h _{FE}	V _{CE} =1.0V, I _C =500mA	30	90	30	90	30	90	
h _{FE}	V _{CE} =5.0V, I _C =1.0A	20		25		20		
f _T	V _{CE} =10V, I _C =50mA, f=1.0MHz	250		250		250		MHz
C _c	V _{CB} =10V, I _E =0		10		10		10	pF
C _e	V _{EB} =0.5V, I _C =0		50		50		50	pF

SYMBOL	TEST CONDITIONS	BSX59		BSX60		BSX61		UNITS
		MIN	MAX	MIN	MAX	MIN	MAX	
t_{on}	$V_{CC}=50V, I_C=500mA, I_{B1}=50mA$		35	-		50		ns
t_{on}	$V_{CC}=30V, I_C=500mA, I_{B1}=50mA$		-	40		-		ns
t_{off}	$V_{CC}=50V, I_C=500mA, I_{B1}=I_{B2}=50mA$		60	-		100		ns
t_{off}	$V_{CC}=30V, I_C=500mA, I_{B1}=I_{B2}=50mA$		-	70		-		ns

JEDEC TO-39 CASE - MECHANICAL OUTLINE



All Dimensions in Inches (mm).

Lead Code:

1. Emitter
2. Base
3. Collector

CentralTM
Semiconductor Corp.

OUTSTANDING SUPPORT AND SUPERIOR SERVICES



PRODUCT SUPPORT

Central's operations team provides the highest level of support to insure product is delivered on-time.

- Supply management (Customer portals)
- Inventory bonding
- Consolidated shipping options
- Custom bar coding for shipments
- Custom product packing

DESIGNER SUPPORT/SERVICES

Central's applications engineering team is ready to discuss your design challenges. Just ask.

- Free quick ship samples (2nd day air)
- Online technical data and parametric search
- SPICE models
- Custom electrical curves
- Environmental regulation compliance
- Customer specific screening
- Up-screening capabilities
- Special wafer diffusions
- PbSn plating options
- Package details
- Application notes
- Application and design sample kits
- Custom product and package development

REQUESTING PRODUCT PLATING

1. If requesting Tin/Lead plated devices, add the suffix "TIN/LEAD" to the part number when ordering (example: 2N2222A TIN/LEAD).
2. If requesting Lead (Pb) Free plated devices, add the suffix "PBFREE" to the part number when ordering (example: 2N2222A PBFREE).

CONTACT US

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