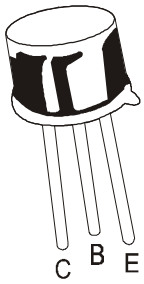
NPN SILICON PLANAR TRANSISTORS

BSX45
BSX46
BSX47



TO-39
Metal Can Package

AMPLIFIER TRANSISTORS

ABSOLUTE MAXIMUM RATINGS (Ta=25ºC unless specified otherwise)

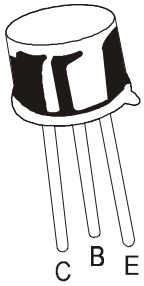
DESCRIPTION	SYMBOL		BSX45	BSX46	BSX47	UNITS
Collector Emitter Voltage	V_{CEO}		40	60	80	V
Collector Emitter Voltage	V_{CES}		80	100	120	V
Emitter Base Voltage	V_{EBO}			7.0		V
Collector Current Continuous	I_C			1.0		A
Power Dissipation @ Ta=25º C	P_D			1.0		W
Derate Above 25º C				5.71		mW/ ºC
Power Dissipation@ Tc=25º C	P_D			5.0		W
Derate Above 25º C				28.6		mW/ ºC
Operating And Storage Junction	T_j, T_{stg}			-65 to +200		ºC
Temperature Range						
THERMAL RESISTANCE						
Junction to Ambient	$R_{th(j-a)}$			200		ºC/W
Junction to Case	$R_{th(j-c)}$			35		ºC/W

ELECTRICAL CHARACTERISTICS (Ta=25ºC unless specified otherwise)

DESCRIPTION	SYMBOL	TEST CONDITION	BSX45	BSX46	BSX47	UNITS
Collector Emitter Voltage	V_{CEO}*	I_C=30mA,I_B=0	>40	>60	>80	V
	V_{CES}	I_C=100µA,V_{BE}=0	>80	>100	>120	V
Emitter Base Voltage	V_{EBO}	I_E=100µA, I_C =0		>7.0		V
Collector Cut off Current	I_{CES}	V_{CE}=60V,V_{BE}=0	<10	<10		nA
		V_{CE}=80V,V_{BE}=0			<10	nA
	I_{CES}	Tc =150ºC				
		V_{CE}=60V,V_{BE}=0	<10	<10		µA
		V_{CE}=80V,V_{BE}=0			<10	µA
Emitter Cut off Current	I_{EBO}	V_{EB}=5V, I_C=0		<10		nA

NPN SILICON PLANAR TRANSISTORS

BSX45
BSX46
BSX47



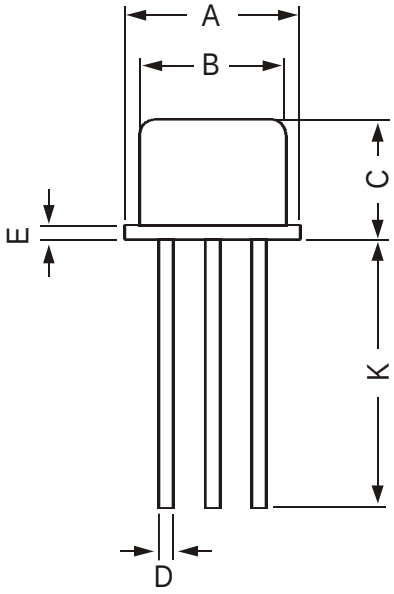
TO-39
Metal Can Package

ELECTRICAL CHARACTERISTICS (Ta=25ºC unless specified otherwise)

DESCRIPTION	SYMBOL	TEST CONDITION		VALUE		UNITS
DC Current Gain	h_{FE}	I_C=0.1mA,V_{CE}=1V				
		Group -6		>10		
		Group -10		>15		
		Group -16		>25		
	h_{FE}	I_C=100mA,V_{CE}=1V*				
		Group -6		40 to 100		
		Group -10		63 to 160		
		Group -16		100 to 250		
	h_{FE}	I_C=500mA,V_{CE}=1V*				
		Group -6		>15		
		Group -10		>25		
		Group -16		>35		
Base Emitter on Voltage	$V_{BE(on)}$*	I_C=100mA, V_{CE}=1V		<1.0		V
		I_C=500mA, V_{CE}=1V		0.75 to 1.5		V
		I_C=1A, V_{CE}=1V		<2.0		V
Collector Emitter Saturation Voltage	$V_{CE(sat)}$*	I_C=1A, I_B=0.1A		<1.0		V
DYNAMIC CHARACTERISTICS						
Transition Frequency	f_T	I_C=50mA, V_{CE}=10V		>50		MHz
		f=20MHz				
Emitter Base Capacitance	C_{ib}	V_{BE} =0.5V, f=1MHz		<80		pF
Output Capacitance	C_{ob}	V_{CB}=10V, f=1MHz				
BSX45				<25		pF
BSX46				<20		pF
BSX47				<15		pF
Turn on time	t_{on}	I_C=100mA, I_{B1}=-I_{B2}=		<200		ns
Turn off time	t_{off}	5mA		<850		ns

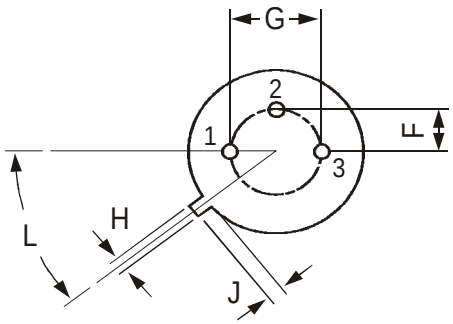
***Pulse Test: Pulse Duration =300ms, Duty Cycle =1%**

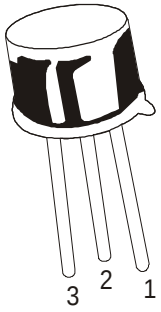
TO-39 Metal Can Package



All dimensions are in mm

DIM	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 DEG	48 DEG





PIN CONFIGURATION
1. EMITTER
2. BASE
3. COLLECTOR

Packing Detail

PACKAGE	STANDARD PACK		INNER CARTON BOX		OUTER CARTON BOX		
	Details	Net Weight/Qty	Size	Qty	Size	Qty	Gr Wt
TO-39	500 pcs/polybag	540 gm/500 pcs	3" x 7.5" x 7.5"	20K	17" x 15" x 13.5"	32K	40 kgs

Disclaimer

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