Central™
Semiconductor Corp.
145 Adams Avenue, Hauppauge, NY 11788 USA
Tel: (631) 435-1110 • Fax: (631) 435-1824

Manufacturers of World Class Discrete Semiconductors

BSS50
BSS51
BSS52

NPN SILICON DARLINGTON TRANSISTORS

JEDEC TO-39 CASE

DESCRIPTION

The CENTRAL SEMICONDUCTOR BSS50 series types are NPN Silicon Darlington Transistors designed for industrial switching applications.

MAXIMUM RATINGS (T_A=25°C)

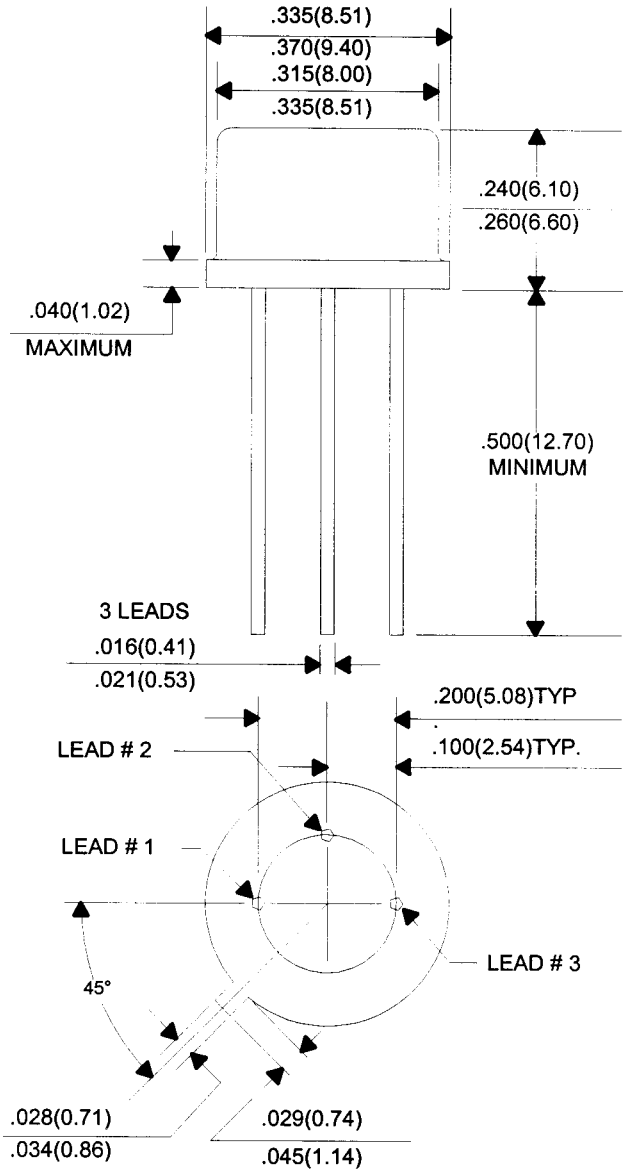
	SYMBOL	BSS50	BSS51	BSS52	UNITS
Collector-Base Voltage	V_{CBO}	60	80	90	V
Collector-Emitter Voltage	V_{CER}	45	60	80	V
Emitter-Base Voltage	V_{EBO}		5.0		V
Collector Current	I_C		1.0		A
Collector Current (Peak)	I_{CM}		2.0		A
Base Current (Peak)	I_{BM}		100		mA
Power Dissipation	P_D		0.8		W
Power Dissipation (T_C=25°C)	P_D		5.0		W
Operating and Storage Junction Temperature	T_J, T_{stg}		-65 to +200		°C
Thermal Resistance	Θ_{JA}		219		°C/W
Thermal Resistance	Θ_{JC}		35		°C/W

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

		BSS50		BSS51		BSS52		
SYMBOL	TEST CONDITIONS	MIN	MAX	MIN	MAX	MIN	MAX	UNITS
I_{CBO}	V_{CB}=Rated V_{CER}		50		50		50	nA
I_{EBO}	V_{EB}=4.0V		50		50		50	nA
$V_{CE(SAT)}$	I_C=500mA, I_B=500μA		1.3		1.3		1.3	V
$V_{CE(SAT)}$	I_C=500mA, I_B=500μA, T_A=200°C		1.3		1.3		1.3	V
$V_{CE(SAT)}$	I_C=1.0A, I_B=1.0mA		-		1.6		-	V
$V_{CE(SAT)}$	I_C=1.0A, I_B=1.0mA, T_A=200°C		-		2.3		-	V
$V_{CE(SAT)}$	I_C=1.0A, I_B=4.0mA		1.6		-		1.6	V
$V_{CE(SAT)}$	I_C=1.0A, I_B=4.0mA, T_A=200°C		1.6		-		1.6	V
$V_{BE(SAT)}$	I_C=500mA, I_B=500μA		1.9		1.9		1.9	V
$V_{BE(SAT)}$	I_C=1.0A, I_B=1.0mA		-		2.2		-	V
$V_{BE(SAT)}$	I_C=1.0A, I_B=4.0mA		2.2		-		2.2	V
$V_{BE(ON)}$	V_{CE}=10V, I_C=150mA	1.3	1.65	1.3	1.65	1.3	1.65	V
$V_{BE(ON)}$	V_{CE}=10V, I_C=500mA	1.4	1.75	1.4	1.75	1.4	1.75	V
h_{FE}	V_{CE}=10V, I_C=150mA	1K		1K		1K		
h_{FE}	V_{CE}=10V, I_C=500mA	2K		2K		2K		
h_{fe}	V_{CE}=5.0V, I_C=500mA, f=35MHz	10 TYP		10 TYP		10 TYP		
t_{on}	I_C=500mA, I_{B1}=I_{B2}=0.5mA	0.4 TYP		0.4 TYP		0.4 TYP		μs
t_{off}	I_C=500mA, I_{B1}=I_{B2}=0.5mA	1.5 TYP		1.5 TYP		1.5 TYP		μs
t_{on}	I_C=1.0A, I_{B1}=I_{B2}=1.0mA	0.4 TYP		0.4 TYP		0.4 TYP		μs
t_{off}	I_C=1.0A, I_{B1}=I_{B2}=1.0mA	1.5 TYP		1.5 TYP		1.5 TYP		μs

(See Reverse Side)

JEDEC TO-39 CASE - MECHANICAL OUTLINE



All Dimensions in Inches (mm).

Lead Code:

1. Emitter
2. Base
3. Collector

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