

New Jersey Semi-Conductor Products, Inc.

20 STERN AVE.
 SPRINGFIELD, NEW JERSEY 07081
 U.S.A.

TELEPHONE: (973) 376-2922
 (212) 227-6005
 FAX: (973) 376-8960

SILICON PLANAR TRANSISTORS



BFY50, BFY51, BFY52

**TO-39
 Metal Can Package**

General Purpose Transistors.

ABSOLUTE MAXIMUM RATINGS (Ta=25°C unless specified otherwise)

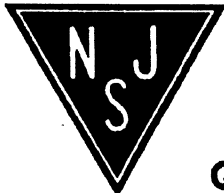
DESCRIPTION	SYMBOL	BFY50	BFY51	BFY52	UNITS
Collector Emitter Voltage	V _{CEO}	35	30	20	V
Collector Base Voltage	V _{CBO}	80	60	40	V
Emitter Base Voltage	V _{EBO}		6.0		V
Collector Current Continuous	I _c		1.0		A
Power Dissipation @ Ta=25°C	P _D		0.8		W
Derate Above 25°C			4.6		mW/°C
Power Dissipation@ Tc=25°C	P _D		5.0		W
Derate Above 25°C			28.6		mW/°C
Operating And Storage Junction Temperature Range	T _J , T _{sig}	-65 to +200			°C

THERMAL RESISTANCE

Junction to Ambient	R _{th(j-a)}	89.5			°C/W
Junction to Case	R _{th(j-c)}	16.5			°C/W

ELECTRICAL CHARACTERISTICS (Ta=25°C unless specified otherwise)

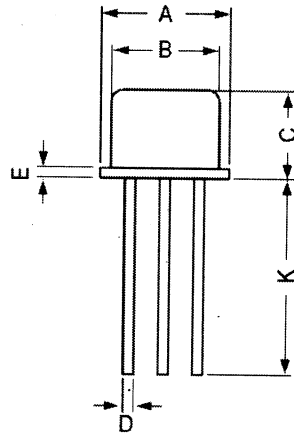
DESCRIPTION	SYMBOL	BFY50	BFY51	BFY52	UNITS
Collector Emitter Voltage	V _{CEO} I _c =10mA, I _B =0	>35	>30	>20	V
Collector Base Voltage	V _{CBO} I _c =10mA, I _E =0	>80	>60	>40	V
Emitter Base Voltage	V _{EBO} I _c =10mA, I _C =0	>6.0	>6.0	>6.0	V
Collector Cut off Current	I _{CBO} V _{CB} =60V, I _E =0	<50			nA
	V _{CB} =40V, I _E =0		<50		nA
	V _{CB} =30V, I _E =0			<50	nA
	T _i =100°C				
	V _{CB} =60V, I _E =0	<2.5			αA
	V _{CB} =40V, I _E =0		<2.5		αA
	V _{CB} =30V, I _E =0			<2.5	αA



Quality Semi-Conductors

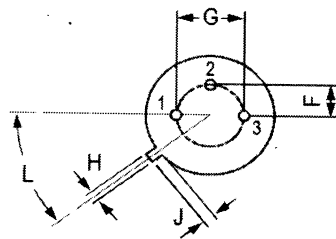
DESCRIPTION	SYMBOL		BFY50	BFY51	BFY52	UNITS
Emitter Cut off Current	I_{EBO}	$V_{EB}=5V, I_C=0$	<50	<50	<50	μA
		$T_i = 100^\circ C$ $V_{EB}=5V, I_C=0$	<2.8	<2.8	<2.8	μA
DC Current Gain	h_{FE}	$I_C=10mA, V_{CE}=6V$	>20	>30	>30	
		$I_C=150mA, V_{CE}=6V$	>30	>40	>60	
Collector Emitter Saturation Voltage	$V_{CE(Sat)}$ *	$I_C=1A, V_{CE}=6V$	>15	>15	>15	
		$I_C=150mA, I_B=15mA$	<0.2	<0.35	<0.35	V
Base Emitter Saturation Voltage	$V_{BE(Sat)}$ *	$I_C=1A, I_B=100mA$	<0.1	<1.6	<1.6	V
		$I_C=1A, I_B=100mA$	<2.0	<2.0	<2.0	V
DYNAMIC CHARACTERISTICS						
Small Signal Current Gain	$ h_{fe} $	$I_C=1mA, V_{CE}=6V,$ $f=1kHz$	>10	>30	>30	
Output Capacitance	C_{ob}	$V_{CB}=12V, f=500kHz$	<12	<12	<12	pF
Transistors Frequency	f_T	$I_C=50mA, V_{CE}=6V$ $f=20MHz$	>60	>50	>50	MHz
*Pulse Test: Pulse Width= 300μs, 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