

**SOLID STATE INC.**  
**46 FARRAND STREET**  
**BLOOMFIELD, NJ 07003**  
**(973) 429-8700 FAX (973) 429-8683**

**SILICON PLANAR SWITCHING TRANSISTORS**

2N5320, 2N5321 (NPN)  
 2N5322, 2N5323 (PNP)



**TO-39**  
**Metal Can Package**

Medium Power Amplifier and Switching Applications.

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

DESCRIPTION	SYMBOL	2N5320	2N5321	2N5322	2N5323	UNITS
Collector Emitter Voltage	$V_{CEO}$	75	50	75	50	V
Collector Base Voltage	$V_{CBO}$	100	75	100	75	V
Emitter Base Voltage	$V_{EBO}$	7	5	7	5	V
Collector Current Continuous	$I_C$	2	2	2	2	A
Base Current	$I_B$	1	1	1	1	A
Power Dissipation@ Tc=25°C	$P_D$	10	10	10	10	W
Derate Above 25°C		0.057	0.057	0.057	0.057	W/°C
Operating And Storage Junction Temperature Range	$T_j, T_{stg}$	<-----65 to +200----->				°C

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

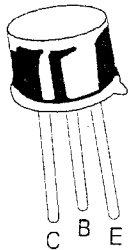
DESCRIPTION	SYMBOL	TEST CONDITION	2N5320	2N5321	2N5322	2N5323	UNITS
Collector Emitter Voltage	$V_{CEO}$	$I_C=100mA, I_B=0$	>75	>50	>75	>50	V
Collector Cut off Current	$I_{CEX}$	$V_{CE}=70V, V_{BE}=1.5V$	<5		<5	-	mA
		$T_C = 150°C$					
		$V_{CE}=45V, V_{BE}=1.5V$		<5		<5	mA
		$T_C = 150°C$					
		$V_{CE}=100V, V_{BE}=1.5V$	<0.1		<0.1		mA
		$V_{CE}=75V, V_{BE}=1.5V$		<0.1		<0.1	mA
Emitter Cut off Current	$I_{EBO}$	$V_{BE}=5V, I_C=0$		<0.1		<0.1	mA
		$V_{BE}=7V, I_C=0$		<0.1		<0.1	mA
DC Current Gain	$h_{FE}^*$	$I_C=1mA, V_{CE}=2V$	>10		>10		
		$I_C=0.5A, V_{CE}=4V$	30-130	40-250	30-130	40-250	
Collector Emitter (sat) Voltage	$V_{CE(sat)}^*$	$I_C=500mA, I_B=50mA$	<0.5	<0.8	<0.7	<1.2	V
Base Emitter On Voltage	$V_{BE(on)}^*$	$I_C=500mA, I_B=4V$	<1.1	<1.4	<1.1	<1.4	V

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TO-39  
 Metal Can Package



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

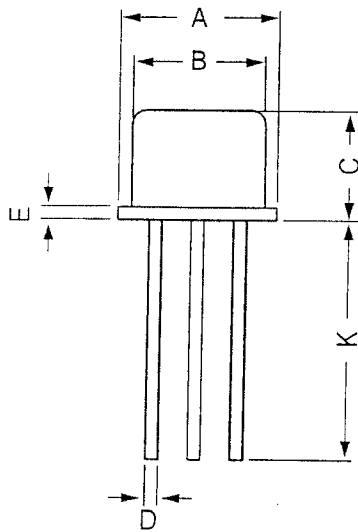
DESCRIPTION	SYMBOL	TEST CONDITION	2N5320	2N5321	2N5322	2N5323	UNITS
<b>DYNAMIC CHARACTERISTICS</b>							
Small Signal Current Gain	$ h_{fe} $	$I_C=50mA, V_{CE}=4V,$ $f=10MHz$	>5	>5	>5	>5	
<b>SWITCHING CHARACTERISTICS</b>							
Turn on Time	$t_{on}$	$V_{CC}=30V, I_C=500mA$ $I_{B1}=50mA$	<80	<80	<100	<100	nS
Turn off Time	$t_{off}$	$V_{CC}=30V, I_C=500mA$ $I_{B1}=I_{B2}=50mA$	<800	<800	<1000	<1000	nS
*Pulse Test: Pulse Width $\leq 300\mu s$ , Duty Cycle $\leq 2\%$							

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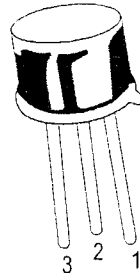
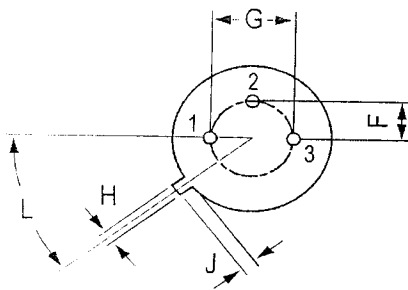
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**TO-39 Metal Can Package**



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	25 x 7 x 5 cm	500	25 x 7 x 5 cm	500	540 gm