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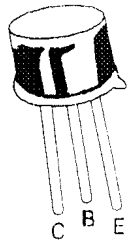
SILICON POWER SWITCHING TRANSISTORS

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



TO-39
Metal Can Package

Medium Power Amplifier and Switching Applications

ABSOLUTE MAXIMUM RATINGS

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	2.0				A
Base Current	I_B	1.0				A
Power Dissipation@ T_a=25°C Derate Above 25°C	P_D	1 5.71				W mW/ °C
Power Dissipation@ T_c=25°C Derate Above 25°C	P_D	10 57.14				W mW/ °C
Operating And Storage Junction Temperature Range	T_j, T_{stg}	- 65 to +200				°C

THERMAL CHARACTERISTICS

Junction to Ambient in free air	$R_{th\ (j\text{-}a)}$	175	°C/W
Junction to Case	$R_{th\ (j\text{-}c)}$	17.5	°C/W

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

DESCRIPTION	SYMBOL	TEST CONDITION	MIN		MAX	UNITS
Collector Emitter Voltage	V_{CEO}	I_C=100mA, I_B=0 **2N5320/5322** **2N5321/5323**	 75 50			 V V
Collector Cut Off Current	I_{CEX}	V_{CE}=70V, V_{BE}=1.5V, T_c=150°C **2N5320/5322**			5	mA
		V_{CE}=45V, V_{BE}=1.5V, T_c=150°C **2N5321/5323**			5	mA
		V_{CE}=100V, V_{BE}=1.5V **2N5320/5322**			100	µA
		V_{CE}=75V, V_{BE}=1.5V **2N5321/5323**			100	µA
Emitter Cut Off Current	I_{EBO}	V_{BE}=5V, I_C=0 **2N5321/5323**			100	µA
		V_{BE}=7V, I_C=0 **2N5320/5322**			100	µA

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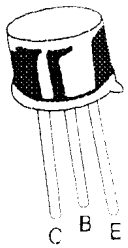

TO-39
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ELECTRICAL CHARACTERISTICS (T_a=25°C unless specified otherwise)

DESCRIPTION	SYMBOL	TEST CONDITION	MIN	TYP	MAX	UNITS
DC Current Gain	*h_{FE}	I_C=1A, V_{CE}=2V				
		2N5320/5322	10			
		I_C=0.5A, V_{CE}=4V				
		2N5320/5322	30		130	
		2N5321/5323	40		250	
Collector Emitter Saturation Voltage	*$V_{CE\ (sat)}$	I_C=500mA, I_B=50mA				
		2N5320			0.5	V
		2N5321			0.8	V
		2N5322			0.7	V
		2N5323			1.2	V
Base Emitter On Voltage	*$V_{BE\ (on)}$	I_C=500mA, V_{CE}=4V				
		2N5320/5322			1.1	V
		2N5321/5323			1.4	V

DYNAMIC CHARACTERISTICS

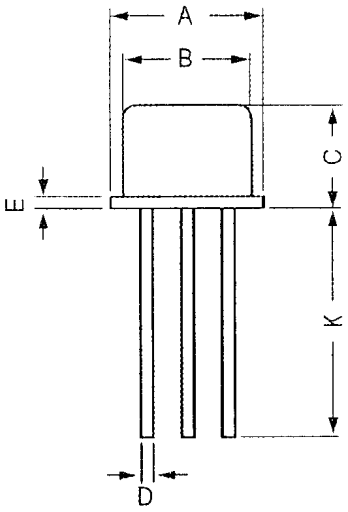
Small Signal Current Gain	h_{fe}	I_C=50mA,V_{CE}=4V, f=10MHz	5			

SWITCHING CHARACTERISTICS

Turn On time	t_{on}	V_{CC}=30V, I_C=500mA, I_{B1}=50mA				
		2N5320/5321			80	ns
		2N5322/5323			100	ns
Turn Off time	t_{off}	V_{CC}=30V, I_C=500mA, I_{B1}=I_{B2}=50mA				
		2N5320/5321			800	ns
		2N5322/5323			1000	ns

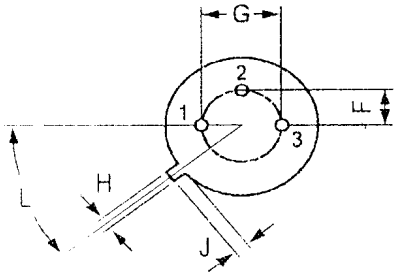
*Pulsed: Pulse width ≤300μs, duty cycle ≤2%

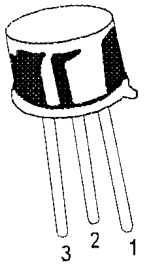
TO-39 Metal Can Package



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