

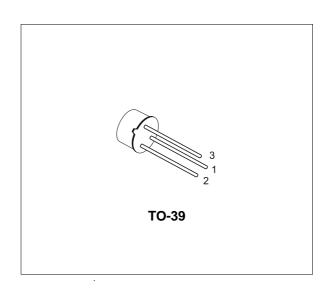
SMALL SIGNAL NPN TRANSISTORS

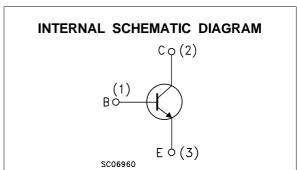
- SILICON EPITAXIAL PLANAR NPN TRANSISTORS
- MEDIUM POWER AMPLIFIER
- PNP COMPLEMENTS ARE 2N5322 AND 2N5323

DESCRIPTION

The 2N5320 and 2N5321 are silicon epitaxial planar NPN transistors in Jedec TO-39 metal case. They are especially intended for high-voltage medium power application in industrial and commercial equipments.

The complementary PNP types are respectively the 2N5322 and 2N5323





ABSOLUTE MAXIMUM RATINGS

Symbol	Parameter	Va	Unit	
		2N5320	2N5321	
V _{CBO}	Collector-Base Voltage (I _E = 0)	100	V	
V _{CEV}	Collector-Emitter Voltage (V _{BE} = 1.5V)	100	100 75	
V_{CEO}	Collector-Emitter Voltage (I _B = 0)	75	75 50	
V_{EBO}	Emitter-Base Voltage (I _C = 0)	6	5	V
Ic	Collector Current	1	1.2	
I _{CM}	Collector Peak Current	2		Α
I _B	Base Current	1		Α
Ptot	Total Dissipation at T _{amb} = 25 °C	1		W
P _{tot}	Total Dissipation at T _c = 25 °C	10		W
T _{stg} , T _j	Storage and Junction Temperature	-65 to 200		°C

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THERMAL DATA

R _{thj-case}	Thermal Resistance Junction-Case	Max	17.5	°C/W
$R_{thj-amb}$	Thermal Resistance Junction-Ambient	Max	175	°C/W

ELECTRICAL CHARACTERISTICS (T_{case} = 25 °C unless otherwise specified)

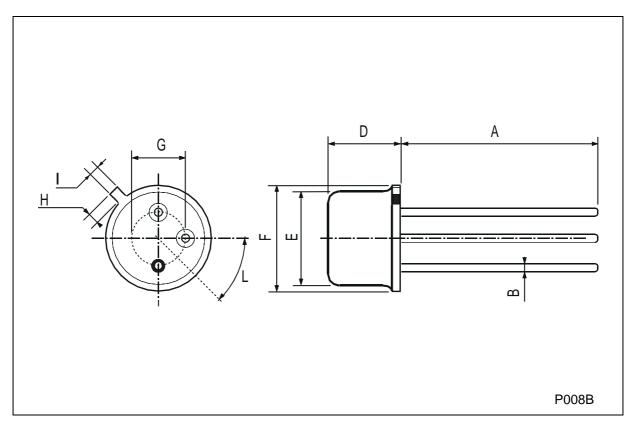
Symbol	Parameter	Test Conditions	Min.	Тур.	Max.	Unit
Ісво	Collector Cut-off Current (I _E = 0)	V _{CB} = 80 V for 2N5320 V _{CB} = 60 V for 2N5321			0.5 5	μΑ μΑ
I _{EBO}	Collector Cut-off Current (I _C = 0)	V _{EB} = 5 V for 2N5320 V _{EB} = 4 V for 2N5321		0.1 0.5		μA μA
V _{(BR)CEV}	Collector-Emitter Breakdown Voltage (V _{BE} = 1.5V)	I _C = 100 μA for 2N5320 for 2N5321	100 75			V V
V _{(BR)CEO*}	Collector-Emitter Breakdown Voltage (I _B = 0)	I _C = 10 mA for 2N5320 for 2N5321	75 50			V V
V _{(BR)EBO}	Emitter-Base Breakdown Voltage (I _C = 0)	I _E = 100 μA for 2N5320 for 2N5321	6 5			V V
VCE(sat)*	Collector-Emitter Saturation Voltage	I _C = 500 mA I _B = 50 mA for 2N5320 for 2N5321			0.5 0.8	V V
V _{BE} *	Base-Emitter Voltage	I _C = 500 mA V _{CE} = 4 V for 2N5320 for 2N5321			1.1 1.4	V V
h _{FE} *	DC Current Gain	for 2N5320 I _C = 500 mA	30 10 40		130 250	
f⊤	Transition Frequency	I _C = 50 mA	50			MHz
t _{on}	Turn-on Time	I _C = 500 mA V _{CC} = 30 V I _{B1} = 50 mA			80	ns
t _{off}	Turn-off Time	$I_{C} = 500 \text{ mA}$ $V_{CC} = 30 \text{ V}$ $I_{B1} = -I_{B2} = 50 \text{ mA}$			800	ns

^{*} Pulsed: Pulse duration = 300 μs, duty cycle = 1 %



TO-39 MECHANICAL DATA

DIM.	mm			inch			
	MIN.	TYP.	MAX.	MIN.	TYP.	MAX.	
А	12.7			0.500			
В			0.49			0.019	
D			6.6			0.260	
E			8.5			0.334	
F			9.4			0.370	
G	5.08			0.200			
Н			1.2			0.047	
ı			0.9			0.035	
L	45° (typ.)						



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