

MEDIUM-POWER AMPLIFIERS

The 2N 5320/BSS 15 and 2N 5321/BSS 16 are silicon planar epitaxial NPN transistors in Jedec TO-39 metal case. They are especially intended for high-voltage medium power applications in industrial and commercial equipments.

The complementary PNP types are respectively the 2N 5322 and 2N 5323.

Datasheet.Directed

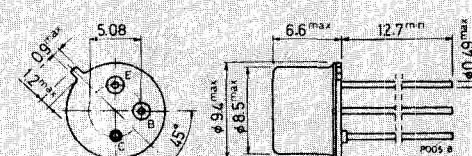
ABSOLUTE MAXIMUM RATINGS

		2N 5320	2N 5321
V_{CBO}	Collector-base voltage ($I_E = 0$)	100 V	75 V
V_{CEV}	Collector-emitter voltage ($V_{BE} = -1.5V$)	100 V	75 V
V_{CEO}	Collector-emitter voltage ($I_B = 0$)	75 V	50 V
V_{EBO}	Emitter-base voltage ($I_C = 0$)	6 V	5 V
I_C	Collector current	2 A	
I_B	Base current	1 A	
P_{tot}	Total power dissipation at $T_{amb} \leqslant 25^\circ C$ at $T_{case} \leqslant 25^\circ C$	1 W	
T_{stg}, T_j	Storage and junction temperature	10 W	
		-65 to 200 °C	

MECHANICAL DATA

Dimensions in mm

Collector connected to case



(sim. to TO-39)

2N 5320/BSS15**2N 5321/BSS16****THERMAL DATA**

$R_{th\ j-case}$	Thermal resistance junction-case	max	17.5	$^{\circ}\text{C/W}$
$R_{th\ j-amb}$	Thermal resistance junction-ambient	max	175	$^{\circ}\text{C/W}$

ELECTRICAL CHARACTERISTICS ($T_{case} = 25^{\circ}\text{C}$ unless otherwise specified)

Parameter	Test conditions	Min.	Typ.	Max.	Unit
I_{CBO}	Collector cutoff current ($I_E = 0$) for 2N 5320 $V_{CB} = 80\text{V}$ for 2N 5321 $V_{CB} = 60\text{V}$		0.5		μA
I_{EBO}	Emitter cutoff current ($I_C = 0$) for 2N 5320 $V_{EB} = 5\text{V}$ for 2N 5321 $V_{EB} = 4\text{V}$		0.1		μA
$V_{(BR)CEV}$	$I_C = 0.1\text{ mA}$ for 2N 5320 for 2N 5321	100	75		V
$V_{CEO(\text{sus})}^*$	Collector-emitter sustaining voltage ($I_B = 0$) $I_C = 10\text{ mA}$ for 2N 5320 for 2N 5321	75	50		V
$V_{(BR)EBO}$	Emitter-base breakdown voltage ($I_C = 0$) $I_E = 0.1\text{ mA}$ for 2N 5320 for 2N 5321	6	5		V
$V_{CE(\text{sat})}^*$	Collector-emitter saturation voltage $I_C = 500\text{ mA}$ $I_B = 50\text{ mA}$ for 2N 5320 for 2N 5321		0.5		V
V_{BE}^*	Base-emitter voltage $I_C = 500\text{ mA}$ $V_{CE} = 4\text{V}$ for 2N 5320 for 2N 5321		1.1	1.4	V
h_{FE}^*	DC current gain for 2N 5320 $I_C = 500\text{ mA}$ $V_{CE} = 4\text{V}$ $I_C = 1\text{ A}$ $V_{CE} = 2\text{V}$ for 2N 5321 $I_C = 500\text{ mA}$ $V_{CE} = 4\text{V}$	30	130	—	—
f_T	Transition frequency $I_C = 50\text{ mA}$ $V_{CE} = 4\text{V}$	50			MHz
t_{on}	Turn-on time $I_C = 500\text{ mA}$ $V_{CC} = 30\text{V}$ $I_{B1} = 50\text{ mA}$		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%