

SOT-323 BIPOLAR TRANSISTORS
TRANSISTOR (NPN)

FEATURES

- * Power dissipation
Pcm: 0.2 W (Tamb=25°C)
- * Collector current
Icm: 0.2 A
- * Collector-base voltage
V(BR)CBO: 160 V
- * Operating and storage junction temperature range
TJ, Tstg: -55°C to +150°C

MECHANICAL DATA

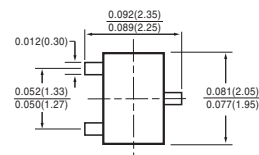
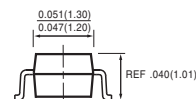
- * Case: Molded plastic
- * Epoxy: UL 94V-O rate flame retardant
- * Lead: MIL-STD-202E method 208C guaranteed
- * Mounting position: Any
- * Weight: 0.006 gram

MAXIMUM RATINGS AND ELECTRICAL CHARACTERISTICS

Ratings at 25 °C ambient temperature unless otherwise specified.



SOT-323



Dimensions in inches and (millimeters)

MAXIMUM RATINGS (@ TA = 25°C unless otherwise noted)

RATINGS	SYMBOL	VALUE	UNITS
Zener Current (see Table "Characteristics")	-	-	-
Max. Steady State Power Dissipation	PD	200	mW
Max. Operating Temperature Range	TJ	150	°C
Storage Temperature Range	TSTG	-55 to +150	°C

ELECTRICAL CHARACTERISTICS (@ TA = 25°C unless otherwise noted)

CHARACTERISTICS	SYMBOL	MIN.	TYP.	MAX.	UNITS
Thermal Resistance Junction to Ambient	R θJA	-	-	625	°C/W
Max. Instantaneous Forward Voltage at If= 10mA	VF	-	-	-	Volts

ELECTRICAL CHARACTERISTICS (@TA=25°C unless otherwise noted)

Chatacteristic	Symbol	Min	Max	Unit
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OFF CHARACTERISTICS

Collector-Emitter Breakdown Voltage ($I_C= 1.0\text{mA}$, $I_B= 0$)	$V_{(BR)CEO}$	160	-	Vdc
Collector-Base Breakdown Voltage ($I_C= 100\mu\text{A}$, $I_E= 0$)	$V_{(BR)CBO}$	180	-	Vdc
Emitter-Base Breakdown Voltage ($I_E= 10\mu\text{A}$, $I_C= 0$)	$V_{(BR)EBO}$	5	-	Vdc
Collector Cutoff Current ($V_{CB}= 120\text{Vdc}$, $I_E= 0$)	I_{CBO}	-	50	nAdc
Emitter Cutoff Current ($V_{EB}= 3\text{Vdc}$, $I_C= 0$)	I_{EBO}	-	50	nAdc

ON CHARACTERISTICS

DC Current Gain ($I_C= 1\text{mA}$, $V_{CE}= 5\text{Vdc}$)	hFE	80	-	-
($I_C= -10\text{mA}$, $V_{CE}= 5\text{Vdc}$)		80	250	
($I_C= 50\text{mA}$, $V_{CE}= 5\text{Vdc}$)		30	-	
Collector-Emitter Saturation Voltage ($I_C= 10\text{mA}$, $I_B= 1\text{mA}$)	$V_{CE(sat)}$	-	0.15	Vdc
($I_C= 50\text{mA}$, $I_B= 5\text{mA}$)		-	0.2	
Base-Emitter Saturation Voltage ($I_C= 10\text{mA}$, $I_B= 1\text{mA}$)	$V_{BE(sat)}$	-	1	Vdc
($I_C= 50\text{mA}$, $I_B= 5\text{mA}$)		-	1	

SMALL-SIGNAL CHARACTERISTICS

Current-Gain-Bandwidth Product ($I_C= 10\text{mA}$, $V_{CE}= 10\text{Vdc}$, $f= 100\text{MHz}$)	f_T	100	300	MHz
Output Capacitance ($V_{CB}= 10\text{Vdc}$, $I_E= 0$, $f= 1.0\text{MHz}$)	C_{ob}	-	6	pF
Noise figure ($I_C= 0.2\text{mA}$, $V_{CE}= 5\text{Vdc}$, $f= 1.0\text{kHz}$, $R_g=10\Omega$)	NF	-	8	dB