

**SOT-23 BIPOLAR TRANSISTORS  
TRANSISTOR(PNP)**

**FEATURES**

\* Power dissipation  
 $P_{CM} : 0.2 \text{ W (Tamb=25°C)}$

**MECHANICAL DATA**

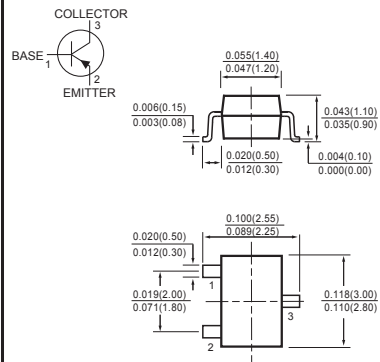
\* Case: Molded plastic  
\* Epoxy: UL 94V-O rate flame retardant  
\* Lead: MIL-STD-202E method 208C guaranteed  
\* Mounting position: Any  
\* Weight: 0.008 gram

**MAXIMUM RATINGS AND ELECTRICAL CHARACTERISTICS**

Ratings at 25°C ambient temperature unless otherwise specified.  
Single phase , half wave, 60Hz, resistive or inductive load.  
For capacitive load, derate current by 20%.



**SOT-23**



Dimensions in inches and (millimeters)

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

CHARACTERISTICS	SYMBOL	VALUE	UNITS
Collector-base voltage	$V_{CBO}$	-32	V
Collector-emitter voltage	$V_{CEO}$	-32	V
Emitter-base voltage	$V_{EBO}$	-5	V
Collector current-continuous	$I_C$	-0.1	A
Power dissipation	$P_C$	0.25	W
Junction and storage temperature	$T_J, T_{stg}$	-55 - 150	°C

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

CHARACTERISTICS	SYMBOL	MIN	TYP	MAX	UNITS
Collector-base breakdown voltage ( $I_C = -10\mu A, I_E = 0$ )	$V_{(BR)CBO}$	-32	-	-	V
Collector-emitter breakdown voltage ( $I_C = -1mA, I_B = 0$ )	$V_{(BR)CEO}$	-32	-	-	V
Emitter-base breakdown voltage ( $I_E = -10\mu A, I_C = 0$ )	$V_{(BR)EBO}$	-5	-	-	V
Collector cut-off current ( $V_{CB} = -32V, I_E = 0$ )	$I_{CBO}$	-	-	-0.02	$\mu A$
Collector cut-off current ( $V_{EB} = -4V, I_C = 0$ )	$I_{EBO}$	-	-	-0.02	$\mu A$
DC current gain ( $V_{CE} = -5V, I_C = -10\mu A$ )	$h_{FE}$	100	-	-	-
DC current gain ( $V_{CE} = -5V, I_C = -2mA$ )		380	-	630	-
DC current gain ( $V_{CE} = -1V, I_C = -50mA$ )		110	-	-	-
Collector-emitter saturation voltage ( $I_C = -10mA, I_B = -0.25mA$ )	$V_{CE(sat)}$	-0.06	-	-0.25	V
Collector-emitter saturation voltage ( $I_C = -50mA, I_B = -1.25mA$ )	$V_{CE(sat)}$	-0.12	-	-0.55	V
Base-emitter saturation voltage ( $I_C = -10mA, I_B = -0.25mA$ )	$V_{BE(sat)}$	-0.6	-	-0.85	V
Base-emitter saturation voltage ( $I_C = -50mA, I_B = -1.25mA$ )		-0.68	-	-1.05	V
Base-emitter voltage ( $V_{CE} = -5V, I_C = -10\mu A$ )	$V_{BE(ON)}$	-	-0.55	-	V
Base-emitter voltage ( $V_{CE} = -5V, I_C = -2mA$ )		-0.6	-	-0.75	V
Base-emitter voltage ( $V_{CE} = -1V, I_C = -50mA$ )		-	-0.72	-	V
Transition frequency ( $V_{CE} = -5V, I_C = -10mA, f = 100MHz$ )	$f_T$	100	-	-	MHz
Collector capacitance ( $V_{CB} = -10V, I_E = 0, f = 1MHz$ )	$C_C$	-	4.5	-	pF
Emitter capacitance ( $V_{EB} = -0.5V, I_C = 0, f = 1MHz$ )	$C_e$	-	11	-	pF

Marking	BD
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