

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

**FEATURES**

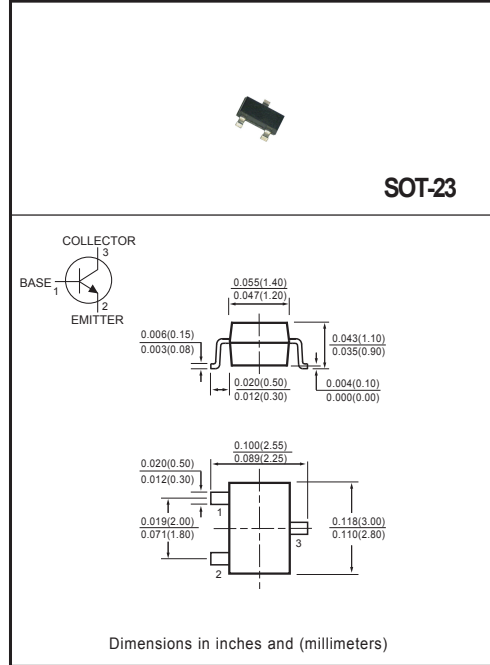
- \* Power dissipation  
 $P_{CM} : \square \quad 0.2 \square \quad W(T_{amb}=25^{\circ}C)$
- \* Collector current  
 $I_{CM} : \square \quad 0.15 \square \quad A$
- \* Collector-base voltage  
 $V_{(BR)CBO} : \square \quad 60 \square \quad V$
- \* Operating and storage junction temperature range  
 $T_{J}, T_{stg} : -55^{\circ}C \text{ to } +150^{\circ}C$

**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, 60 Hz, resistive or inductive load.  
For capacitive load, derate current by 20%.



**ELECTRICAL CHARACTERISTICS** ( @  $T_A = 25^{\circ}C$  unless otherwise noted )

CHARACTERISTICS	SYMBOL	MIN.	TYP.	MAX.	UNITS
Collector-base breakdown voltage ( $I_C = 50\mu A, I_E = 0$ )	$V_{(BR)CBO}$	60	-	-	V
Collector-emitter breakdown voltage ( $I_C = 1mA, I_B = 0$ )	$V_{(BR)CEO}$	50	-	-	V
Emitter-base breakdown voltage ( $I_E = 50\mu A, I_C = 0$ )	$V_{(BR)EBO}$	7	-	-	V
Collector cut-off current ( $V_{CB} = 60V, I_E = 0$ )	$I_{CBO}$	-	-	0.1	$\mu A$
Emitter cut-off current ( $V_{EB} = 7V, I_C = 0$ )	$I_{EBO}$	-	-	0.1	$\mu A$
DC current gain ( $V_{CE} = 6V, I_C = 1mA$ )	$h_{FE}$	120	-	560	-
Collector-emitter saturation voltage ( $I_C = 50mA, I_B = 5mA$ )	$V_{CE(sat)}$	-	-	0.4	V
Transition frequency ( $V_{CE} = 12V, I_C = 2mA, f = 100MHz$ )	$f_T$	150	-	-	MHz

**CLASSIFICATION OF  $h_{FE(1)}$**

RANK	Q	R	Y
Range	120-270	180-390	270-560
Marking	BQ	BR	BS

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