

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

FEATURES

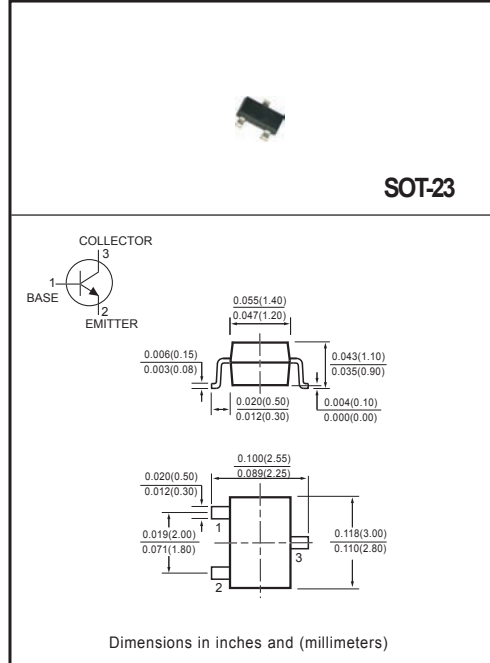
- * Power dissipation
P_{CM} : □ 0.3 W(T_{amb}=25°C)
- * Collector current
I_{CM} : □ 0.5 A
- * Collector-base voltage
V_{(BR)CBO} : □ 80 V
- * Operating and storage junction temperature range
T_J, T_{stg}: -55°C to +150°C

MECHANICAL DATA

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

CHARACTERISTICS	SYMBOL	MIN	TYP	MAX	UNITS
Collector - Base Breakdown Voltage (I _C =100 uA, I _E =0)	V _{(BR)CBO}	80	-	-	V
Collector - Emitter Breakdown Voltage(I _C = 1mA, I _B =0)	V _{(BR)CEO}	80	-	-	V
Emitter - Base Breakdown Voltage (I _E = 100 uA, I _C = 0)	V _{(BR)EBO}	4	-	-	V
Collector Cut - Off Current (V _{CB} = 80V, I _E =0)	I _{CB0}	-	-	0.1	uA
Collector Cut - Off Current (V _{CE} = 60V, I _B =0)	I _{CEO}	-	-	0.1	uA
Collector Cut - Off Current (V _{EB} = 3V, I _C =0)	I _{EBO}	-	-	0.1	uA
DC Current Gain(V _{CE} = 1V, I _C = 100mA)	h _{FE}	100	-	200	-
Collector - Emitter Saturation Voltage(I _C = 100 mA, I _B = 10mA)	V _{CE(sat)}	-	-	0.25	V
Base - Emitter Saturation Voltage(I _C =100mA, I _B = 10mA)	V _{BE(sat)}	-	-	1.2	V
Transition Frequency(V _{CE} = 2V, I _C = 10mA, f =100MHz)	f _r	100	-	-	MHz

Marking	1GM
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Note: "Fully ROHS compliant", "100% Sn plating (Pb-free)".

2007-3

RATING AND CHARACTERISTICS CURVES (MMBTA06)

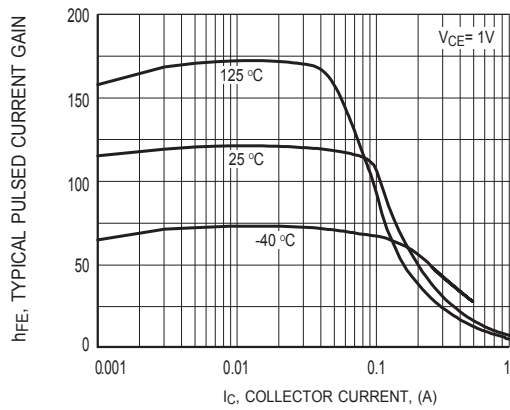


FIG.1 TYPICAL PULSE CURRENT GAIN vs. COLLECTOR CURRENT

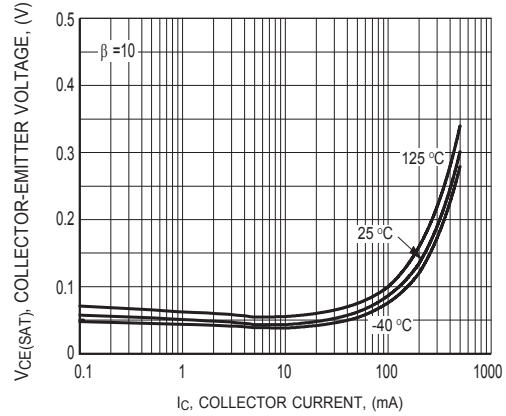


FIG.2 COLLECTOR-EMITTER SATURATION VOLTAGE vs. COLLECTOR CURRENT

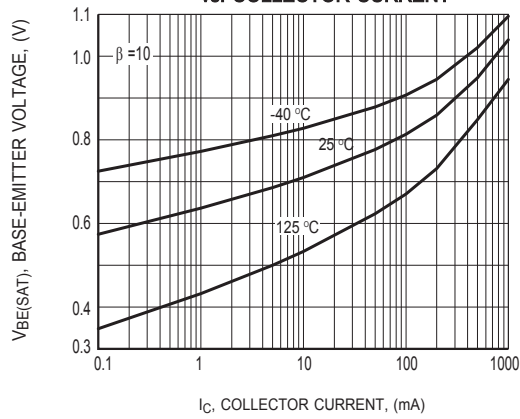


FIG.3 BASE-EMITTER SATURATION VOLTAGE vs. COLLECTOR CURRENT

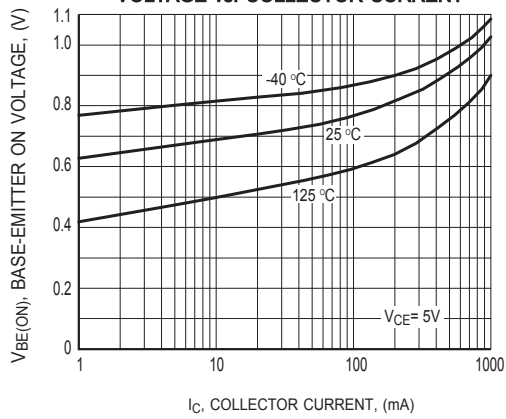


FIG.4 BASE-EMITTER ON VOLTAGE vs. COLLECTOR CURRENT

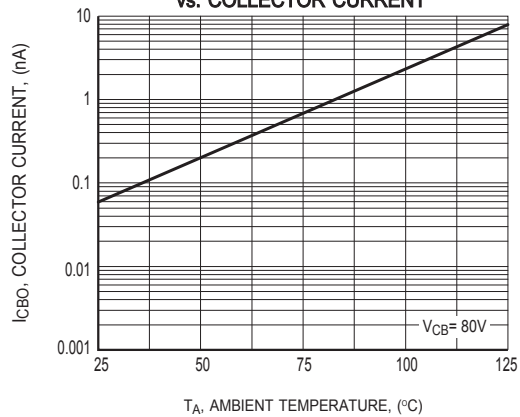


FIG.5 COLLECTOR-CUTOFF CURRENT vs. AMBIENT TEMPERATURE

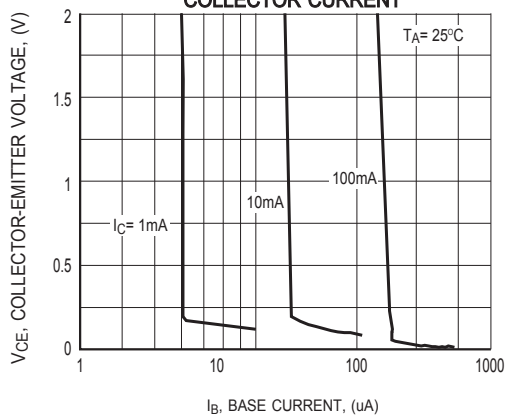


FIG.6 COLLECTOR SATURATION REGION

RATING AND CHARACTERISTICS CURVES (MMBTA06)

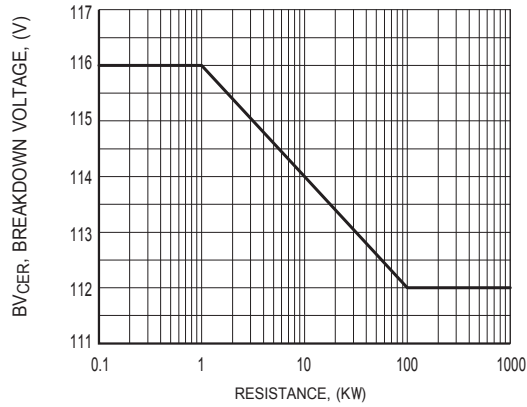


FIG.7 COLLECTOR-EMITTER BREAKDOWN VOLTAGE WITH RESISTANCE BETWEEN EMITTER-BASE

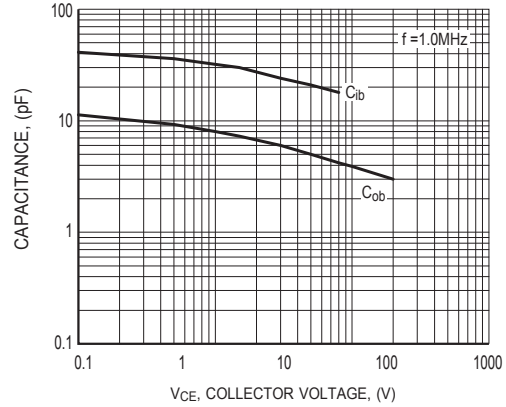


FIG.8 INPUT AND OUTPUT CAPACITANCE vs. REVERSE VOLTAGE

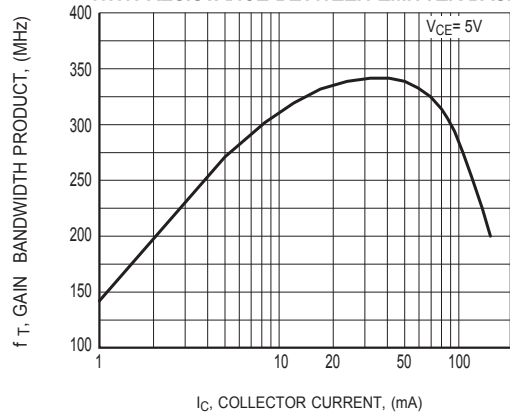


FIG.9 GAIN BANDWIDTH PRODUCT vs. COLLECTOR CURRENT

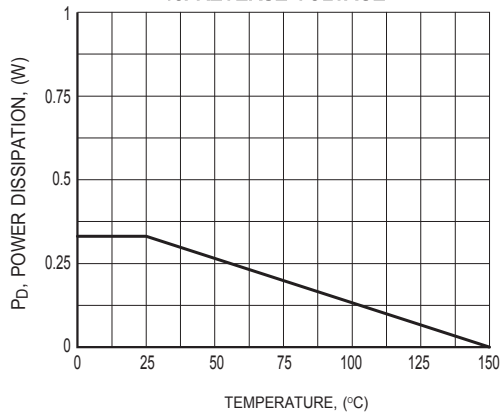


FIG.10 POWER DISSIPATION vs. AMBIENT TEMPERATURE

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