RECTRON SEMICONDUCTOR
TECHNICAL SPECIFICATION

MMBTA06

SOT-23 BIPOLAR TRANSISTORS
TRANSISTOR(NPN)

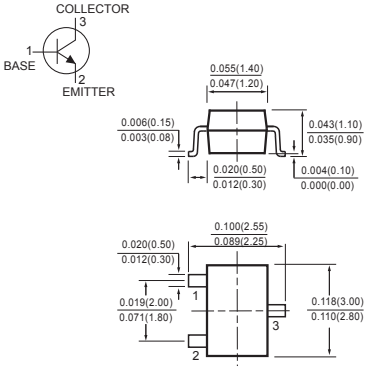
FEATURES

* Power dissipation
  P_{CM} : 0.3 W(Tamb=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,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: 0.008 gram

SOT-23



Dimensions in inches and (millimeters)

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_{CBO}	-	-	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_T	100	-	-	MHz

Marking	1GM

Note: “Fully ROHS compliant”, “100% Sn plating (Pb-free)”.

RATING AND CHARACTERISTICS CURVES (MMBTA06)

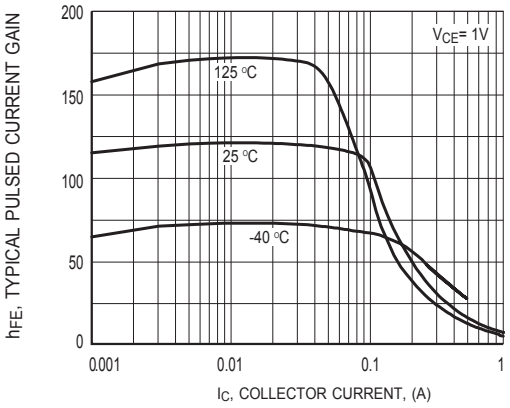


FIG.1 TYPICAL PULSE CURRENT GAIN vs. COLLECTOR CURRENT

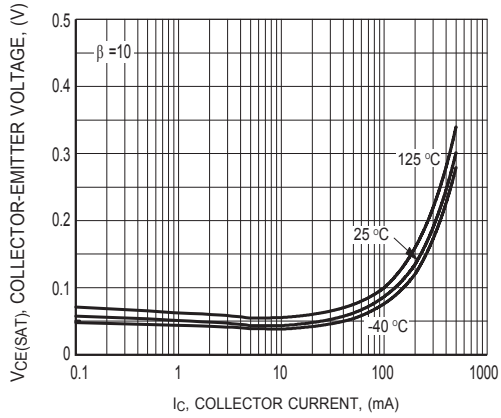


FIG.2 COLLECTOR-EMITTER SATURATION VOLTAGE vs. COLLECTOR CURRENT

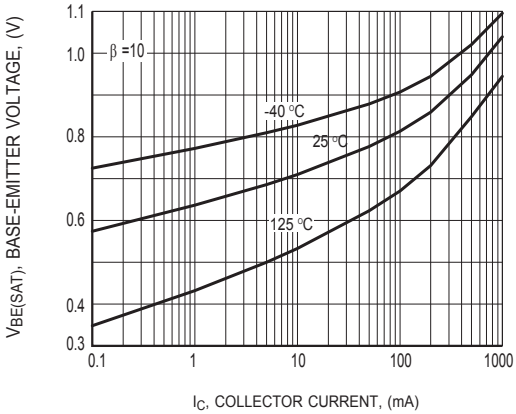


FIG.3 BASE-EMITTER SATURATION VOLTAGE vs. COLLECTOR CURRENT

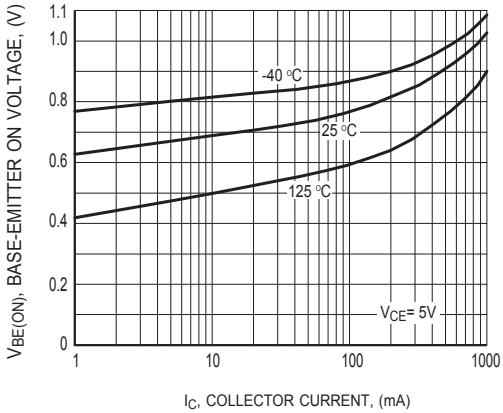


FIG.4 BASE-EMITTER ON VOLTAGE vs. COLLECTOR CURRENT

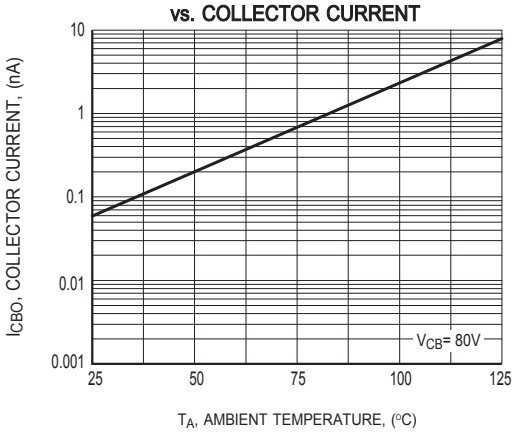


FIG.5 COLLECTOR-CUTOFF CURRENT vs. AMBIENT TEMPERATURE

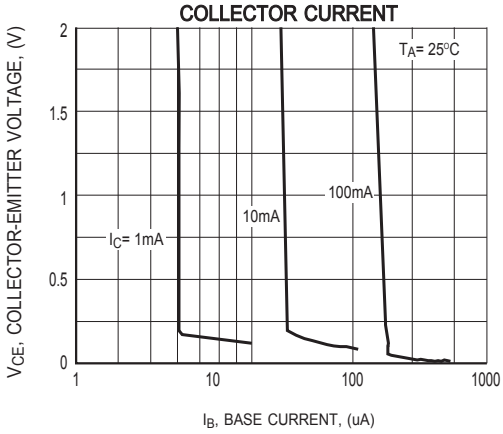


FIG.6 COLLECTOR SATURATION REGION

RATING AND CHARACTERISTICS CURVES (MMBTA06)

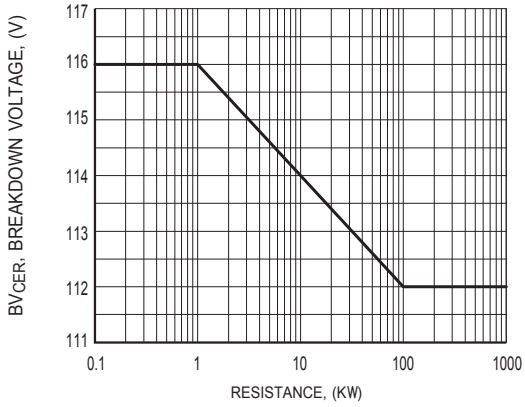


FIG.7 COLLECTOR-EMITTER BREAKDOWN VOLTAGE WITH RESISTANCE BETWEEN EMITTER-BASE

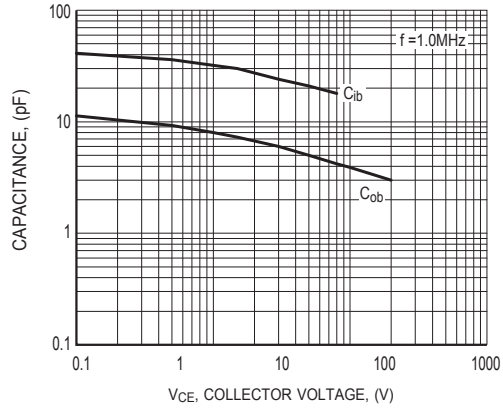


FIG.8 INPUT AND OUTPUT CAPACITANCE vs. REVERSE VOLTAGE

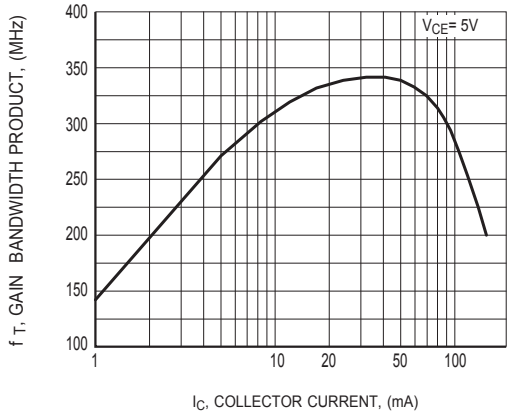


FIG.9 GAIN BANDWIDTH PRODUCT vs. COLLECTOR CURRENT

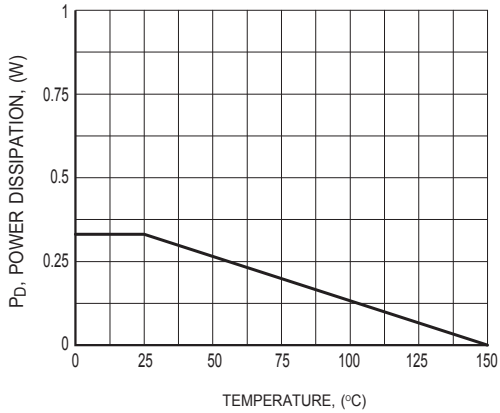


FIG.10 POWER DISSIPATION vs. AMBIENT TEMPERATURE

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