

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

FEATURES

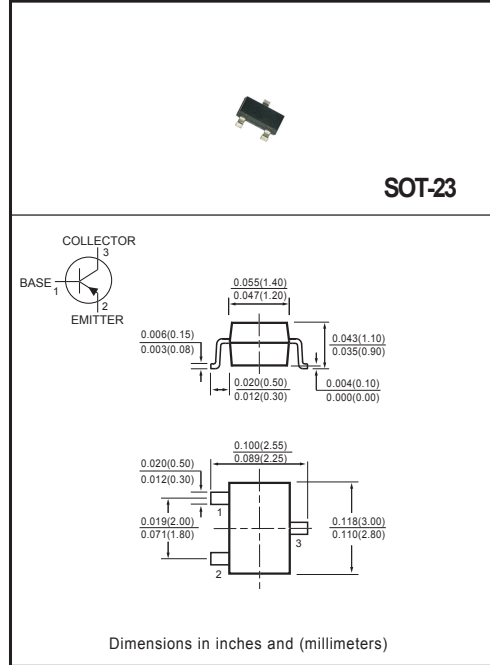
- * Power dissipation
P_{CM} : □ 0.5 □ W (T_{amb}=25°C)
- * Collector current
I_{CM} : □ -1 □ A
- * Collector-base voltage
V_{(BR)CBO} : □ -80 □ V
- * Operating and storage junction temperature range
T_J, T_{stg}: -55°C to +150°C

MECHANICAL DATA

- * Case: Molded plastic
- * Epoxy: UL 94V-0 rate flame retardant
- * Lead: MIL-STD-202E method 208C guaranteed
- * Mounting position: Any
- * Weight: 0.008 gram
- * Marking: 591

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%.



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

CHARACTERISTICS	SYMBOL	MIN	TYP	MAX	UNITS
Collector-base breakdown voltage (I _C = -100μA, I _E =0)	V _{(BR)CBO}	-80	-	-	V
Collector-emitter breakdown voltage (I _C = -10mA, I _B =0) (Note 1)	V _{(BR)CEO}	-60	-	-	V
Emitter-base breakdown voltage (I _E = -100μA, I _C =0)	V _{(BR)EBO}	-5	-	-	V
Collector cut-off current (V _{CB} = -60V, I _E =0)	I _{CBO}	-	-	-0.1	μA
Emitter cut-off current (V _{EB} = -4V, I _C =0)	I _{EBO}	-	-	-0.1	μA
DC current gain (V _{CE} = -5V, I _C = -1mA)	h _{FE(1)}	100	-	-	-
DC current gain (V _{CE} = -5V, I _C = -500mA) (Note 1)	h _{FE(2)}	100	-	300	-
DC current gain (V _{CE} = -5V, I _C = -1A) (Note 1)	h _{FE(3)}	80	-	-	-
DC current gain (V _{CE} = -5V, I _C = -2A) (Note 1)	h _{FE(4)}	15	-	-	-
Collector-emitter saturation voltage (I _C = -500mA, I _B = -50mA) (Note 1)	V _{CE(sat)1}	-	-	-0.3	V
Collector-emitter saturation voltage (I _C = -1A, I _B = -100mA) (Note 1)	V _{CE(sat)2}	-	-	-0.6	V
Base-emitter saturation voltage (I _C = -1A, I _B = -100mA) (Note 1)	V _{BE(sat)}	-	-	-1.2	V
Base-emitter voltage (V _{CE} = -5V, I _C = -1A) (Note 1)	V _{BE}	-	-	-1	V
Transition frequency (V _{CE} = -10V, I _C = -50mA, f=100MHz)	f _T	150	-	-	MHZ
Collector output capacitance (V _{CB} = -10V, f=1MHz)	C _{ob}	-	-	10	pF

Notes 1: Measured under pulsed conditions, Pulse width=300μs, Duty cycle< 2%.
2: "Fully ROHS compliant", "100% Sn plating (Pb-free)".

RATING AND CHARACTERISTICS CURVES (FMMT591)

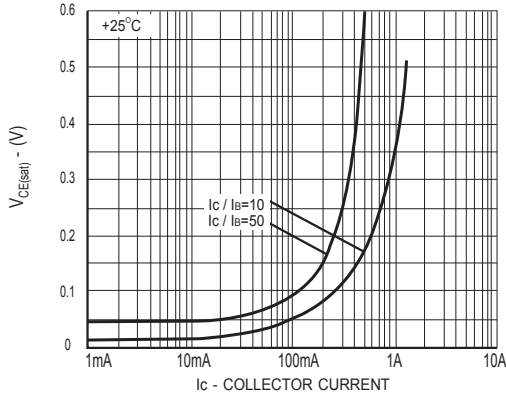


Figure1 $V_{CE(sat)}$ vs I_C

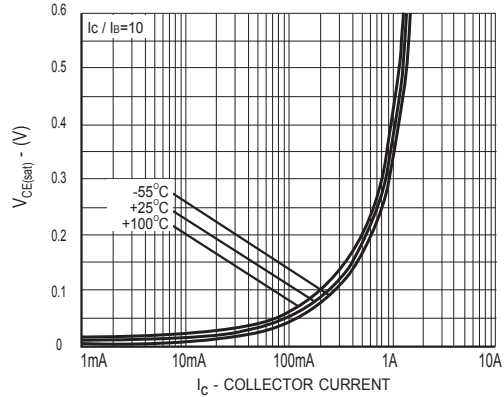


Figure2 $V_{CE(sat)}$ vs I_C

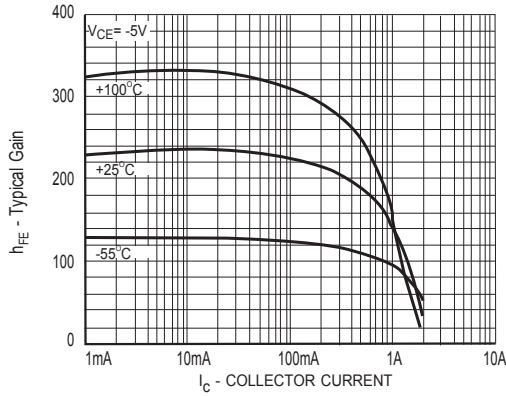


Figure3 h_{FE} vs I_C

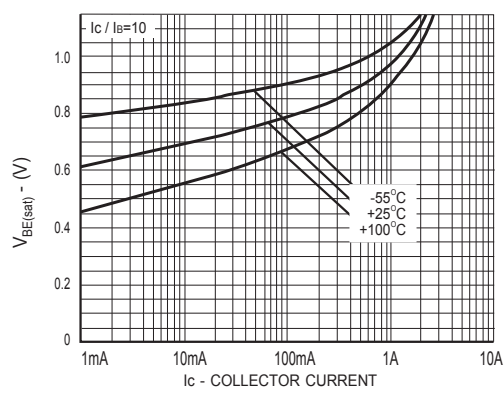


Figure4 $V_{BE(sat)}$ vs I_C

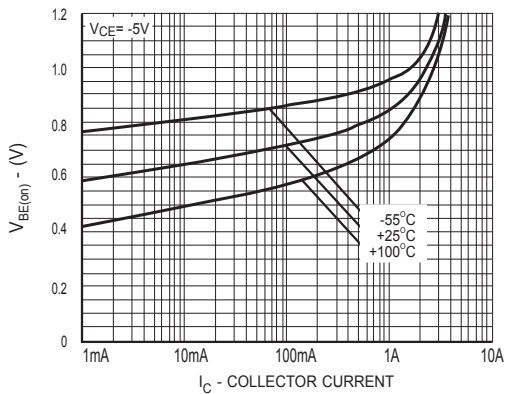


Figure5 $V_{BE(on)}$ vs I_C

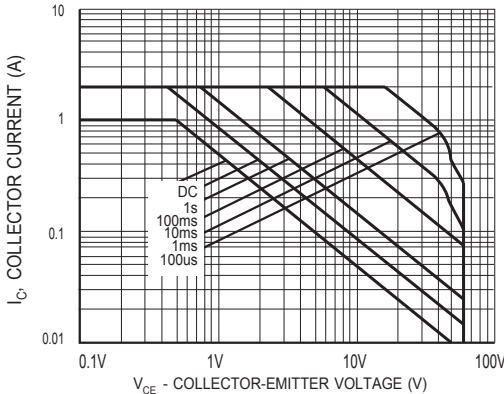


Figure6 Safe Operating Area

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