RECTRON
SEMICONDUCTOR
TECHNICAL SPECIFICATION

FMMT591

SOT-23 BIPOLAR TRANSISTORS
TRANSISTOR(PNP)

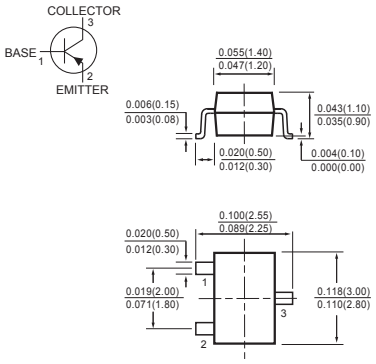
FEATURES

* Power dissipation
  P_{CM} : 0.5 W (Tamb=25°C)
* Collector current
  I_{CM} : -1 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
* Marking: 591

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, 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 capactitance (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)".

2006-3

RATING AND CHARACTERISTICS CURVES (FMMT591)

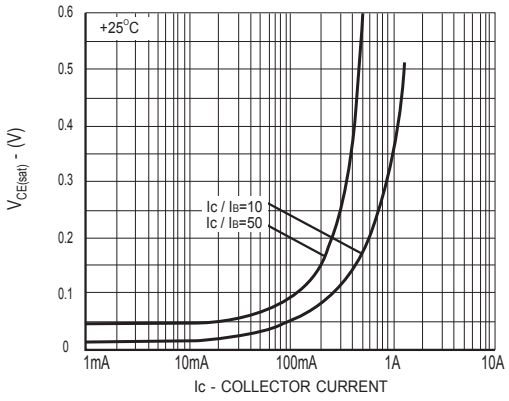


Figure1 $V_{CE(sat)}$ vs I_C

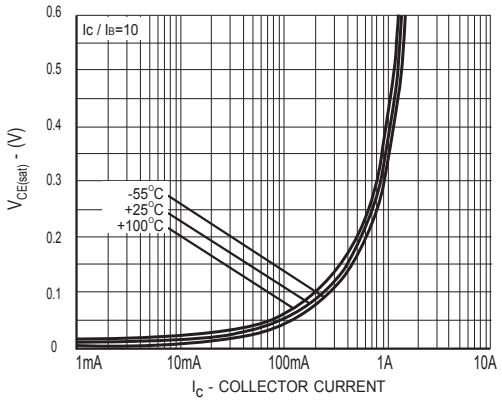


Figure2 $V_{CE(sat)}$ vs I_C

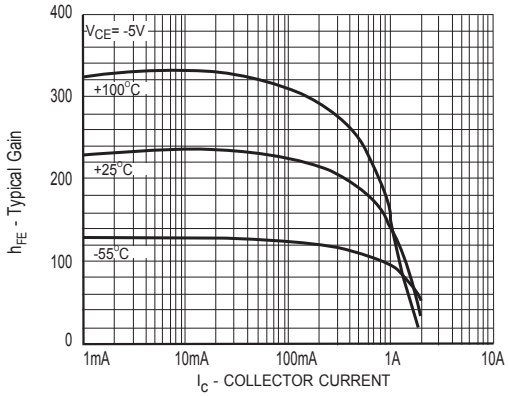


Figure3 h_{FE} vs I_C

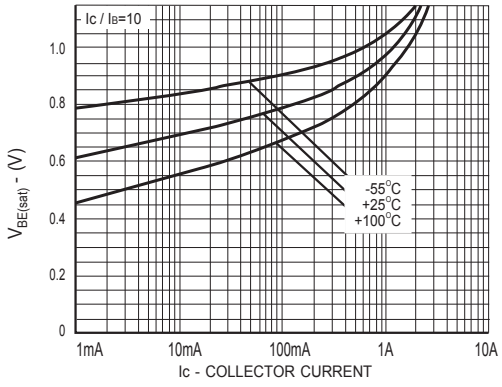


Figure4 $V_{BE(sat)}$ vs I_C

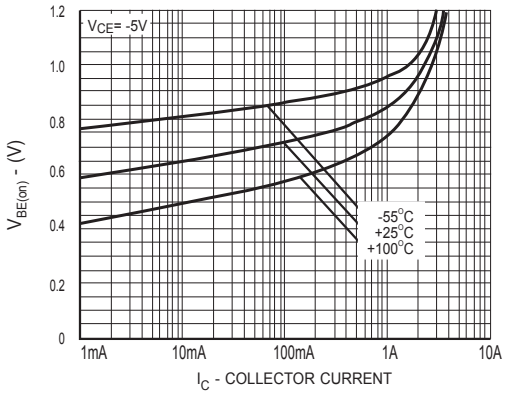


Figure5 $V_{BE(on)}$ vs I_C

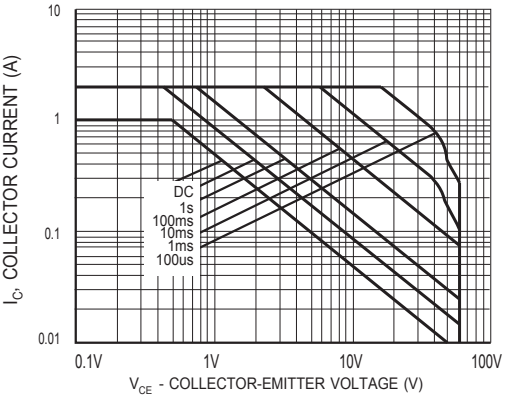


Figure6 Safe Operating Area

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