



DESCRIPTION

The FMMT591 is available in SOT-23 Package

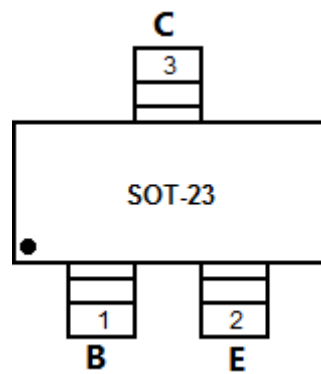
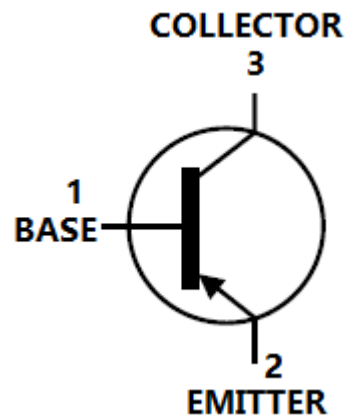
FEATURES

- Low Equivalent on resistance $R_{CE(sat)}=355m\Omega$ at 1A*
- Complementary NPN Type - FMMT491
- Available in SOT-23 Package

ORDERING INFORMATION

Package Type	Part Number
SOT-23	FMMT591
Note	SPQ:3,000pcs/Reel
AiT provides all RoHS Compliant Products	

PIN DESCRIPTION



Device Symbol



ABSOLUTE MAXIMUM RATINGS

V_{CBO} , Collector-Base Voltage	-80V
V_{CEO} , Collector-Emitter Voltage	-60V
V_{EBO} , Emitter-Base Voltage	-5V
I_{CM} , Peak Pulse Current	-2A
I_C , Continuous Collector Current	-1A
I_B , Base Current	-200mA
P_{TOT} , Power Dissipation at $T_{AMB}=25^{\circ}C$	500mW
T_J , T_{STG} , Operating and Storage Temperature Range	$-55^{\circ}C \sim +150^{\circ}C$

Stresses above may cause permanent damage to the device. These are stress ratings only and functional operation of the device at these or any other conditions beyond those indicated in the Electrical Characteristics are not implied. Exposure to absolute maximum rating conditions for extended periods may affect device reliability.

ELECTRICAL CHARACTERISTICS

@ $T_{AMB}=25^{\circ}C$

Parameter	Symbol	Conditions	Min.	Typ.	Max.	Unit
Collector-Base Breakdown Voltage	$V_{(BR)CBO}$	$I_C=-100\mu A$, $I_E=0$	-80	-	-	V
Collector-Emitter Breakdown Voltage	$V_{(BR)CEO}$	$I_C=-10mA$, $I_B=0^*$	-60	-	-	V
Emitter-Base Breakdown Voltage	$V_{(BR)EBO}$	$I_E=-100\mu A$, $I_C=0$	-5	-	-	V
Collector Cut-Off Current	I_{CBO}	$V_{CB}=-60V$	-	-	-100	nA
Emitter Cut-Off Current	I_{EBO}	$V_{EB}=-4V$, $I_C=0$	-	-	-100	nA
Collector-Emitter Cut-Off Current	I_{CES}	$V_{CES}=-60V$	-	-	-100	nA
Collector-Emitter Saturation Voltage	$V_{CE(sat)}$	$I_C=-500mA$, $I_B=-50mA^*$ $I_C=-1A$, $I_B=-100mA^*$	-	-	-0.3 -0.6	V
Base-Emitter Saturation Voltage	$V_{BE(sat)}$	$I_C=-1A$, $I_B=-100mA^*$	-	-	-1.2	V
Base-Emitter Turn-on Voltage	$V_{BE(on)}$	$I_C=-1A$, $V_{CE}=-5V^*$	-	-	-1.0	V
Static Forward Current Transfer Ratio	h_{FE}	$I_C=-1mA$, $V_{CE}=-5V^*$ $I_C=-500mA$, $V_{CE}=-5V^*$ $I_C=-1A$, $V_{CE}=-5V^*$ $I_C=-2A$, $V_{CE}=-5V^*$	100 100 80 15	-	300	
Transition Frequency	f_T	$I_C=-50mA$, $V_{CE}=-10V$ $f=100MHz$	150	-	-	MHz
Output Capacitance	C_{obo}	$V_{CB}=-10V$, $f=1MHz$	-	-	10	pF

NOTE: Measured under pulsed conditions. Pulse width $\leq 300\mu s$, Duty cycle $\leq 2\%$

TYPICAL CHARACTERISTICS

Figure 1. $V_{CE(sat)}$ vs. I_C

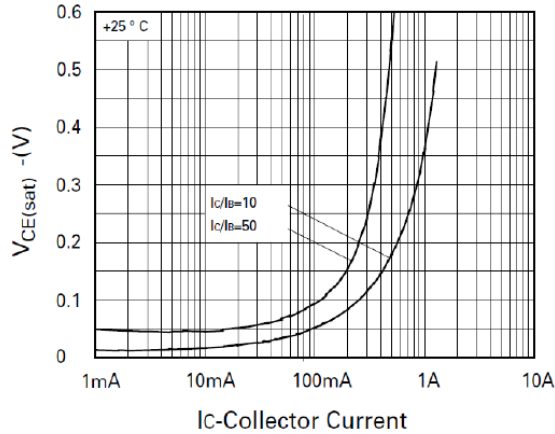


Figure 2. $V_{CE(sat)}$ vs. I_C

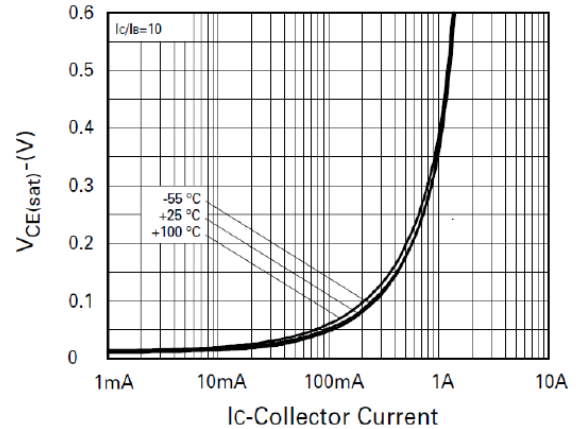


Figure 3. h_{FE} vs. I_C

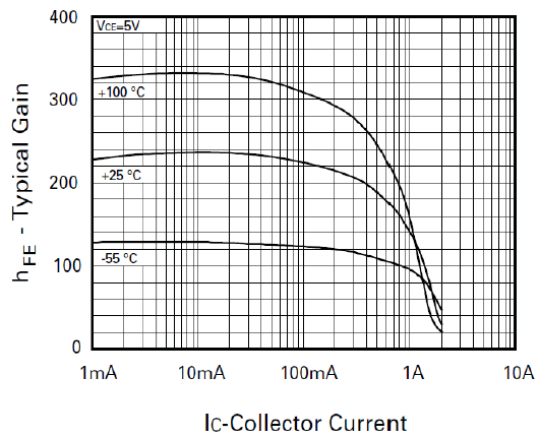


Figure 4. $V_{BE(sat)}$ vs. I_C

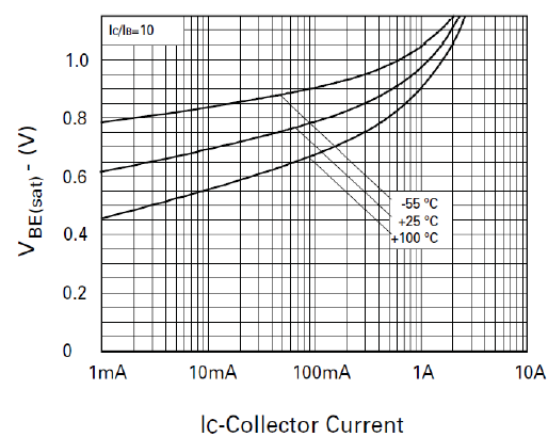


Figure 5. $V_{BE(on)}$ vs. I_C

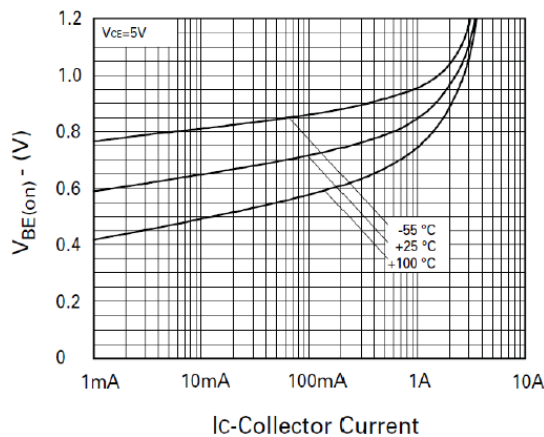
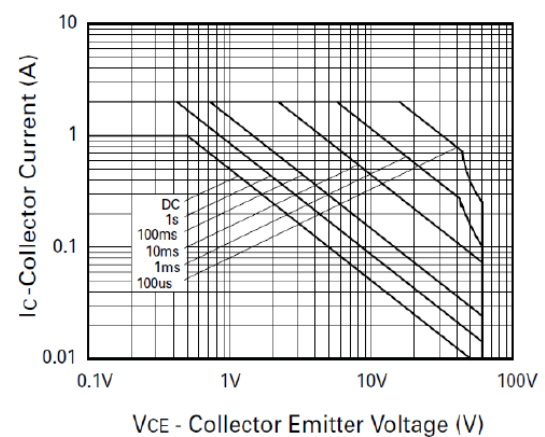


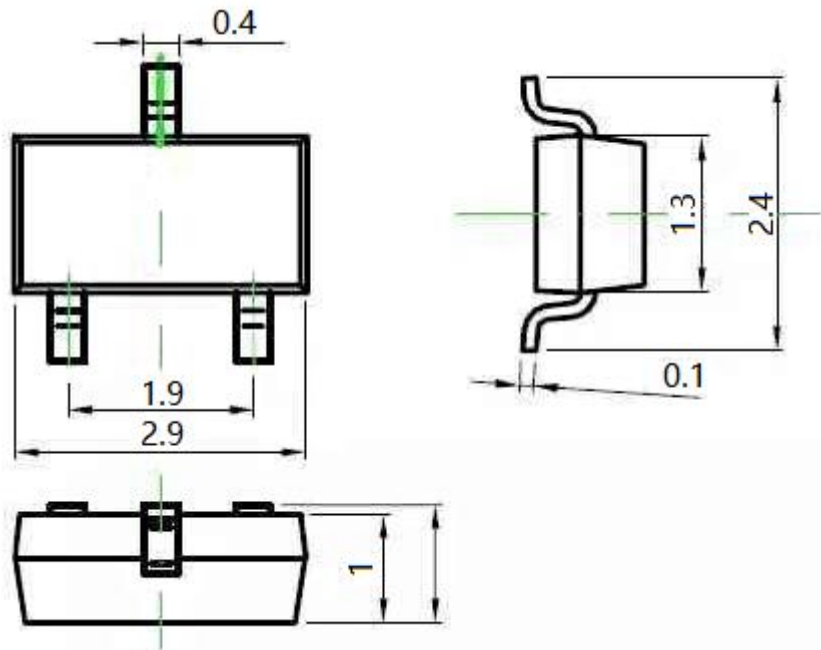
Figure 6. Safe Operating Area





PACKAGE INFORMATION

Dimension in SOT-23 (Unit: mm)





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