



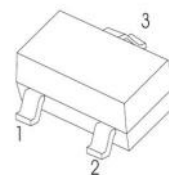
MMBT591A Plastic-Encapsulate Transistors

TRANSISTOR (PNP)

FEATURES

Low equivalent on-resistance

Marking : 591A



1. BASE
2. EMITTER
3. COLLECTOR

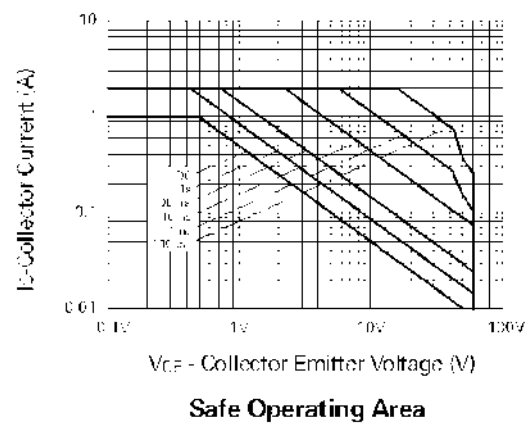
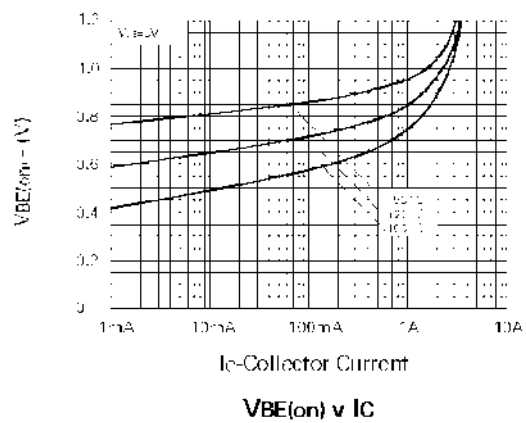
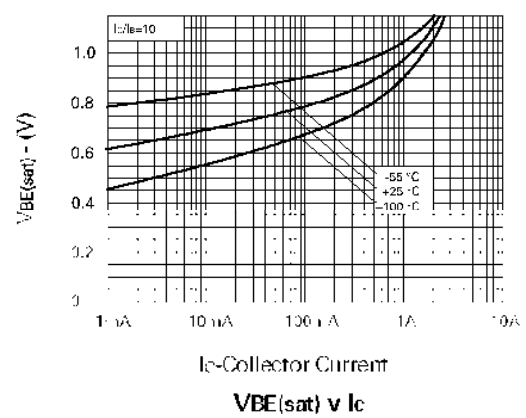
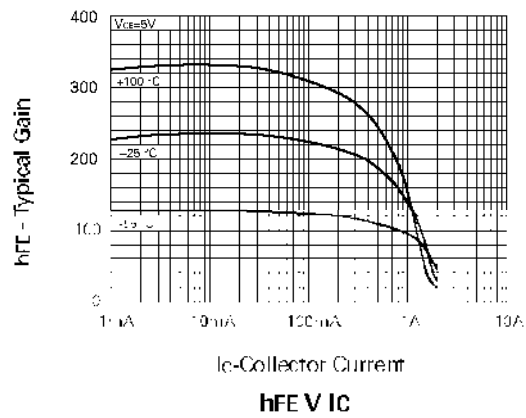
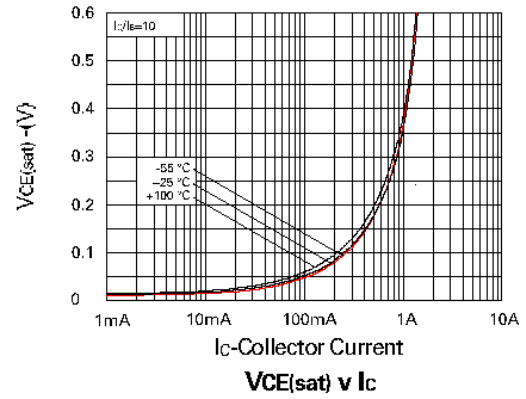
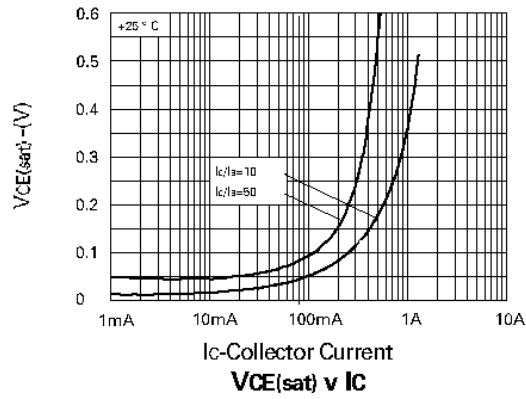
SOT-23

Absolute Maximum Ratings ($T_a = 25\text{ }^{\circ}\text{C}$)

Parameter	Symbol	Value	Unit
Collector Base Voltage	$-V_{CBO}$	40	V
Collector Emitter Voltage	$-V_{CEO}$	40	V
Emitter Base Voltage	$-V_{EBO}$	5	V
Collector Current	$-I_C$	1	A
Peak Pulse Current	$-I_{CM}$	2	A
Power Dissipation	P_{tot}	200	mW
Junction Temperature	T_J	150	$^{\circ}\text{C}$
Storage Temperature Range	T_S	- 65 to + 150	$^{\circ}\text{C}$

Characteristics at $T_a = 25\text{ }^{\circ}\text{C}$

Parameter	Symbol	Min.	Max.	Unit
DC Current Gain				
at $-V_{CE} = 5\text{ V}$, $-I_C = 1\text{ mA}$	h_{FE}	300	-	-
at $-V_{CE} = 5\text{ V}$, $-I_C = 100\text{ mA}$	h_{FE}	300	800	-
at $-V_{CE} = 5\text{ V}$, $-I_C = 500\text{ mA}$	h_{FE}	250	-	-
at $-V_{CE} = 5\text{ V}$, $-I_C = 1\text{ A}$	h_{FE}	160	-	-
Collector Cutoff Current				
at $-V_{CB} = 30\text{ V}$	$-I_{CBO}$	-	0.1	μA
Collector Cutoff Current				
at $-V_{CE} = 30\text{ V}$	$-I_{CEO}$	-	0.1	μA
Emitter Cutoff Current				
at $-V_{EB} = 5\text{ V}$	$-I_{EBO}$	-	0.1	μA
Collector Emitter Saturation Voltage				
at $-I_C = 100\text{ mA}$, $-I_B = 1\text{ mA}$	$-V_{CESat}$	-	0.2	V
at $-I_C = 500\text{ mA}$, $-I_B = 20\text{ mA}$		-	0.35	
at $-I_C = 1\text{ A}$, $-I_B = 100\text{ mA}$		-	0.5	
Base Emitter Saturation Voltage				
at $-I_C = 1\text{ A}$, $-I_B = 50\text{ mA}$	$-V_{BESat}$	-	1.1	V
Base Emitter Voltage				
at $-I_C = 1\text{ A}$, $-V_{CE} = 5\text{ V}$	$-V_{BE}$	-	1	V
Collector Capacitance				
at $-V_{CB} = 10\text{ V}$, $f = 1\text{ MHz}$	C_C	-	12	pF
Gain Bandwidth Product				
at $-V_{CE} = 10\text{ V}$, $-I_C = 50\text{ mA}$, $f = 100\text{ MHz}$	f_T	150	-	MHz

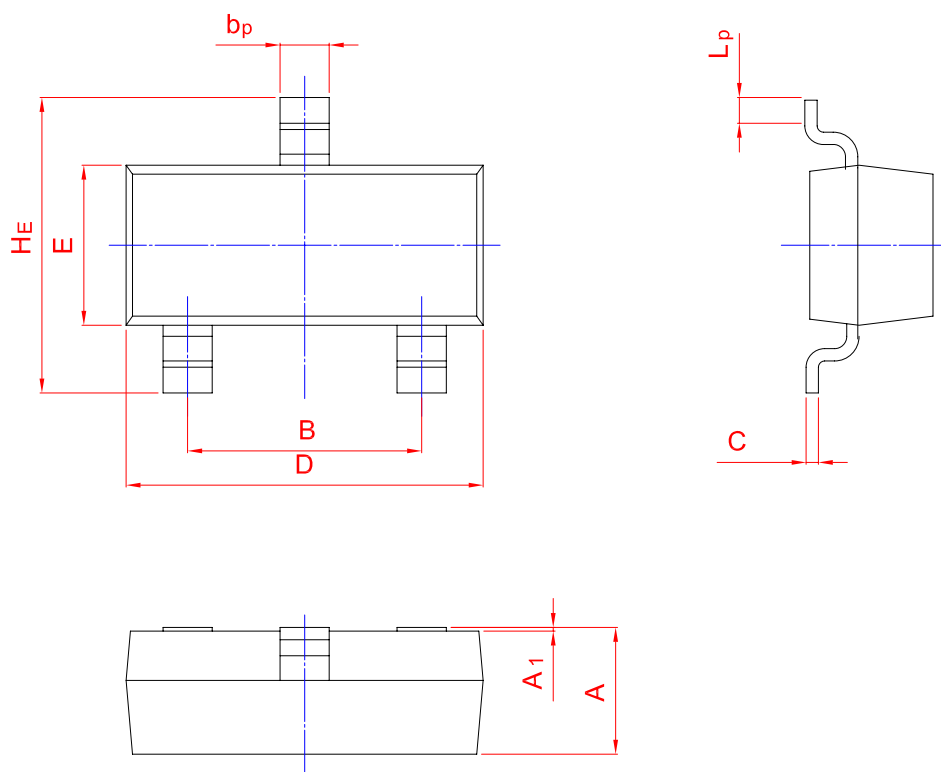
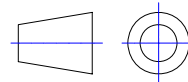




PACKAGE OUTLINE

Plastic surface mounted package; 3 leads

SOT-23



UNIT	A	B	b_p	C	D	E	H_E	A_1	L_p
mm	1.40 0.95	2.04 1.78	0.50 0.35	0.19 0.08	3.10 2.70	1.65 1.20	3.00 2.20	0.100 0.013	0.50 0.20