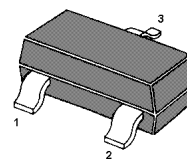


# MMBT591A

## PNP Silicon Epitaxial Planar Transistor



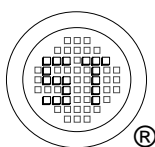
1. Base 2. Emitter 3. Collector  
SOT-23 Plastic Package

### 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	$P_{tot}$	350	mW
Junction Temperature	$T_j$	150	$^\circ\text{C}$
Storage Temperature Range	$T_{stg}$	- 65 to + 150	$^\circ\text{C}$

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

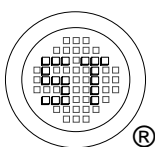
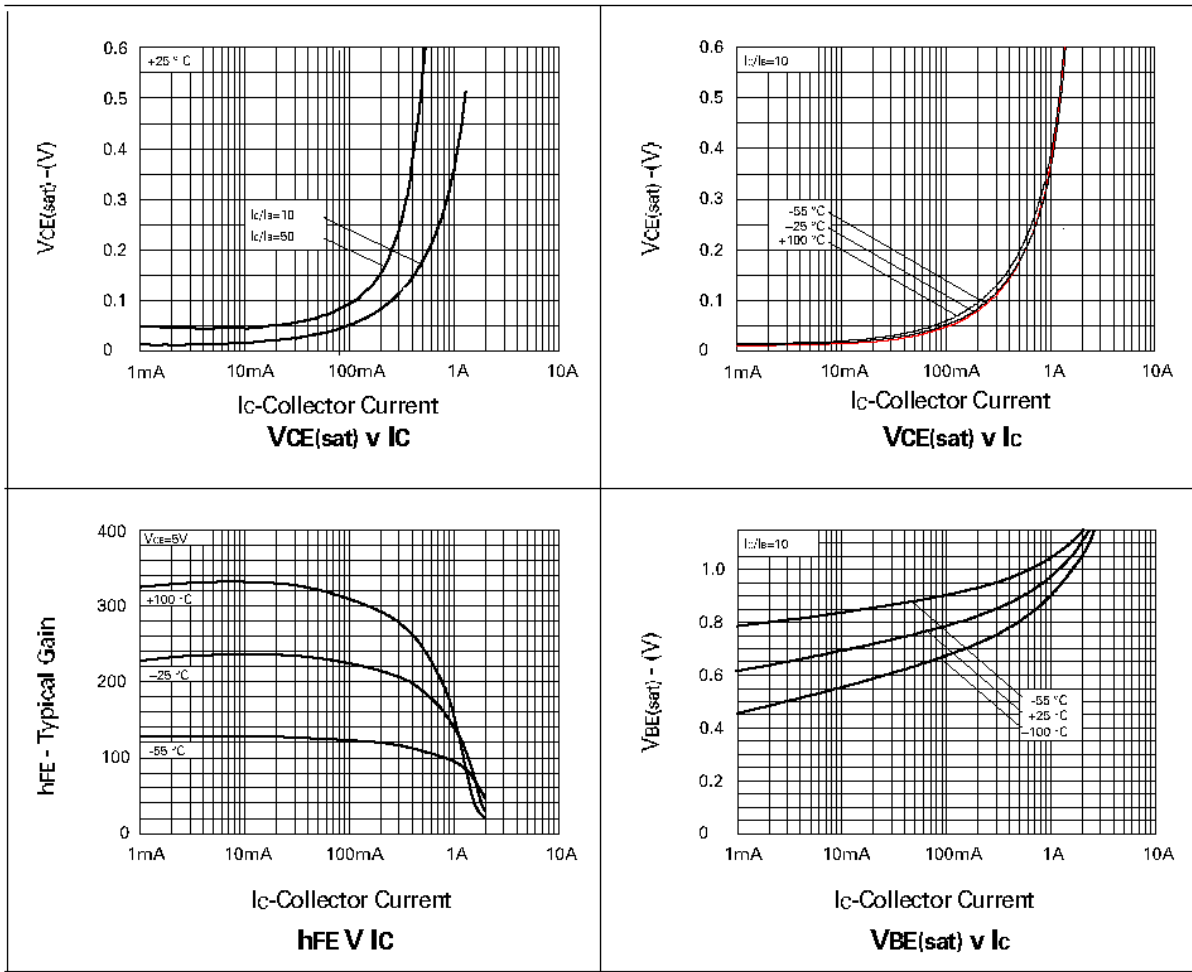
Parameter	Symbol	Min.	Max.	Unit
DC Current Gain				
at $-V_{CE} = 5\text{ V}$ , $-I_C = 1\text{ mA}$	$h_{FE}$	300	-	-
at $-V_{CE} = 5\text{ V}$ , $-I_C = 100\text{ mA}$	$h_{FE}$	300	800	-
at $-V_{CE} = 5\text{ V}$ , $-I_C = 500\text{ mA}$	$h_{FE}$	250	-	-
at $-V_{CE} = 5\text{ V}$ , $-I_C = 1\text{ A}$	$h_{FE}$	160	-	-
Collector Base Cutoff Current				
at $-V_{CB} = 30\text{ V}$	$-I_{CBO}$	-	100	nA
Collector Emitter Cutoff Current				
at $-V_{CE} = 30\text{ V}$	$-I_{CES}$	-	100	nA
Emitter Base Cutoff Current				
at $-V_{EB} = 5\text{ V}$	$-I_{EBO}$	-	100	nA
Collector Emitter Saturation Voltage				
at $-I_C = 100\text{ mA}$ , $-I_B = 1\text{ mA}$	$-V_{CE(sat)}$	-	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 $-I_C = 1\text{ A}$ , $-I_B = 50\text{ mA}$	$-V_{BE(sat)}$	-	1.1	V
Base Emitter Voltage				
at $-I_C = 1\text{ A}$ , $-V_{CE} = 5\text{ V}$	$-V_{BE}$	-	1	V
Gain Bandwidth Product				
at $-V_{CE} = 10\text{ V}$ , $-I_C = 50\text{ mA}$ , $f = 100\text{ MHz}$	$f_T$	150	-	MHz
Collector Capacitance				
at $-V_{CB} = 10\text{ V}$ , $f = 1\text{ MHz}$	$C_c$	-	12	pF



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