


SOT-23


- 1. BASE
- 2. EMITTER
- 3. COLLECTOR

MARKING: 1P
Features

- Epitaxial planar die construction
- Complementary PNP Type available (**MMBT2907A**)

Maximum Ratings

(Ratings at 25°C ambient temperature unless otherwise specified.)

Symbol	Parameter	Value	Units
V_{CBO}	Collector-Base Voltage	70	V
V_{CEO}	Collector-Emitter Voltage	40	V
V_{EBO}	Emitter-Base Voltage	6	V
I_C	Collector Current -Continuous	600	mA
P_C	Total Device Dissipation	250	mW
$R_{\theta JA}$	Thermal Resistance Junction to Ambient	500	°C/W
T_J	Junction Temperature	150	°C
T_{stg}	Storage Temperature	-55 to +150	°C

Electrical Characteristics

(Ratings at 25°C ambient temperature unless otherwise specified).

Parameter	Symbol	Test conditions	Min	Typ	Max	Unit
Collector-base breakdown voltage	$V_{(BR)CBO}$	$I_C = 10\mu A, I_E = 0$	75			V
Collector-emitter breakdown voltage	$V_{(BR)CEO}^*$	$I_C = 10mA, I_B = 0$	40			V
Emitter-base breakdown voltage	$V_{(BR)EBO}$	$I_E = 10\mu A, I_C = 0$	6			V
Collector cut-off current	I_{CBO}	$V_{CB} = 60V, I_E = 0$			0.01	μA
Collector cut-off current	I_{CEX}	$V_{CE} = 30V, V_{BE(off)} = 3V$			0.01	μA
Emitter cut-off current	I_{EBO}	$V_{EB} = 3V, I_C = 0$			0.1	μA
DC current gain	$h_{FE(1)}^*$	$V_{CE} = 10V, I_C = 150mA$	100		300	
	$h_{FE(2)}$	$V_{CE} = 10V, I_C = 0.1mA$	40			
	$h_{FE(3)}^*$	$V_{CE} = 10V, I_C = 500mA$	42			
Collector-emitter saturation voltage	$V_{CE(sat)}^*$	$I_C = 500mA, I_B = 50mA$ $I_C = 150mA, I_B = 15mA$			1 0.3	V
Base-emitter saturation voltage	$V_{BE(sat)}^*$	$I_C = 500mA, I_B = 50mA$ $I_C = 150mA, I_B = 15mA$			2.0 1.2	V
Transition frequency	f_T	$V_{CE} = 20V, I_C = 20mA,$ $f = 100MHz$	300			MHz
Delay time	t_d	$V_{CC} = 30V, V_{BE(off)} = -0.5V$			10	nS
Rise time	t_r	$I_C = 150mA, I_{B1} = 15mA$			25	nS
Storage time	t_s	$V_{CC} = 30V, I_C = 150mA$			225	nS
Fall time	t_f	$I_{B1} = -I_{B2} = 15mA$			60	nS

 *pulse test: Pulse Width $\leq 300\mu s$, Duty Cycle $\leq 2.0\%$.

