

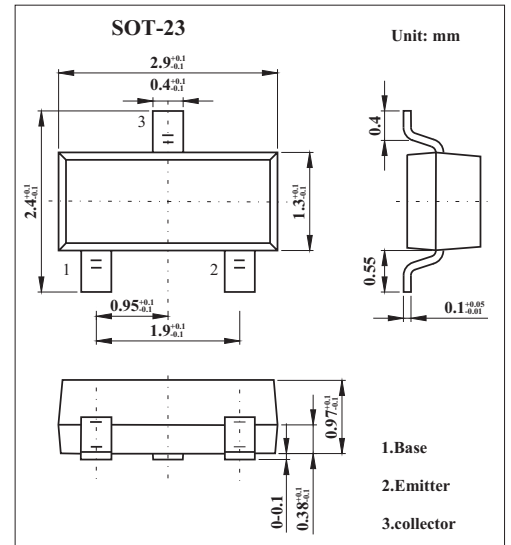
SOT-23 Plastic-Encapsulate Transistors

Features

- Epitaxial planar die construction.
- Complementary PNP type available (MMBT2907)
- NPN General Purpose Amplifier

MECHANICAL DATA

- Case style: SOT-23 molded plastic
- Mounting position: any



MAXIMUM RATINGS AND CHARACTERISTICS

@ 25°C Ambient Temperature (unless otherwise noted)

Parameter	Symbol	Rating	Unit
Collector-base voltage	V_{CB0}	60	V
Collector-emitter voltage	V_{CE0}	30	V
Emitter-base voltage	V_{EB0}	5	V
Collector current	I_C	600	mA
Power dissipation	P_D	250	mW
Thermal resistance from junction to ambient	$R_{\theta JA}$	500	°C/W
Operating and Storage and Temperature Range	T_j, T_{STG}	-55 to +150	°C

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	$V_{(BR)CEO}$	$I_C = 10 mA, I_B = 0$	40			V
Emitter-Base Breakdown Voltage	$V_{(BR)EBO}$	$I_C = 10 \mu A, I_C = 0$	6			V
Collector cutoff current	I_{CBO}	$V_{CB} = 50V, I_E = 0$			10	nA
Emitter cutoff current	I_{EBO}	$V_{EB} = 3V, I_C = 0$			100	nA
DC current gain	h_{FE}	$V_{CE} = 10V, I_C = 0.1mA$	35			
		$V_{CE} = 10V, I_C = 150mA$	100		300	
		$V_{CE} = 10V, I_C = 500mA$	30			
collector-emitter saturation voltage *	$V_{CE(sat)}$	$I_C = 150 mA; I_B = 15 mA$			0.4	V
		$I_C = 500 mA; I_B = 50 mA$			1.6	V
base-emitter saturation voltage *	$V_{BE(sat)}$	$I_C = 150 mA; I_B = 15 mA$			1.3	V
		$I_C = 500 mA; I_B = 50 mA$			2.6	V
Transition frequency	f_T	$I_C = 20 mA; V_{CE} = 20 V; f = 100 MHz$	250			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	$V_{CC} = 30V, I_C = 150mA, I_{B1} = -I_{B2} = 15mA$			225	ns
Fall time	t_f				60	ns

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

Marking

Marking	M1B
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