



SOT-323 Plastic-Encapsulate Transistors

MMST3904 TRANSISTOR (NPN)

FEATURES

Power dissipation

P_{CM} : 0.2 W ($T_{amb}=25^{\circ}C$)

Collector current $I_{C_{BASE}}$

I_{CM} : 0.2 A

Collector-base voltage

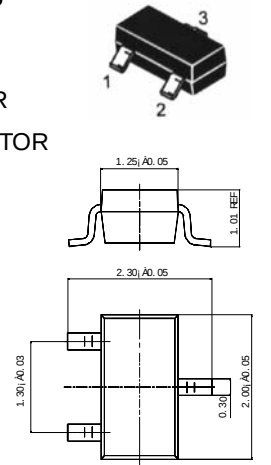
$V_{(BR)CBO}$: 60 V

Operating and storage junction temperature range

T_J, T_{stg} : $-55^{\circ}C$ to $+150^{\circ}C$

SOT-323

1. BASE
2. EMITTER
3. COLLECTOR



ELECTRICAL CHARACTERISTICS ($T_{amb}=25^{\circ}C$ unless otherwise specified)

Parameter	Symbol	Test conditions	MIN	MAX	UNIT
Collector-base breakdown voltage	$V_{(BR)CBO}$	$I_C = 10\mu A, I_E = 0$	60		V
Collector-emitter breakdown voltage	$V_{(BR)CEO}$	$I_C = 1 mA, I_B = 0$	40		V
Emitter-base breakdown voltage	$V_{(BR)EBO}$	$I_E = 10\mu A, I_C = 0$	5		V
Collector cut-off current	I_{CBO}	$V_{CB} = 60V, I_E = 0$		0.1	μA
Collector cut-off current	I_{CEO}	$V_{CE} = 40V, I_B = 0$		0.1	μA
Emitter cut-off current	I_{EBO}	$V_{EB} = 5V, I_C = 0$		0.1	μA
DC current gain	$h_{FE(1)}$	$V_{CE} = 1V, I_C = 10mA$	100	300	
	$h_{FE(2)}$	$V_{CE} = 1V, I_C = 50mA$	60		
Collector-emitter saturation voltage	$V_{CE(Sat)}$	$I_C = 50 mA, I_B = 5mA$		0.3	V
Base-emitter saturation voltage	$V_{BE(Sat)}$	$I_C = 50 mA, I_B = 5mA$		0.95	V
Transition frequency	f_T	$V_{CE} = 20V, I_C = 10mA$ $f = 100MHz$	250		MHz
Output Capacitance	C_{ob}	$V_{CB} = 5V, I_E = 0$ $f = 1MHz$		4	pF
Delay time	t_d	$V_{CC} = 3V, V_{BE} = 0.5V$ $I_C = 10mA, I_{B1} = 1mA$		35	nS
Rise time	t_r			35	nS
Storage time	t_S	$V_{CC} = 3V, I_C = 10mA$ $I_{B1} = I_{B2} = 1mA$		200	nS
Fall time	t_f			50	nS

Marking

K2N