

## SOT-23 Plastic-Encapsulate Transistors

### MMBT3904LT1 TRANSISTOR (NPN)

#### FEATURES

Power dissipation

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

Collector current

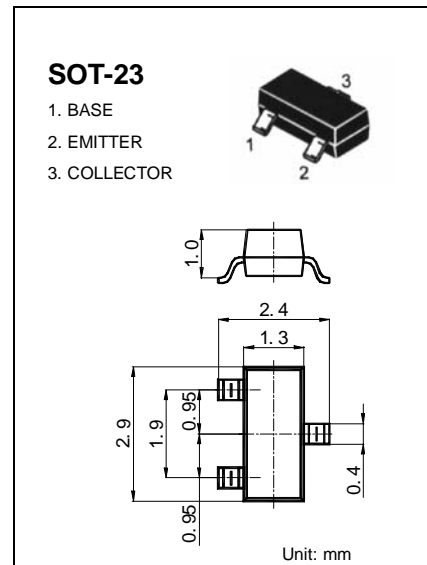
$I_{CM}$ : 0.2 A

Collector-base voltage

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

Operating and storage junction temperature range

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



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

Parameter	Symbol	Test conditions	MIN	MAX	UNIT
Collector-base breakdown voltage	$V_{(BR)CBO}$	$I_C=100\mu A, I_E=0$	60		V
Collector-emitter breakdown voltage	$V_{(BR)CEO}$	$I_C=1mA, I_B=0$	40		V
Emitter-base breakdown voltage	$V_{(BR)EBO}$	$I_E=100\mu A, I_C=0$	6		V
Collector cut-off current	$I_{CBO}$	$V_{CB}=60V, I_E=0$		0.1	$\mu A$
Collector cut-off current	$I_{CEO}$	$V_{CE}=40V, I_B=0$		0.1	$\mu A$
Emitter cut-off current	$I_{EBO}$	$V_{EB}=5V, I_C=0$		0.1	$\mu A$
DC current gain	$H_{FE(1)}$	$V_{CE}=10V, I_C=1mA$	100	300	
	$H_{FE(2)}$	$V_{CE}=1V, I_C=50mA$	60		
Collector-emitter saturation voltage	$V_{CE(sat)}$	$I_C=50mA, I_B=5mA$		0.3	V
Base-emitter saturation voltage	$V_{BE(sat)}$	$I_C=50mA, I_B=5mA$		0.95	V
Transition frequency	$f_T$	$V_{CE}=20V, I_C=10mA$ $f=100MHz$	250		MHz
Delay Time	$t_d$	$V_{CC}=3.0Vdc, V_{BE}=-0.5Vdc$		35	nS
Rise Time	$t_r$	$I_C=10mAdc, I_{B1}=1.0mAdc$		35	nS
Storage Time	$t_s$	$V_{CC}=3.0Vdc, I_C=10mAdc$		200	nS
Fall Time	$t_f$	$I_{B1}=I_{B2}=1.0mAdc$		50	nS

#### DEVICE MARKING

MMBT3904LT1=1AM