

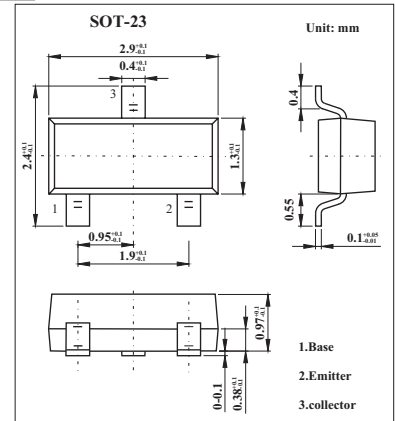
## SOT-23 Plastic-Encapsulate Transistors

### Features

- Complementary to MMBT3906
- 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)

Symbol	Parameter	Value	Unit
$V_{CBO}$	Collector-Base Voltage	60	V
$V_{CEO}$	Collector-Emitter Voltage	40	V
$V_{EBO}$	Emitter-Base Voltage	6	V
$I_C$	Collector Current	200	mA
$P_C$	Collector Power Dissipation	200	mW
$R_{\theta JA}$	Thermal Resistance From Junction To Ambient	625	°C/W
$T_j$	Junction Temperature	150	°C
$T_{stg}$	Storage Temperature	-55~+150	°C

Parameter	Symbol	Test conditions	Min	Typ	Max	Unit
Collector-base breakdown voltage	$V_{(BR)CBO}$	$I_C=10\mu A, I_E=0$	60			V
Collector-emitter breakdown voltage	$V_{(BR)CEO}$	$I_C=1mA, I_B=0$	40			V
Emitter-base breakdown voltage	$V_{(BR)EBO}$	$I_E=10\mu A, I_C=0$	6			V
Collector cut-off current	$I_{CEX}$	$V_{CE}=30V, V_{EB(off)}=3V$			50	nA
Collector cut-off current	$I_{CBO}$	$V_{CB}=60V, I_E=0$			100	nA
Emitter cut-off current	$I_{EBO}$	$V_{EB}=5V, I_C=0$			100	nA
DC current gain	$h_{FE(1)}$	$V_{CE}=1V, I_C=10mA$	100		300	
	$h_{FE(2)}$	$V_{CE}=1V, I_C=50mA$	60			
	$h_{FE(3)}$	$V_{CE}=1V, I_C=100mA$	30			
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	$f_T$	$V_{CE}=20V, I_C=10mA, f=100MHz$	300			MHz
Delay time	$t_d$	$V_{CC}=3V, V_{BE(off)}=-0.5V, I_C=10mA, I_{B1}=1mA$			35	ns
Rise time	$t_r$	$V_{CC}=3V, V_{BE(off)}=-0.5V, I_C=10mA, I_{B1}=1mA$			35	ns
Storage time	$t_s$	$V_{CC}=3V, I_C=10mA, I_{B1}=I_{B2}=1mA$			200	ns
Fall time	$t_f$	$V_{CC}=3V, I_C=10mA, I_{B1}=I_{B2}=1mA$			50	ns

### CLASSIFICATION OF $h_{FE(1)}$

HFE	100-300	
RANK	L	H
RANGE	100 - 200	200 - 300

### MARKING: 1AM

## ■ Typical Characteristics

