

## 2SC2223 TRANSISTOR (NPN)

### FEATURES

Power dissipation

$P_{CM}$ : 150 mW ( $T_{amb}=25^{\circ}C$ )

Collector current

$I_{CM}$ : 20 mA

Collector-base voltage

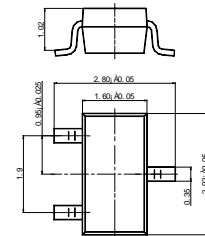
$V_{(BR)CBO}$ : 30 V

Operating and storage junction temperature range

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

### SOT-23-3L

1. BASE
2. EMITTER
3. COLLECTOR



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

Parameter	Symbol	Test conditions	MIN	TYP	MAX	UNIT
Collector-base breakdown voltage	$V_{(BR)CBO}$	$I_C=100\mu A, I_E=0$	30			V
Collector-emitter breakdown voltage	$V_{(BR)CEO}$	$I_C=1mA, I_B=0$	20			V
Emitter-base breakdown voltage	$V_{(BR)EBO}$	$I_E=100\mu A, I_C=0$	4			V
Collector cut-off current	$I_{CBO}$	$V_{CB}=25V, I_E=0$			0.1	$\mu A$
Emitter cut-off current	$I_{EBO}$	$V_{EB}=3V, I_C=0$			0.1	$\mu A$
DC current gain	$h_{FE(1)}$	$V_{CE}=6V, I_C=1mA$	40		180	
Collector-emitter saturation voltage	$V_{CE(sat)}$	$I_C=10mA, I_B=1mA$			0.3	V
Base-emitter voltage	$V_{BE}$	$V_{CE}=6V, I_C=1mA$		0.72		V
Transition frequency	$f_T$	$V_{CE}=6V, I_C=1mA$	400			MHz
Collector output capacitance	$C_{ob}$	$V_{CB}=6V, I_E=0, f=1MHz$		1		pF
Noise figure	NF	$V_{CE}=6V, I_C=1mA, f=100MHz, R_g=50\Omega$		3		dB

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

Rank	F12	F13	F14
Range	40-80	60-120	90-180
Marking			