

NPN General Purpose Transistors

 **Lead(Pb)-Free**

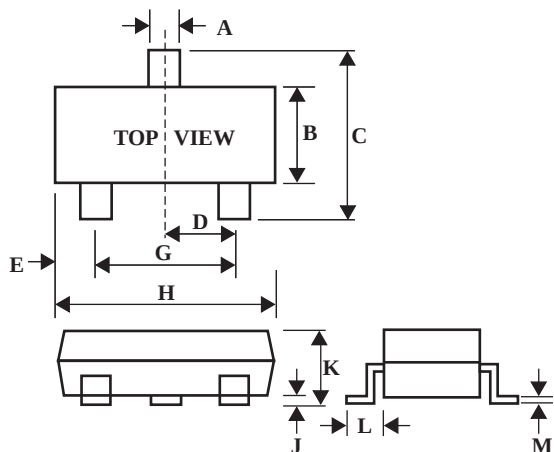

SOT-23
ELECTRICAL CHARACTERISTICS (T_{amb}=25°C unless otherwise specified)

Parameter	Symbol	Test conditions	MIN	TYP	MAX	UNIT
Collector-base breakdown voltage	$V_{(BR)CBO}$	$I_C=10\ \mu A, I_E=0$	40			V
Collector-emitter breakdown voltage	$V_{(BR)CEO}$	$I_C=1mA, I_B=0$	30			V
Emitter-base breakdown voltage	$V_{(BR)EBO}$	$I_E=10\ \mu A, I_C=0$	4			V
Collector cut-off current	I_{CBO}	$V_{CB}=18V, I_E=0$			0.5	μA
Emitter cut-off current	I_{EBO}	$V_{EB}=4V, I_C=0$			0.5	μA
DC current gain	$h_{FE(1)}$	$V_{CE}=6V, I_C=1mA$	40		200	
Collector-emitter saturation voltage	$V_{CE(sat)}$	$I_C=10mA, I_B=1mA$			0.3	V
Transition frequency	f_T	$V_{CE}=6V, I_C=1mA$		400		MHz
Power Gain	G _{pe}	$V_{CE}=6V, I_C=1mA, f=100Hz$	17			pF
Noise figure	NF	$V_{CE}=6V, I_C=1mA, f=100Hz$		5		dB

CLASSIFICATION OF $h_{FE(1)}$

Rank	R	0	Y
Range	40-80	70-140	100-200
Marking	QR	Q0	QY

SOT-23 Outline Dimension



SOT-23		
Dim	Min	Max
A	0.35	0.51
B	1.19	1.40
C	2.10	3.00
D	0.85	1.05
E	0.46	1.00
G	1.70	2.10
H	2.70	3.10
J	0.01	0.13
K	0.89	1.10
L	0.30	0.61
M	0.076	0.25