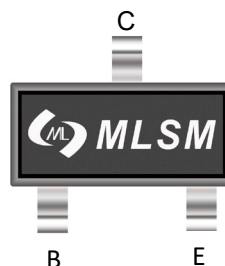


Features

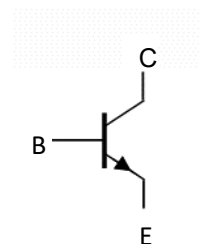
- Very Low Feedback Capacitance
- Low Current
- Low voltage

APPLICATIONS

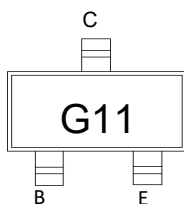
- IF and VHF Applications in Thick and Thin-Film Circuits



SOT-23 top view



Schematic diagram



Marking and pin assignment



Pb-Free



RoHS



Halogen-Free

Maximum Ratings($T_a=25^{\circ}\text{C}$ unless otherwise noted)

Symbol	Parameter	Value	Unit
V_{CBO}	Collector-Base Voltage	30	V
V_{CEO}	Collector-Emitter Voltage	20	V
V_{EBO}	Emitter-Base Voltage	4	V
I_c	Collector Current -Continuous	25	mA
P_c	Collector Power Dissipation	250	mW
$R_{\theta JA}$	Thermal Resistance Junction to Ambient	500	$^{\circ}\text{C}/\text{W}$
T_J, T_{STG}	Operating and Storage Temperature Range	150	$^{\circ}\text{C}$

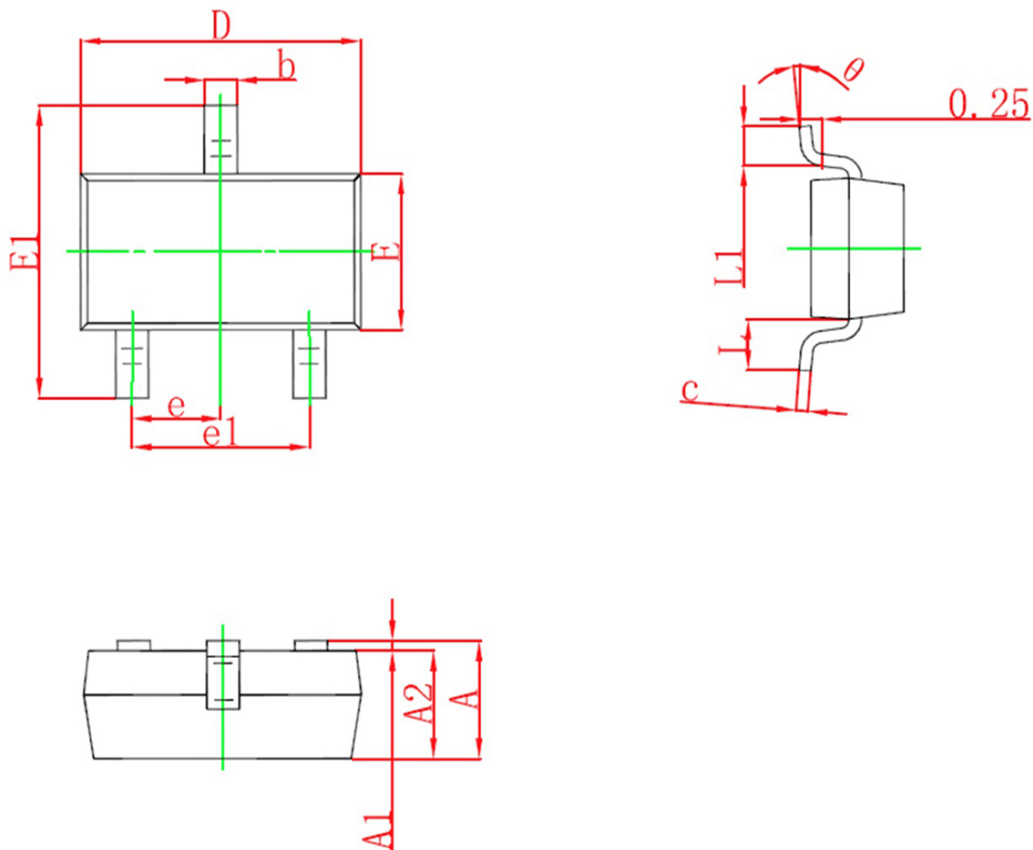
ELECTRICAL CHARACTERISTICS(Ta=25°C unless otherwise specified)

Symbol	Parameter	Test conditions	Min	Typ	Max	Unit
$V_{(BR)CBO}$	Collector-base breakdown voltage	$I_C=100\mu A, I_E=0$	30	--	--	V
$V_{(BR)CEO}$	Collector-emitter breakdown voltage	$I_C=0.1mA, I_B=0$	20	--	--	V
$V_{(BR)EBO}$	Emitter-base breakdown voltage	$I_E=100\mu A, I_C=0$	4	--	--	V
I_{CBO}	Collector cut-off current	$V_{CB}=20V, I_E=0$	--	--	0.1	μA
I_{CEO}	Collector cut-off current	$V_{CE}=15V, I_B=0$	--	--	0.1	μA
I_{EBO}	Emitter cut-off current	$V_{EB}=4V, I_C=0$	--	--	0.1	μA
h_{fe}	DC current gain	$V_{CE}=10V, I_C=7mA$	40	--	120	
$V_{CE(sat)}$	Collector-emitter saturation voltage	$I_C=10mA, I_B=1mA$	--	--	0.3	V
V_{BE}	Base-emitter voltage	$V_{CE}=10V, I_C=7mA$	--	--	0.9	V
C_{ob}	Collector output capacitance	$V_{CB}=10V, I_E=0, f=1MHz$	--	1	--	pF
f_T	Gain-Bandwidth Product	$V_{CE}=10V, I_C=5mA, f=100MHz$	275	--	--	MHz

Ordering Information (Example)

Type	Package	Marking	Minimum Package(pcs)	Inner Box Quantity(pcs)	Outer Carton Quantity(pcs)	Delivery Mode
BFS20	SOT-23	G11	3,000	45,000	180,000	7"reel

SOT-23 Package information



Symbol	Dimensions in Millimeters(mm)		Dimensions In Inches	
	Min	Max	Min	Max
A	0.900	1.150	0.035	0.045
A1	0.000	0.100	0.000	0.004
A2	0.900	1.050	0.035	0.041
b	0.300	0.500	0.012	0.020
c	0.080	0.150	0.003	0.006
D	2.800	3.000	0.110	0.118
E1	2.250	2.550	0.088	0.100
E	1.200	1.400	0.047	0.055
e	0.950TYP		0.037TYP	
e1	1.800	2.000	0.071	0.079
L	0.550 REF		0.022 REF	
L1	0.300	0.500	0.012	0.020
θ	0°	8°	0°	8°