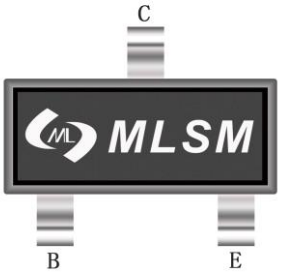
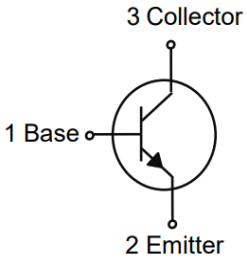
Features

• Low Noise and High Gain

• High Power Gain



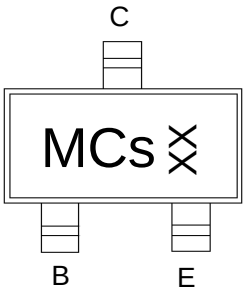
SOT-23 top view



Schematic diagram

Application

• low noise amplifier at VHF, UHF and CATV band applications



MCs= Device code

XX= Code

Marking and pin assignment

Pb-Free RoHS Halogen-Free

Maximum Ratings(Ta=25℃ unless otherwise noted)

Symbol	Parameter	Value	Unit
V_{CBO}	Collector-Base Voltage	25	V
V_{CEO}	Collector-Emitter Voltage	15	V
V_{EBO}	Emitter-Base Voltage	2.5	V
I_C	Collector Current	25	mA
P_C	Collector Power Dissipation	0.28	W
$R_{\Theta JA}$	Thermal Resistance From Junction To Ambient	446	°C/W
T_J,T_{stg}	Operation Junction and Storage Temperature Range	-50~+150	°C

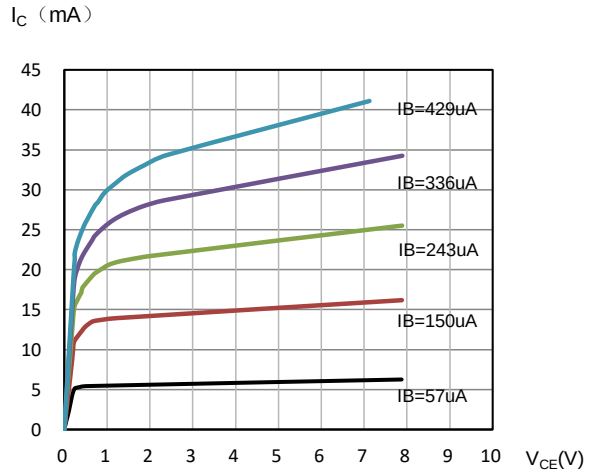
Ordering Information (Example)

Type	Package	Marking	Minimum Package(pcs)	Inner Box Quantity(pcs)	Outer Carton Quantity(pcs)	Delivery Mode
BFS17P	SOT-23	MCs	3,000	45,000	180,000	7"reel

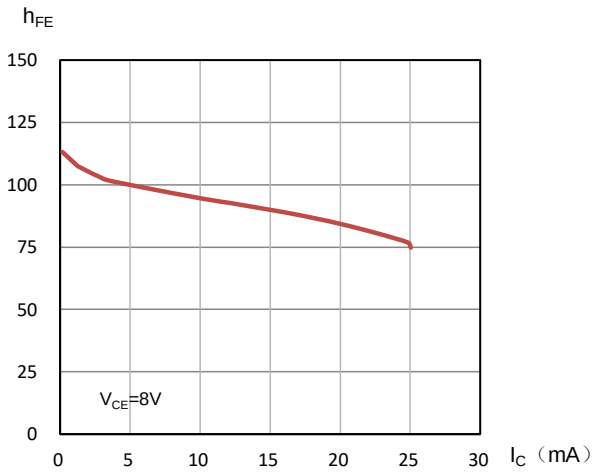
Electrical Characteristics (TJ=25℃ unless otherwise noted)

Symbol	Parameter	Condition	Min	Typ	Max	Unit
$V_{(BR)CBO}$	Collector-base breakdown voltage	I_C=100uA, I_E=0	25	--	--	V
$V_{(BR)CEO}$	Collector-emitter breakdown voltage	I_C=1mA, I_B=0	15	--	--	V
$V_{(BR)EBO}$	Emitter-base breakdown voltage	I_E=100μA, I_C=0	2.5	--	--	V
I_{CBO}	Collector cut-off current	V_{CB}=10 V , I_E=0	--	--	0.05	μA
I_{EBO}	Emitter cut-off current	V_{EB}= 2.5V , I_C=0	--	--	100	μA
h_{FE}	DC current gain	V_{CE}=1V, I_C= 2mA	40	--	150	
		V_{CE}=1V, I_C= 25mA	20	70	--	V
$V_{CE(sat)}$	Collector-emitter saturation voltage	I_C=10 mA, I_B= 1mA	--	0.1	0.4	V
C_{CB}	Collector Base Capacitance	V_{CB}=5V,V_{BE}=0V, f=1MHz, Emitter Grounded	--	0.55	--	pF
C_{CE}	Collector Emitter Capacitance	V_{CE}=5V,V_{BE}=0V, f=1MHz, Base Grounded	--	0.27	--	pF
C_{EB}	Emitter Base Capacitance	V_{EB}=0.5V,V_{CB}=0V, f=1MHz, Collector Grounded	--	0.9	--	pF
f_T	Transition frequency	V_{CB}=5V, I_C=2mA, f=200MHz	1	1.4	--	GHz
		V_{CB}=5V, I_C=25mA, f=200MHz	1.3	2.5	--	GHz

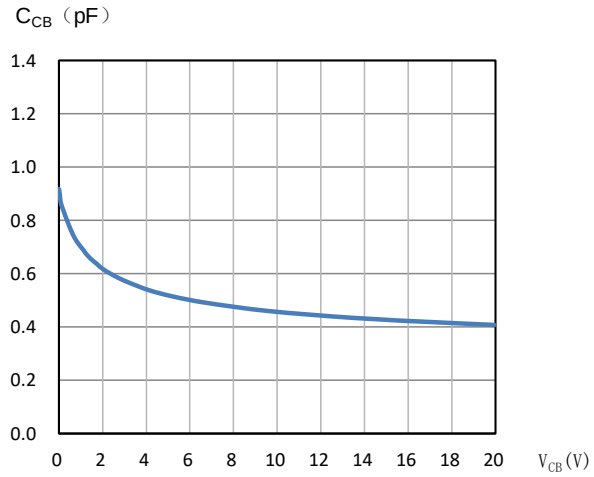
Typical Operating Characteristics



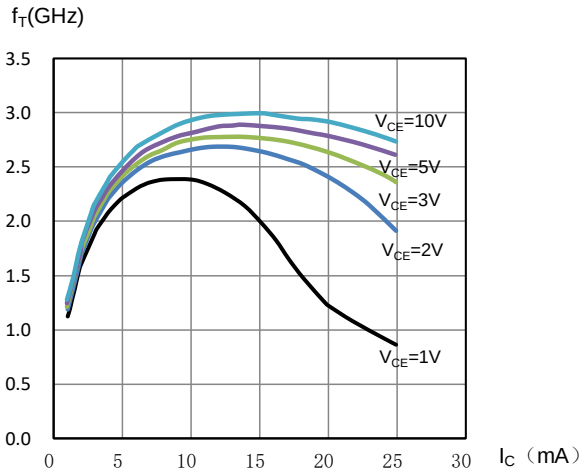
Collector current as a function of collector-emitter voltage; typical values



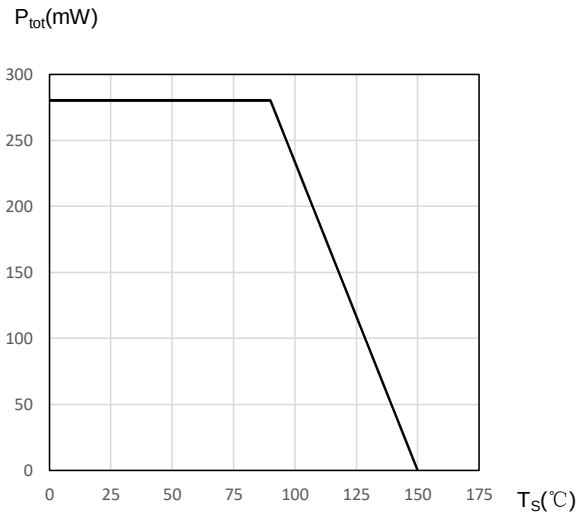
DC current gain as a function of collector current; typical values



Collector-Base C_{CB}=f(V_{CB})

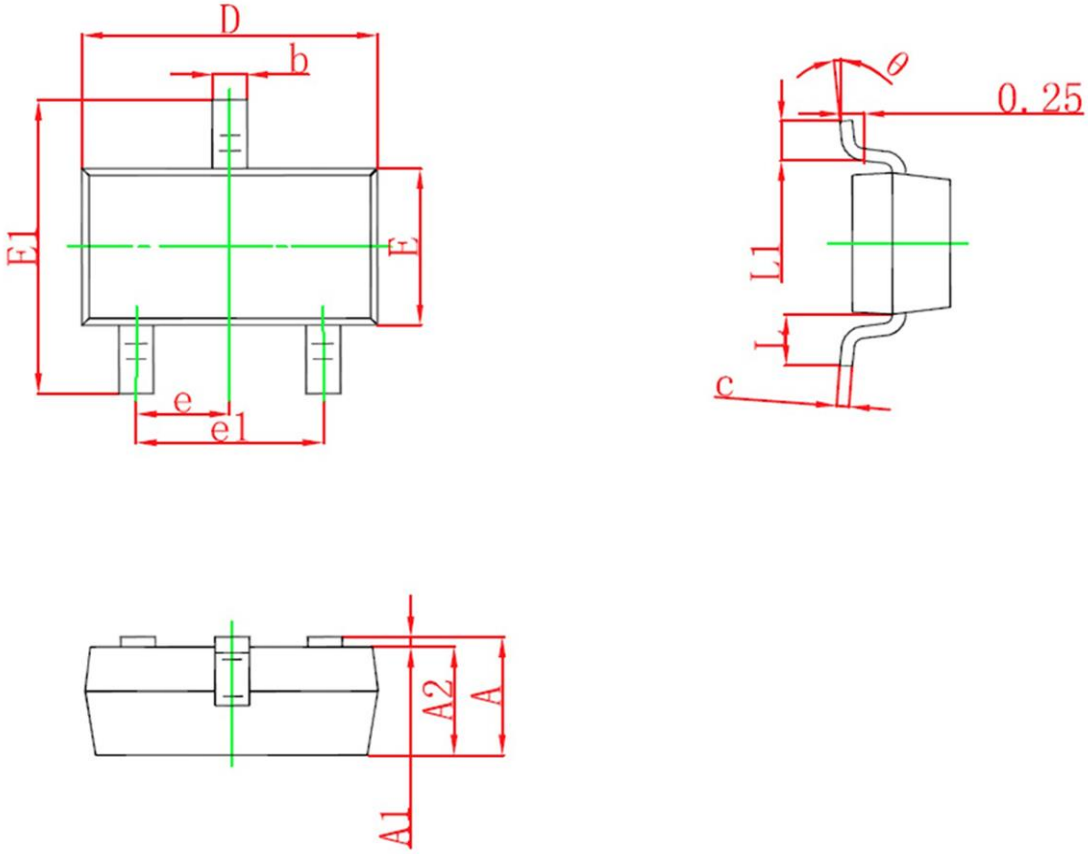


Transition frequency f_T = f(IC), V_{CE} = parameter



Power derating curve

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°