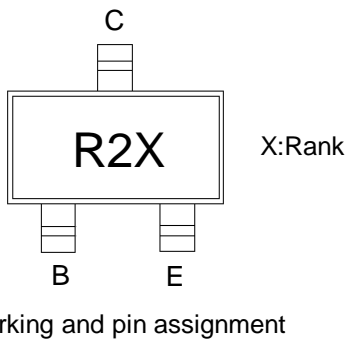
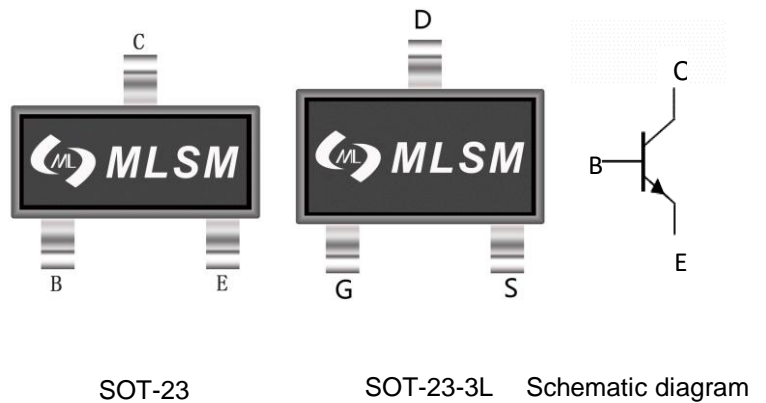


Features

- Low Noise and High Gain
- High Power Gain

Application

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


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

Symbol	Parameter	Value	Unit
V_{CBO}	Collector-Base Voltage	20	V
V_{CEO}	Collector-Emitter Voltage	12	V
V_{EBO}	Emitter-Base Voltage	3	V
I_C	Collector Current	100	mA
P_C	Collector Power Dissipation	200	mW
$R_{\theta JA}$	Thermal Resistance From Junction To Ambient	625	$^{\circ}\text{C}/\text{W}$
T_J, T_{stg}	Operation Junction and Storage Temperature Range	-55~+150	$^{\circ}\text{C}$

Ordering Information (Example)

Type	Package	Marking	Minimum Package(pcs)	Inner Box Quantity(pcs)	Outer Carton Quantity(pcs)	Delivery Mode
2SC3356	SOT-23	R23/R24/R25	3,000	45,000	180,000	7" reel
2SC3356	SOT-23-3L	R23/R24/R25	3,000	45,000	180,000	7" reel

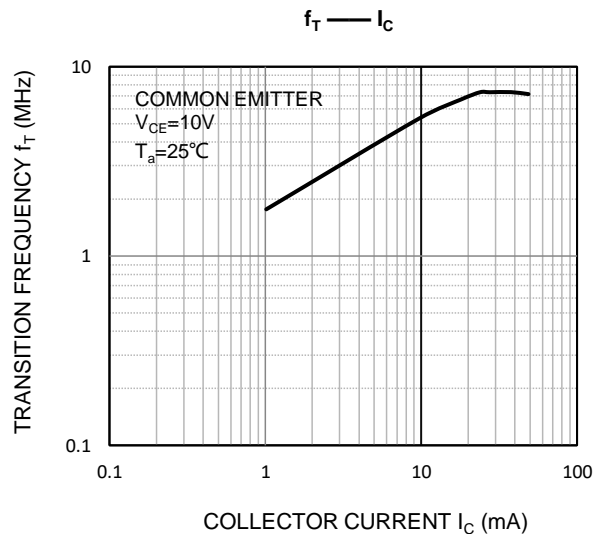
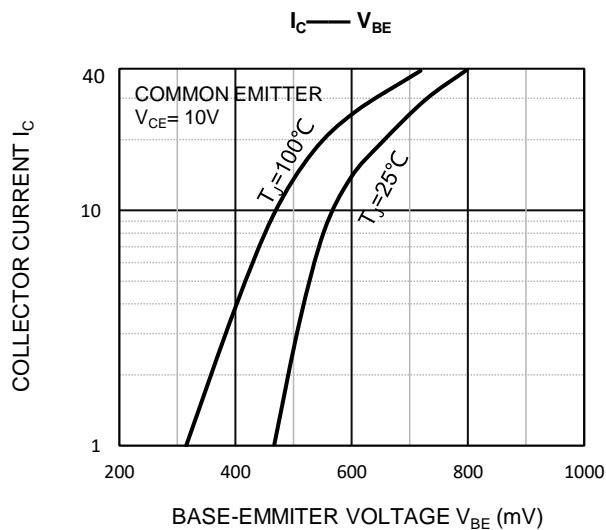
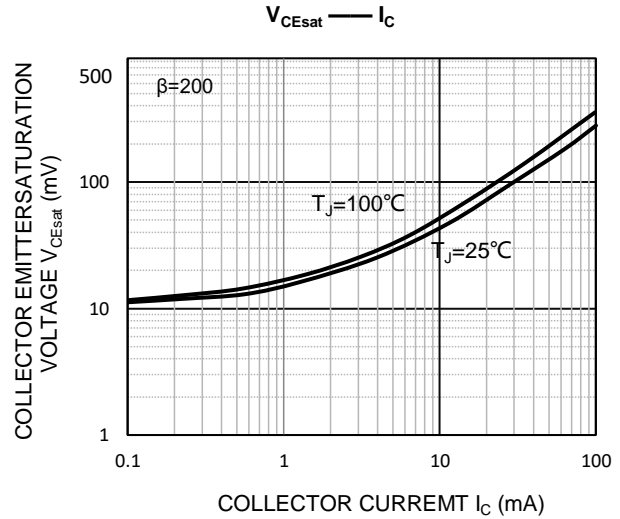
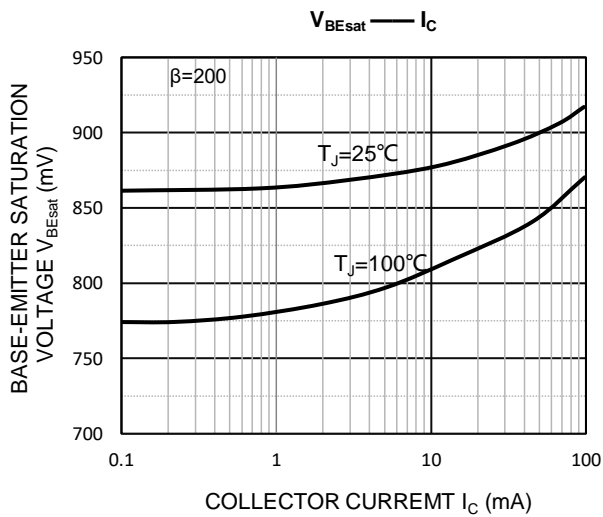
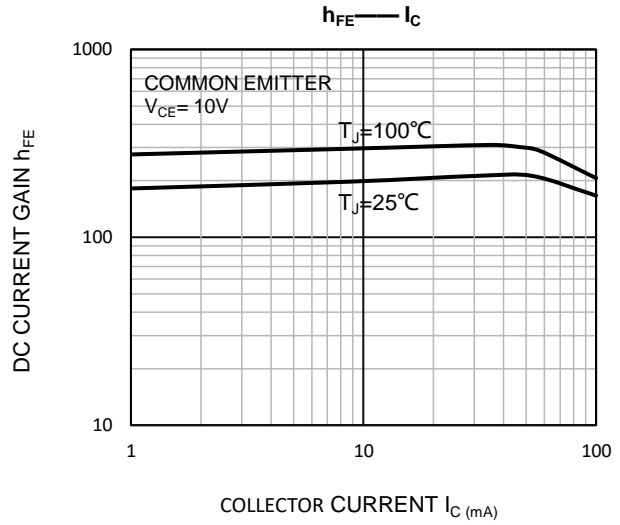
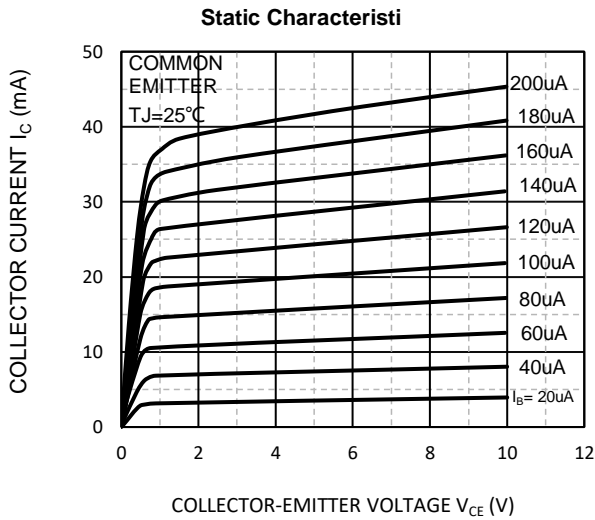
ELECTRICAL CHARACTERISTICS(Ta=25°C unless otherwise specified)

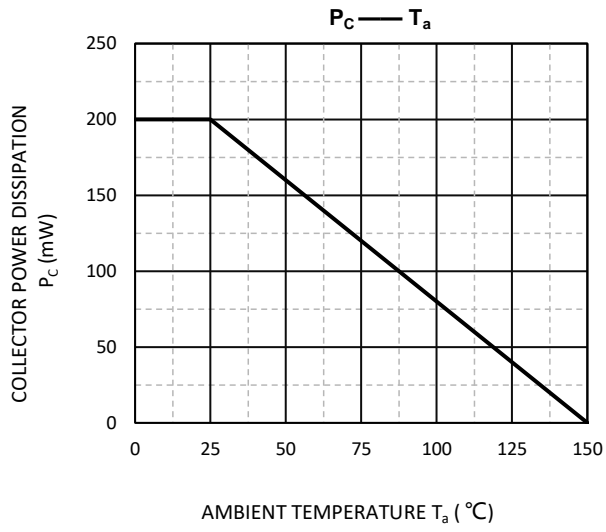
Symbol	Parameter	Condition	Min	Typ	Max	Unit
$V_{(BR)CBO}$	Collector-base breakdown voltage	$I_C=100\mu A, I_E=0$	20	--	--	V
$V_{(BR)CEO}$	Collector-emitter breakdown voltage	$I_C=1mA, I_B=0$	12	--	--	V
$V_{(BR)EBO}$	Emitter-base breakdown voltage	$I_E=100\mu A, I_C=0$	3	--	--	V
I_{CBO}	Collector cut-off current	$V_{CB}=10V, I_E=0$	--	--	1	μA
I_{EBO}	Emitter cut-off current	$V_{EB}=1V, I_C=0$	--	--	1	μA
h_{FE}	DC current gain	$V_{CE}=10V, I_C=20mA$	50	--	250	
$V_{CE(sat)}$	Collector-emitter saturation voltage	$I_C=50mA, I_B=5mA$	--	--	0.3	V
$V_{BE(sat)}$	Base-emitter saturation voltage	$I_C=50mA, I_B=5mA$	--	--	1.15	V
N_F	Noise Figure	$V_{CB}=10V, I_C=7mA, f=1GHz$	--	1.65	2	dB
C_{ob}	Collector output capacitance	$V_{CB}=10V, I_E=0mA, f=1MHz$	--	0.8	1	pF
f_T	Transition frequency	$V_{CE}=10V, I_C=20mA$	--	7	--	GHz

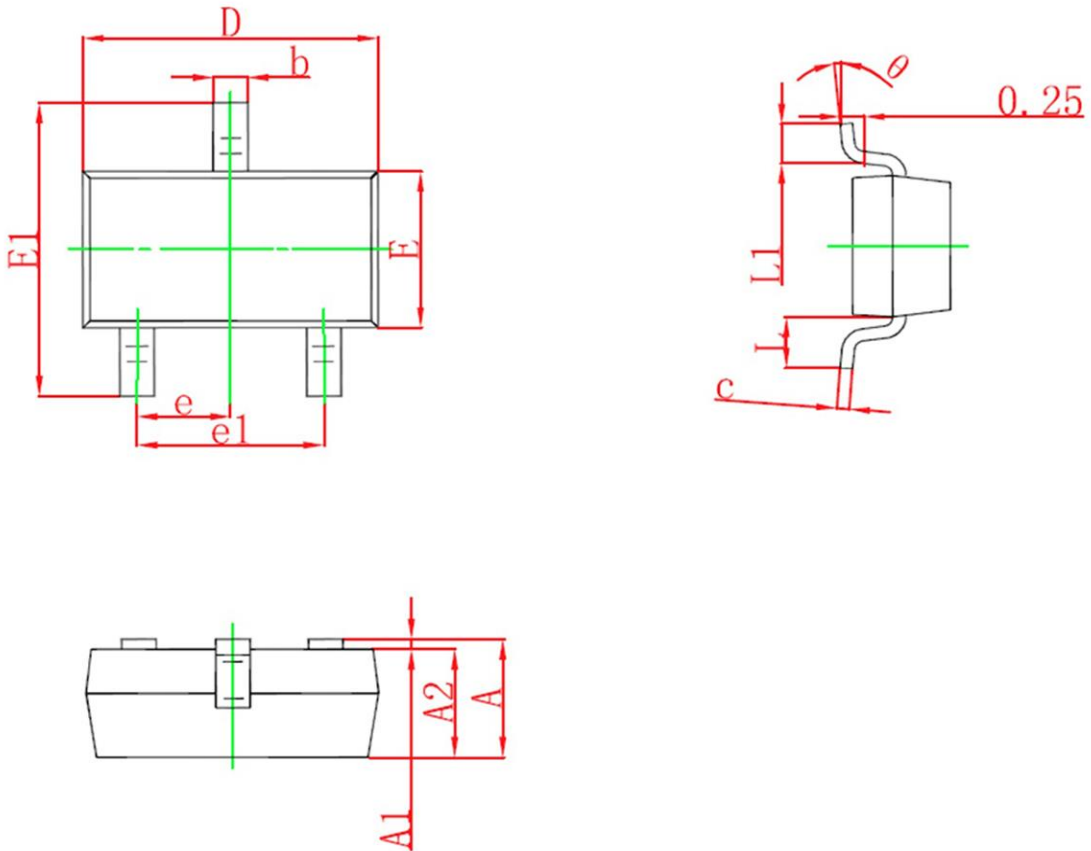
Classification of h_{FE}

Rank	Q	R	S
Marking	R23	R24	R25
Range	50-100	80-160	125-250

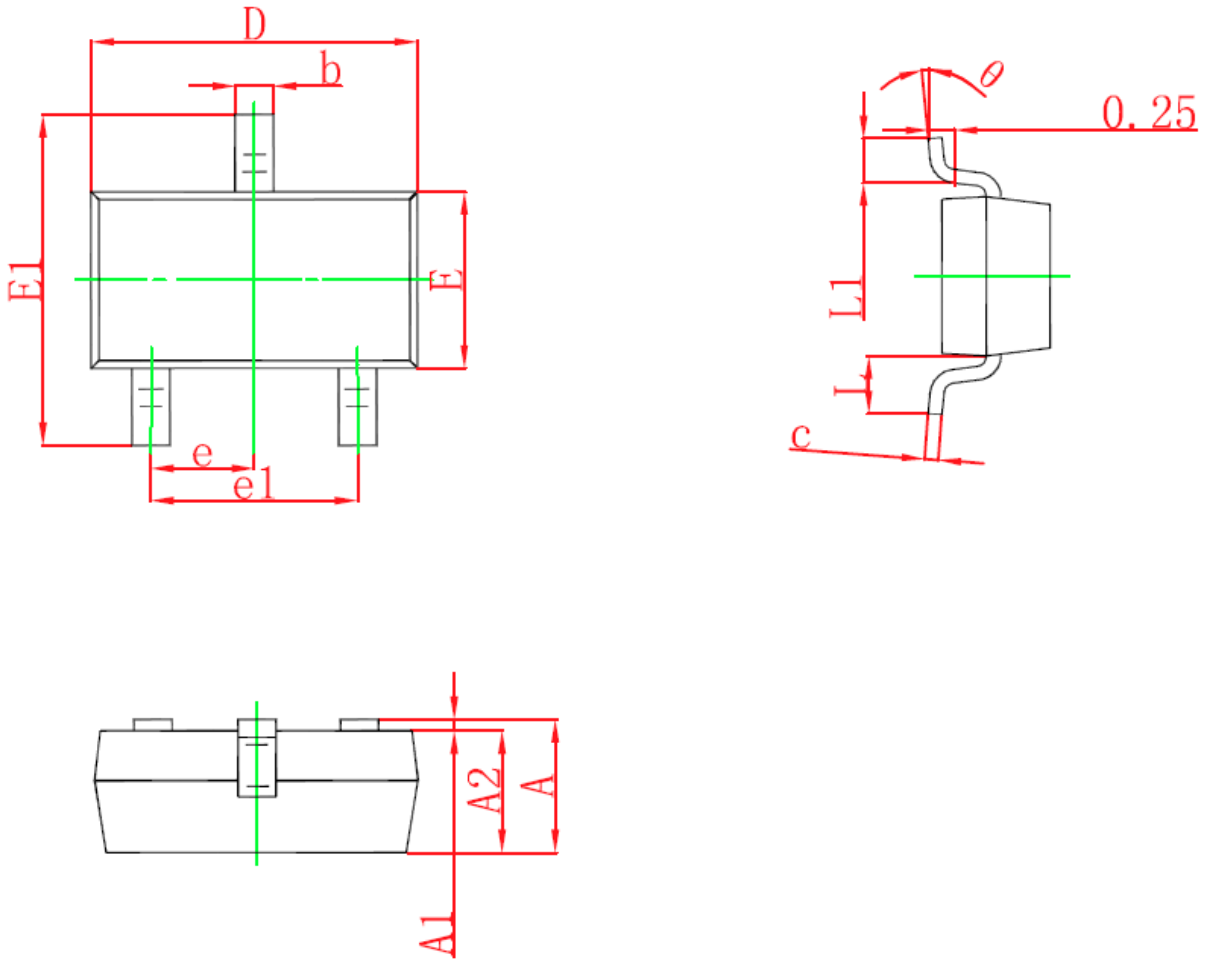
Typical Operating Characteristics





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°

SOT-23-3L Package information


Symbol	Dimensions in Millimeters(mm)		Dimensions In Inches	
	Min	Max	Min	Max
A	1.050	1.250	0.041	0.049
A1	0.000	0.100	0.000	0.004
A2	1.050	1.150	0.041	0.045
b	0.300	0.500	0.012	0.020
c	0.100	0.200	0.004	0.008
D	2.820	3.020	0.111	0.119
E1	1.500	1.700	0.059	0.067
E	2.650	2.950	0.104	0.116
e	0.950TYP		0.037TYP	
e1	1.800	2.000	0.071	0.079
L	0.300	0.600	0.012	0.024
θ	0°	8°	0°	8°