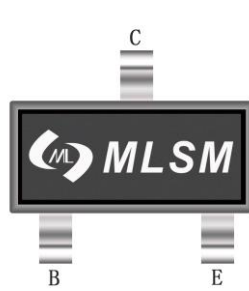


**Features**

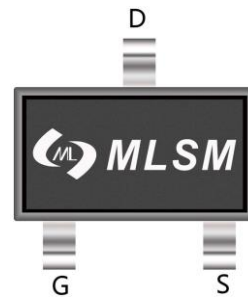
- Low Noise and High Gain
- High Power Gain

**Application**

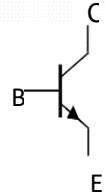
- low noise amplifier at VHF, UHF and CATV band applications



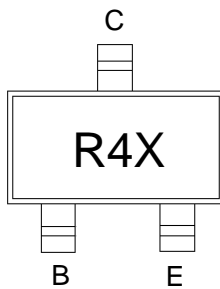
SOT-23



SOT-23-3L



Schematic diagram



Marking and pin assignment

X:Rank



Pb-Free



RoHS



HAL

Halogen-Free

**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	10	V
$V_{EBO}$	Emitter-Base Voltage	1.5	V
$I_C$	Collector Current	35	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)**

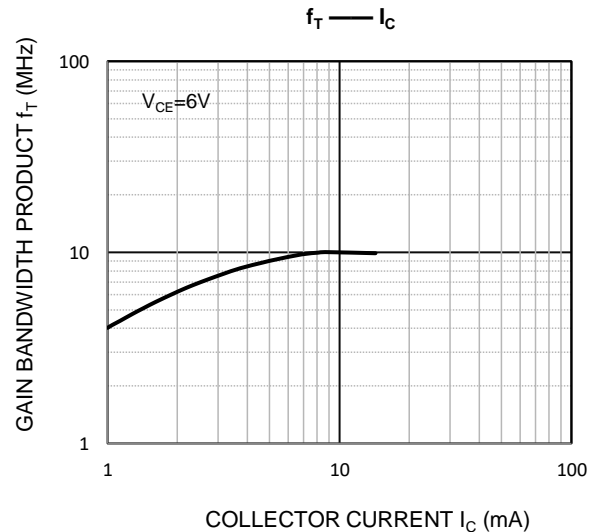
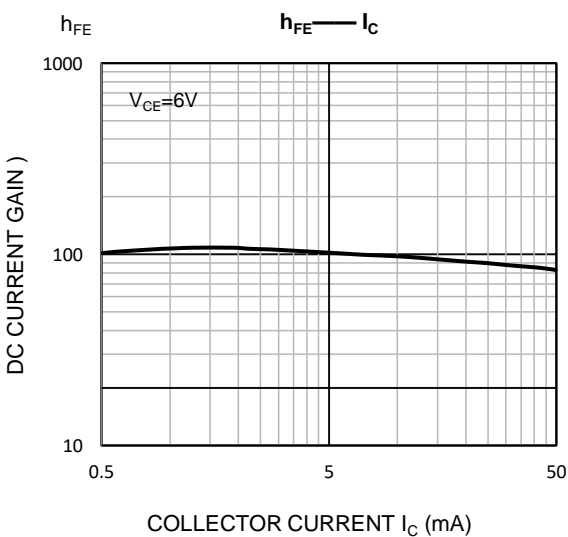
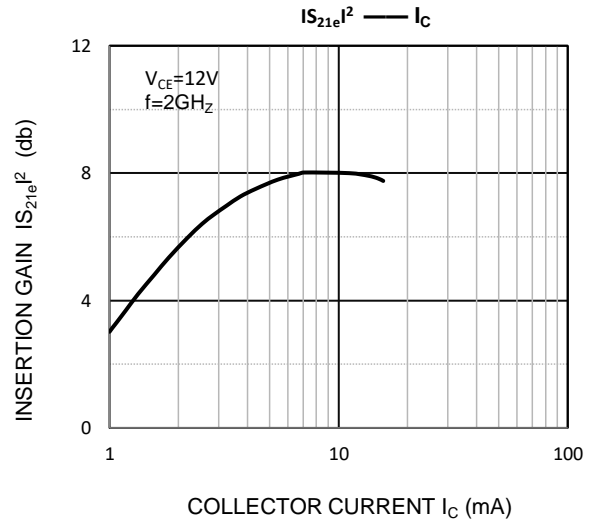
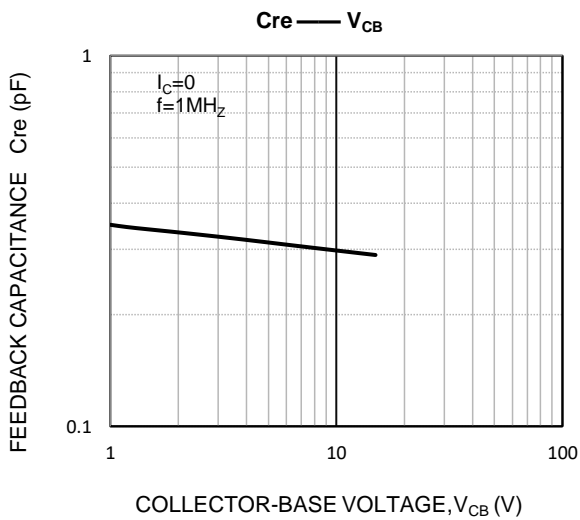
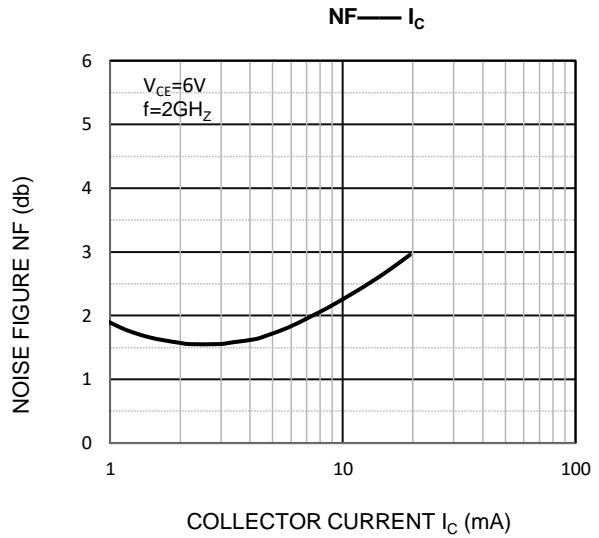
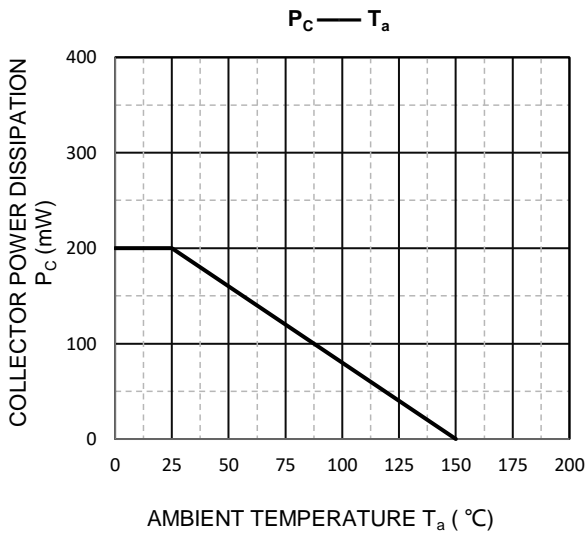
Type	Package	Marking	Minimum Package(pcs)	Inner Box Quantity(pcs)	Outer Carton Quantity(pcs)	Delivery Mode
2SC3585	SOT-23	R43/R44/R45	3,000	45,000	180,000	7"reel
2SC3585	SOT-23-3L	R43/R44/R45	3,000	45,000	180,000	7"reel

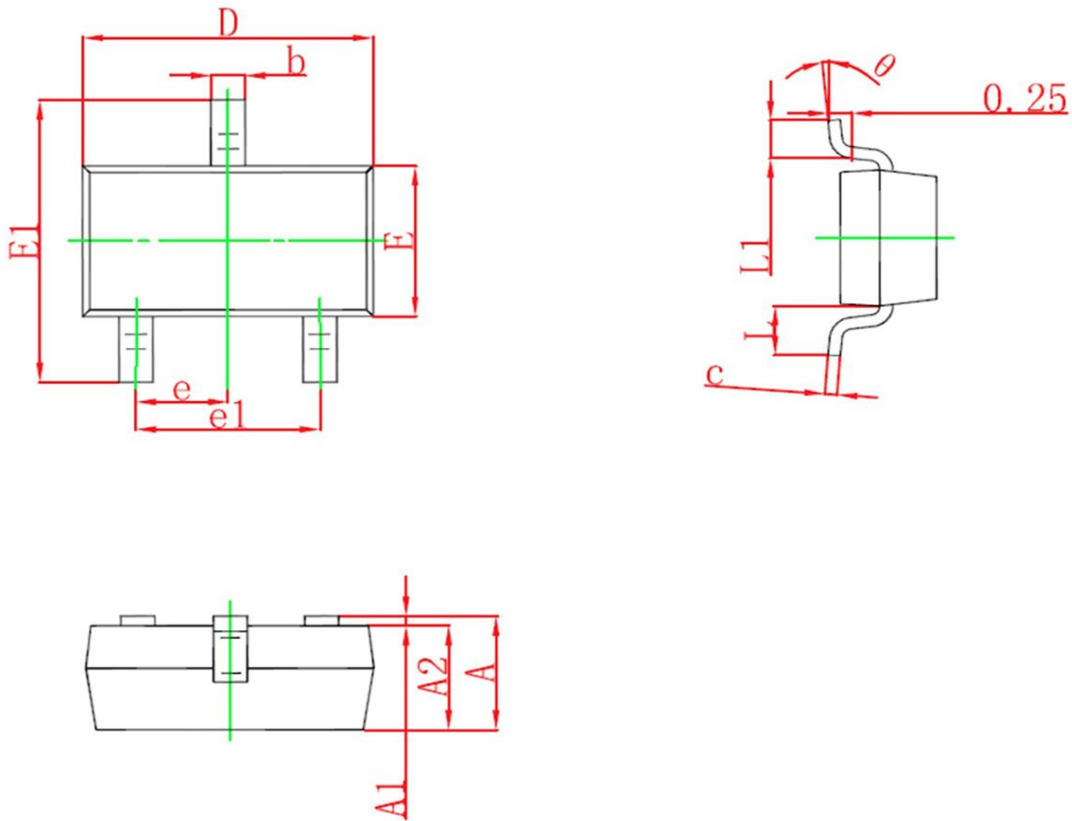
**ELECTRICAL CHARACTERISTICS(Ta=25°C unless otherwise specified)**

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	$I_C=1mA, I_B=0$	10	--	--	V
$V_{(BR)EBO}$	Emitter-base breakdown voltage	$I_E=100\mu A, I_C=0$	1.5	--	--	V
$I_{CBO}$	Collector cut-off current	$V_{CB}=10V, I_E=0$	--	--	1	$\mu A$
$I_{EBO}$	Emitter cut-off current	$V_{EB}=1V, I_C=0$	--	--	1	$\mu A$
$h_{FE}$	DC current gain	$V_{CE}=6V, I_C=10mA$	50	--	250	
$N_F$	Noise Figure	$V_{CB}=6V, I_C=5mA, f=2GHz$	--	1.8	3.0	dB
$C_{re}$	Feed-Back capacitance	$V_{CB}=10V, I_E=0mA, f=1MHz$	--	0.3	0.8	pF
$f_T$	Transition frequency	$V_{CE}=6V, I_C=10mA$	--	10	--	GHz

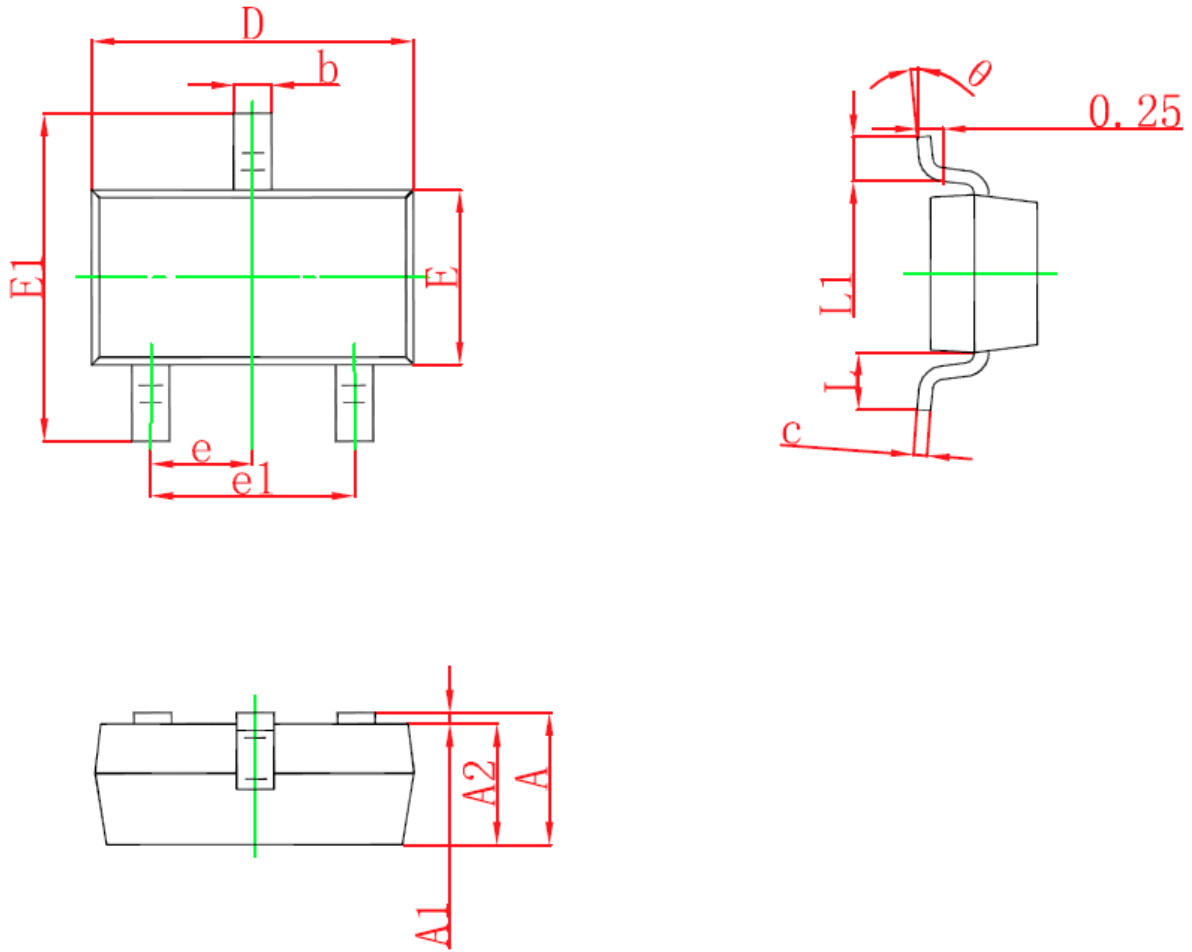
**Classification of  $h_{FE}$** 

Rank	Q	R	S
Marking	R43	R44	R45
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
E	1.500	1.700	0.059	0.067
E1	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
$\theta$	0°	8°	0°	8°