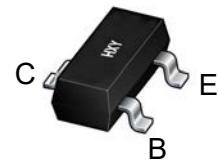




## Features

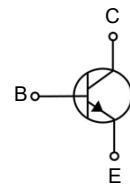
- Collector Current:  $I_C=0.1A$
- Power Dissipation of 200mw



## Package Marking and Ordering Information

Product ID	Pack	Marking	Qty(PCS)
2SC3838KT146P	SOT-23	R25	3000

SOT-23



## Maximum Ratings (Ta=25°C unless otherwise noted)

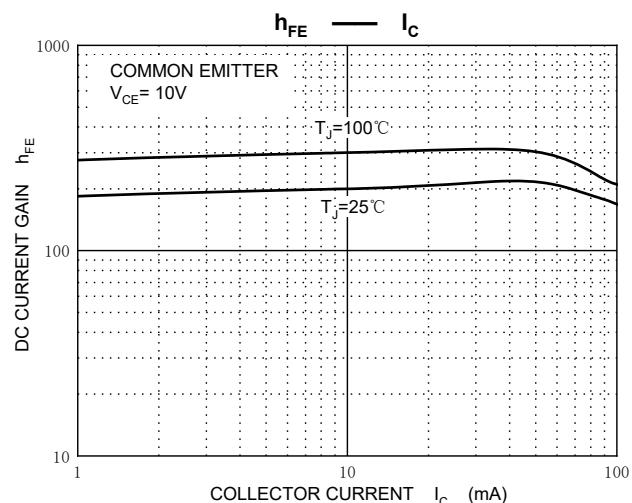
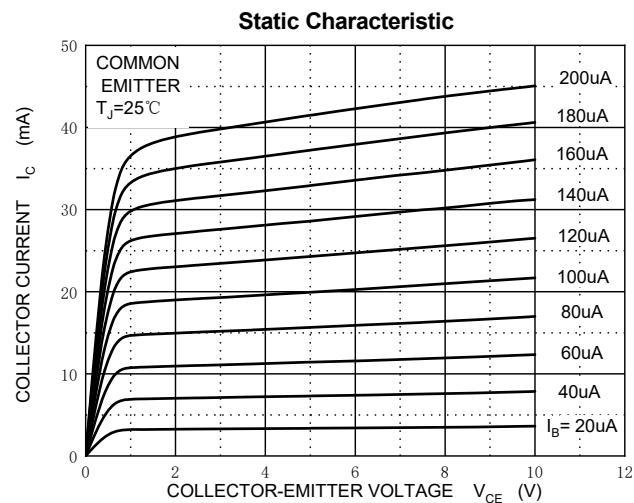
Parameter	Symbol	Limit	Unit
Collector-Base Voltage	$V_{CBO}$	20	V
Collector-Emitter Voltage	$V_{CEO}$	12	V
Emitter-Base Voltage	$V_{EBO}$	3	V
Collector Current	$I_C$	100	mA
Collector Power Dissipation	$P_C$	200	mW
Thermal Resistance From Junction To Ambient	$R_{\Theta JA}$	625	°C/W
Junction Temperature	$T_j$	150	°C
Storage Temperature	$T_{stg}$	-55~+150	°C

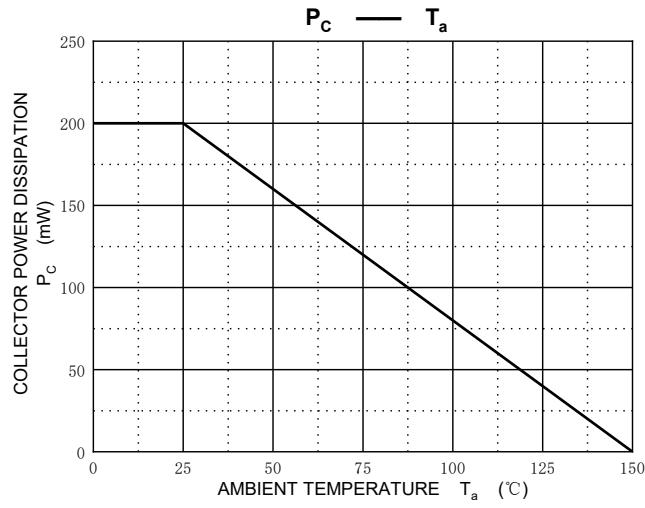
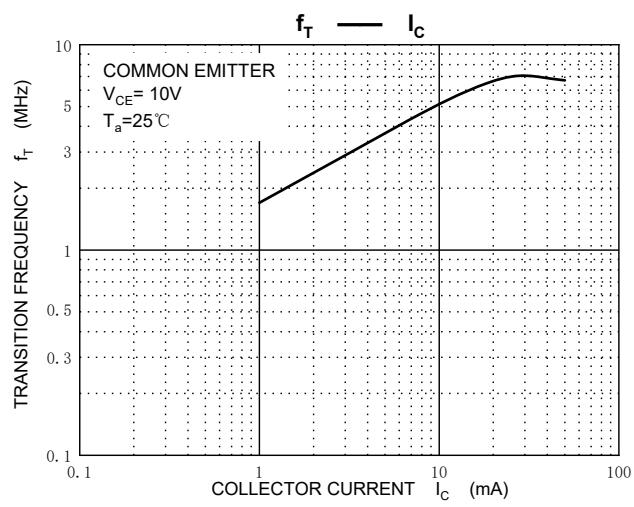
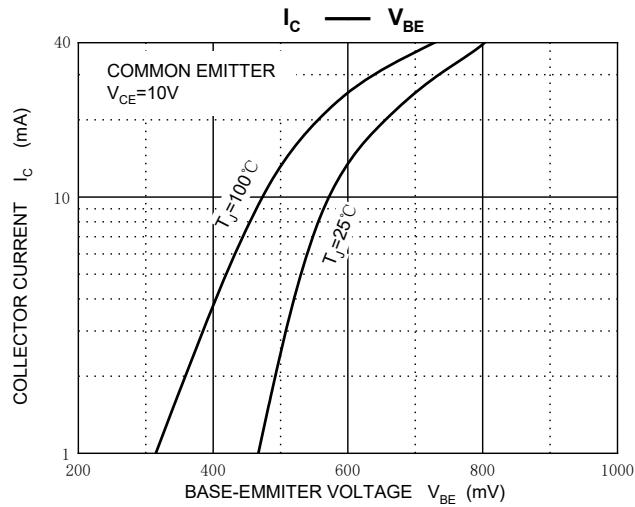
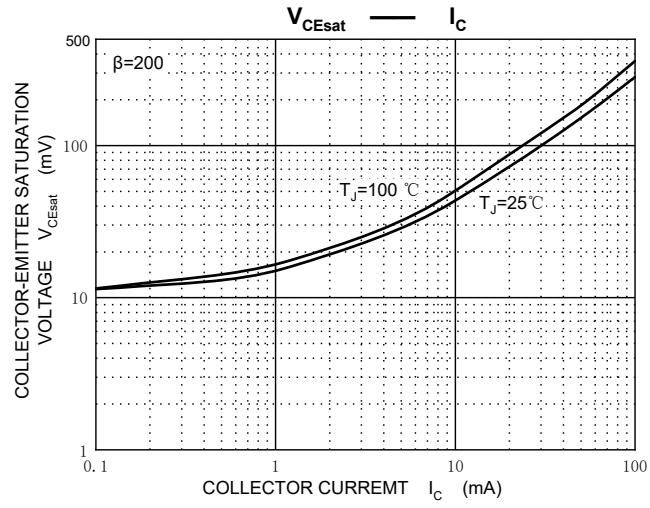
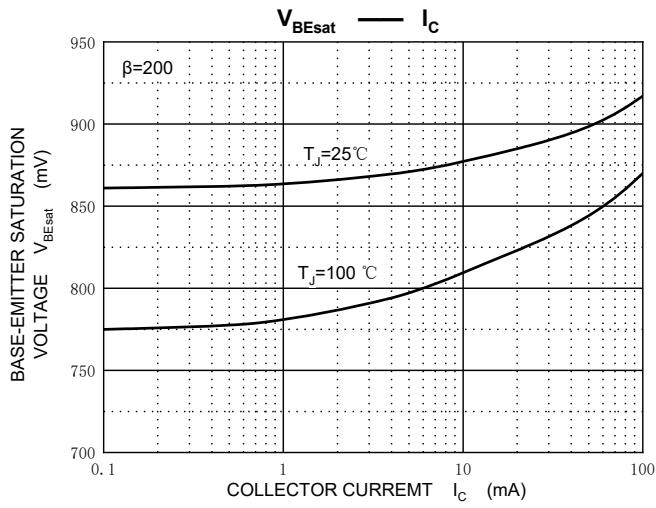


### Electrical Characteristics(Ta=25°C unless otherwise specified)

Parameter	Symbol	Test conditions	Min	Typ	Max	Unit
Collector-base breakdown voltage	$V_{(BR)CBO}$	$I_C=100\mu A, I_E=0$	20			V
Collector-emitter breakdown voltage	$V_{(BR)CEO}$	$I_C=1mA, I_B=0$	12			V
Emitter-base breakdown voltage	$V_{(BR)EBO}$	$I_E=100\mu A, I_C=0$	3			V
Collector cut-off current	$I_{CBO}$	$V_{CB}=10V, I_E=0$			1	$\mu A$
Emitter cut-off current	$I_{EBO}$	$V_{EB}=1V, I_C=0$			1	$\mu A$
DC current gain	$h_{FE(1)}$	$V_{CE}=10V, I_C=20mA$	125		250	
Collector-emitter saturation voltage	$V_{CE(sat)}$	$I_C=50mA, I_B=5mA$			0.3	V
Base-emitter saturation voltage	$V_{BE(sat)}$	$I_C=50mA, I_B=5mA$			1.15	V
Transition frequency	$f_T$	$V_{CE}=10V, I_C=20mA$		7		GHz
Collector output capacitance	$C_{ob}$	$V_{CB}=10V, I_E=0, f=1MHz$		0.8	1	pF
Noise Figure	$N_F$	$V_{CB}=10V, I_C=7mA, f=1GHz$		1.65	2	dB

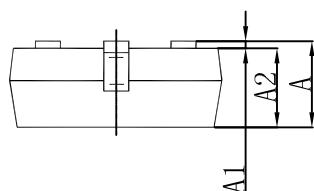
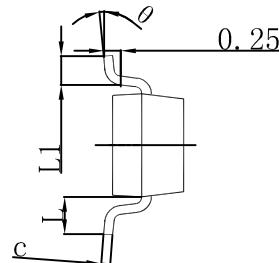
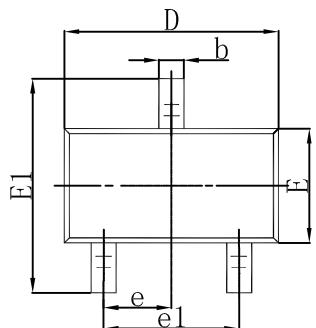
### Typical Characteristics





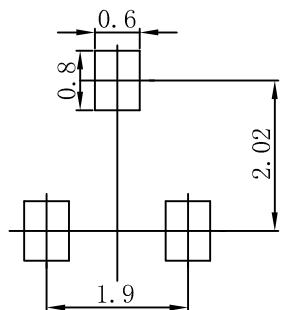


### SOT-23 Package Outline Dimensions



Symbol	Dimensions In Millimeters		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
E	1.200	1.400	0.047	0.055
E1	2.250	2.550	0.089	0.100
e	0.950 TYP		0.037 TYP	
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
$\theta$	0°	8°	0°	8°

### SOT-23 Suggested Pad Layout



#### Note:

1. Controlling dimension: in millimeters.
2. General tolerance:  $\pm 0.05$ mm.
3. The pad layout is for reference purposes only.



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