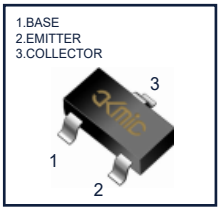
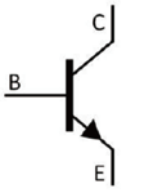
Features

- Ideally suited for automatic insertion
- For switching and AF amplifier applications



SOT23



Equivalent Circuit

Absolute Maximum Ratings(T_A=25℃)

Symbol	Parameter	Value	Uniat
V_{CBO}	Collector-Base Voltage	80	V
V_{CEO}	Collector-Emitter Voltage	65	V
V_{EBO}	Emitter-Base Voltage	6	V
I_C	Collector Current	0.1	A
P_C	Collector Power Dissipation	200	mW
$R_{\theta JA}$	Thermal Resistance From Junction To Ambient	625	℃/W
T_J,T_{stg}	Operation Junction And Storage Temperature Range	-55～+150	℃

Electrical Characteristics (T_A=25℃ unless otherwise specified)

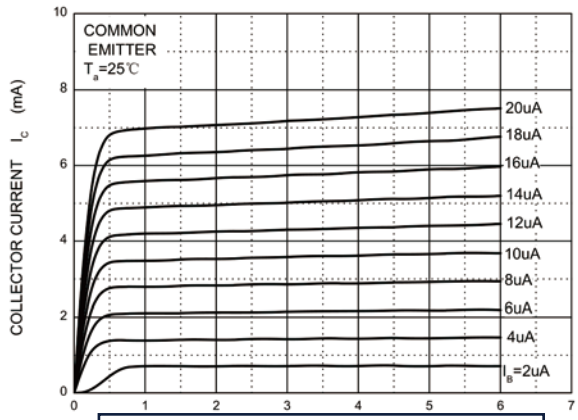
Symbol	Parameter	Test conditions	Min	Typ	Max	Unit
V_{CBO}	Collector-base breakdown voltage	I_C=10μA, I_E=0	80			V
V_{CEO}	Collector-emitter breakdown voltage	I_C=10mA, I_B=0	65			V
V_{EBO}	Emitter-base breakdown voltage	I_E=10μA, I_C=0	6			V
I_{CBO}	Collector cut-off current	V_{CB}=70V, I_E=0			0.1	μA
I_{EBO}	Emitter cut-off current	V_{EB}=5V, I_C=0			0.1	μA
h_{FE}	DC current gain	V_{CE}=5V,I_C=2mA	200		450	
$V_{CE(sat)}$	Collector-emitter saturation voltage	I_C=100mA, I_B=5mA			0.5	V
$V_{BE(sat)}$	Base-emitter saturation voltage	I_C=100mA, I_B=5mA			1.1	V
f_T	Transition frequency	V_{CE}=5V,I_C=10mA,f=100MHz	100			MHz
C_{ob}	Collecter capacitance	V_{CB}=10V,f=1MHz			4.5	pF

Ordering information

Product ID	Pack	Marking	hFE(1)	Qty(PCS)
BC846B,215	SOT-23	1B	200~450	3000

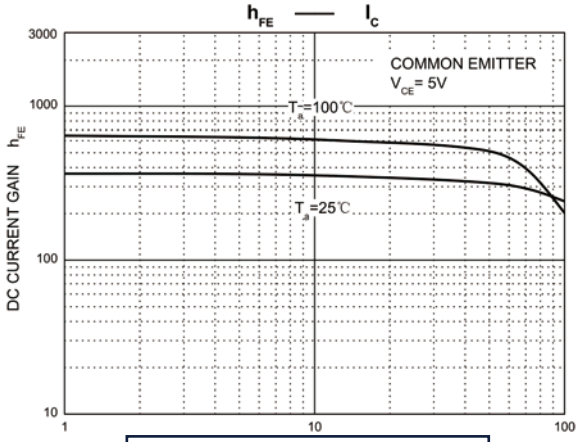
Typical Characteristics

Static Characteristic



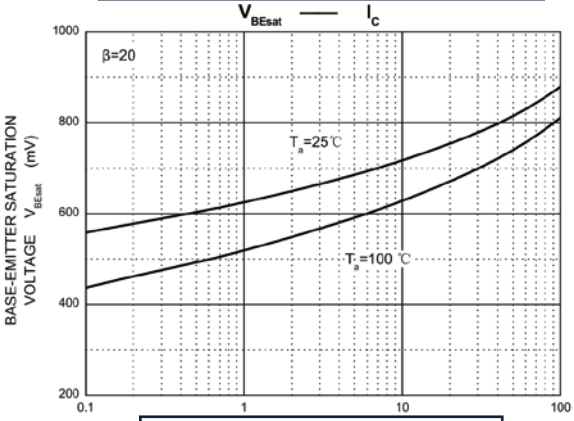
COLLECTOR-EMITTER VOLTAGE VCE(V)

hFE — Ic



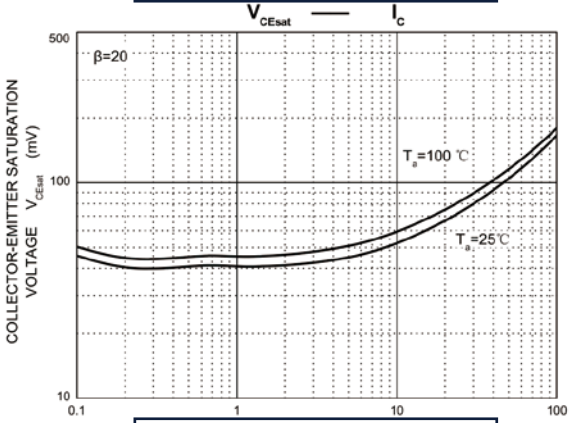
COLLECTOR CURRENT Ic(mA)

VBEsat — Ic



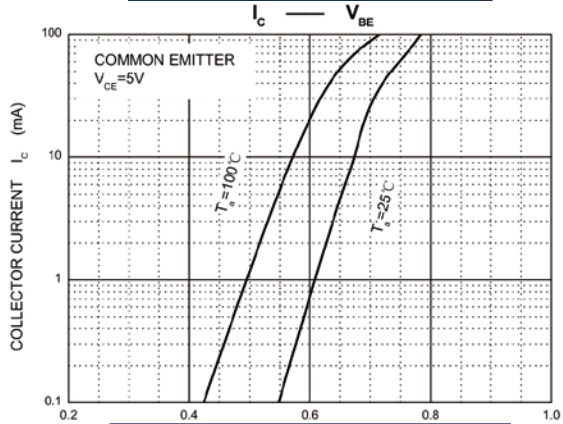
COLLECTOR CURRENT Ic(mA)

VCEsat — Ic



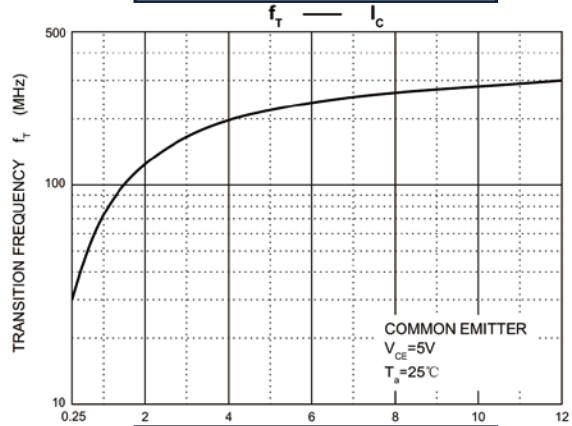
COLLECTOR CURRENT Ic(mA)

Ic — VBE



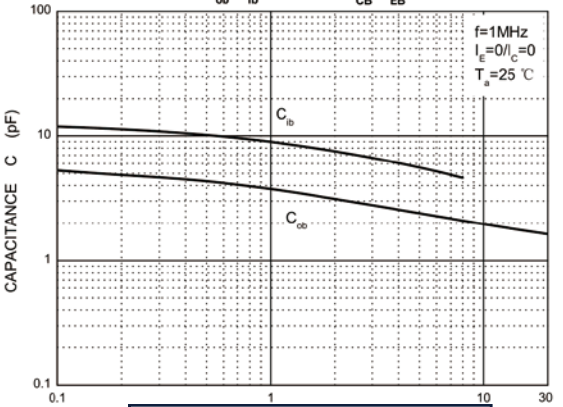
BESE-EMMITER VOLTAGE VBE(V)

fT — Ic



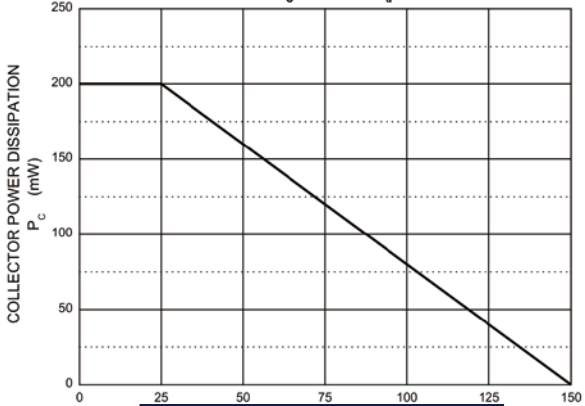
COLLECTOR CURRENT Ic(mA)

Cob/Cib — VCB/VEB



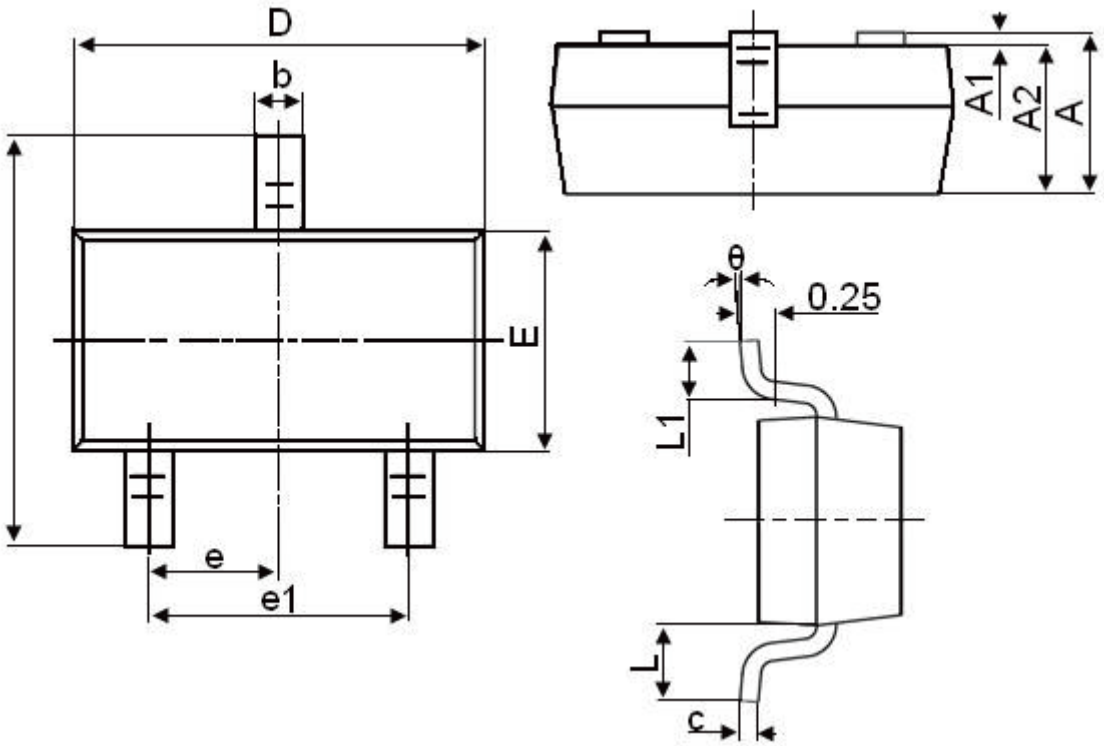
REVERSE VOLTAGE V(V)

PC — Ta



AMBIENT TEMPERATURE Ta(°C)

SOT23 Package Outline Dimensions



Symbol	Dimensions in Millimeters	
	mm	
	Min	Max
A	0.900	1.150
A1	0.000	0.100
A2	0.900	1.050
b	0.300	0.500
c	0.080	0.150
D	2.800	3.000
E	1.200	1.400
E1	2.250	2.550
e	0.950TYP	
e1	1.800	2.000
L	0.550REF	
L1	0.300	0.500
θ	0°	8°