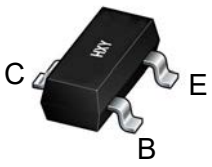
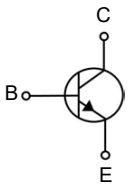
SMMBT4401LT1G

NPN Plastic-Encapsulate Transistors

Features

- Collector Current: I_C=0.6A
- Power Dissipation of 300mw





SOT-23

Package Marking and Ordering Information

Product ID	Pack	Marking	Qty(PCS)
SMMBT4401LT1G	SOT-23	2X	3000

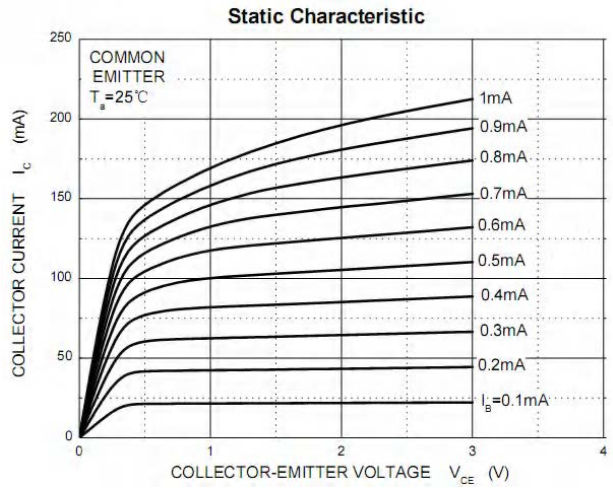
Maximum Ratings (Ta=25°C unless otherwise noted)

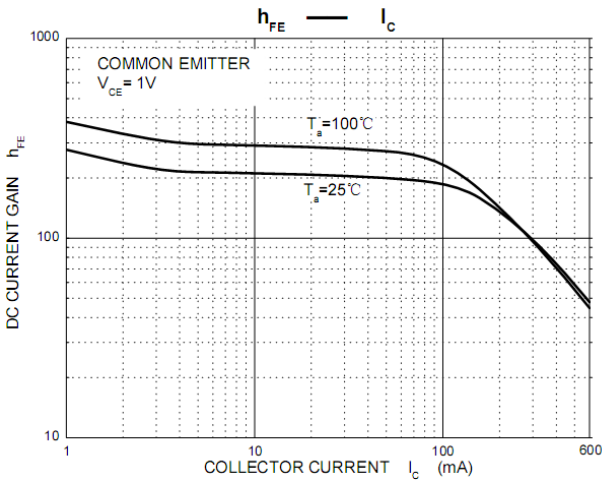
Parameter	Symbol	Limit	Unit
Collector-Base Voltage	V_{CBO}	60	V
Collector-Emitter Voltage	V_{CEO}	40	V
Emitter-Base Voltage	V_{EBO}	6	V
Collector Current	I_C	600	mA
Collector Power Dissipation	P_C	300	mW
Thermal Resistance From Junction To Ambient	$R_{\Theta JA}$	417	℃/W
Junction Temperature	T_j	150	℃
Storage Temperature	T_{stg}	-55～+150	℃

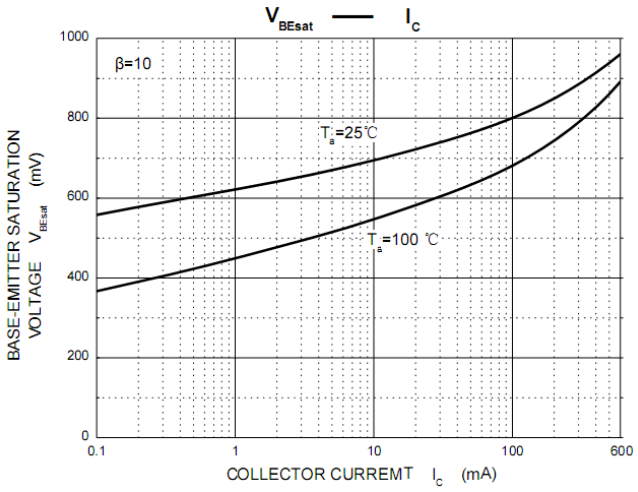
Electrcal Charcteristics (Ta=25°C unless otherwise specified)

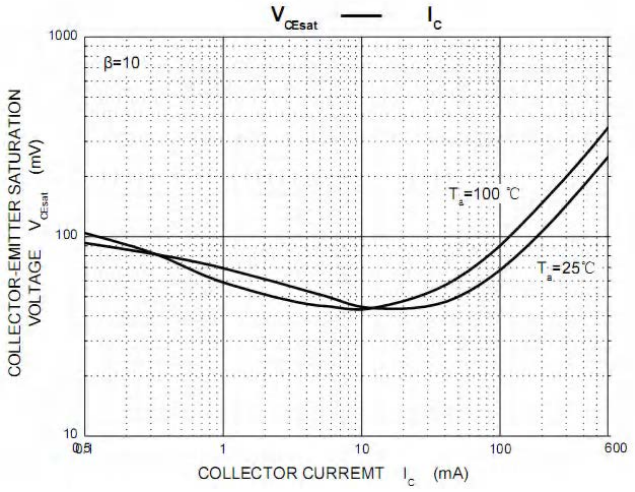
Parameter	Symbol	Test Conditions	Min	Max	Unit
Collector-base breakdown voltage	$V_{(BR)CBO}$	I_C=100μA,I_E=0	60		V
Collector-emitter breakdown voltage	$V_{(BR)CEO}$	I_C=1mA,I_B=0	40		V
Emitter-base breakdown voltage	$V_{(BR)EBO}$	I_E=100μA ,I_C=0	6		V
Collector cut-off current	I_{CBO}	V_{CB}=50V,I_E=0		0.1	μA
Collector cut-off current	I_{CEX}	V_{CE}=35V, V_{EB}=0.4V		0.1	μA
Emitter cut-off current	I_{EBO}	V_{EB}=5V,I_C=0		0.1	μA
DC current gain	h_{FE1}	V_{CE}=1V, I_C=0.1mA	20		
	h_{FE2}	V_{CE}=1V, I_C=1mA	40		
	h_{FE3}	V_{CE}=1V, I_C=10mA	80		
	h_{FE4}	V_{CE}=1V, I_C=150mA	100	300	
	h_{FE5}	V_{CE}=2V, I_C=500mA	40		
Collector-emitter saturation voltage	$V_{CE(sat)}$	I_C=150mA,I_B=15mA		0.4	V
		I_C=500mA,I_B=50mA		0.75	V
Base-emitter saturation voltage	$V_{BE(sat)}$	I_C=150mA,I_B=15mA		0.95	V
		I_C=500mA,I_B=50mA		1.2	V
Transition frequency	f_T	V_{CE}=10V, I_C=20mA,f =100MHz	250		MHz
Delay time	t_d	V_{CC}=30V, $V_{BE(off)}$=-2V		15	ns
Rise time	t_r	I_C=150mA , I_{B1}=15mA		20	ns
Storage time	t_s	V_{CC}=30V, I_C=150mA		225	ns
Fall time	t_f	I_{B1}=I_{B2}=15mA		60	ns

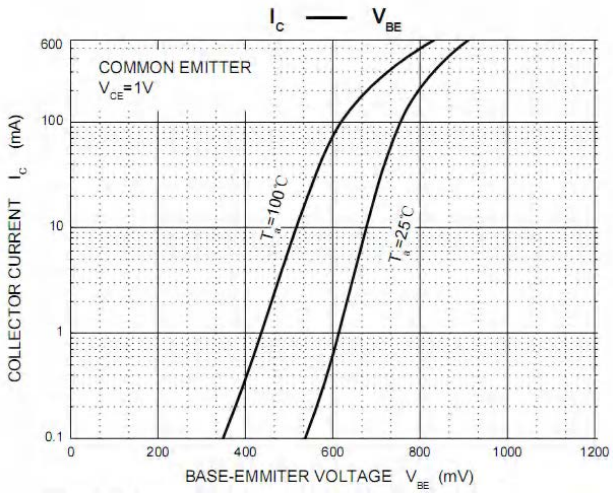
Typical Characteristics

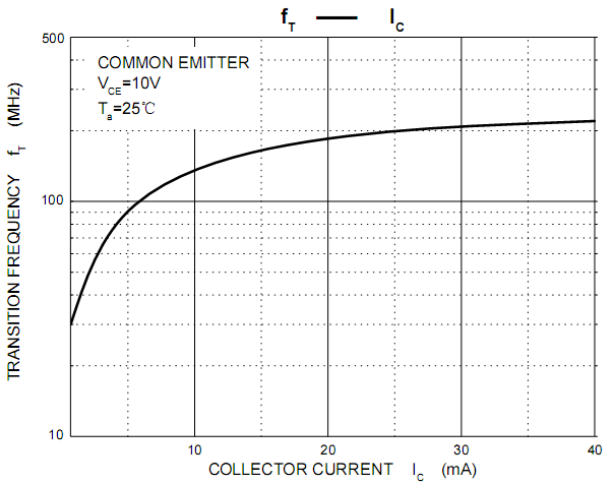


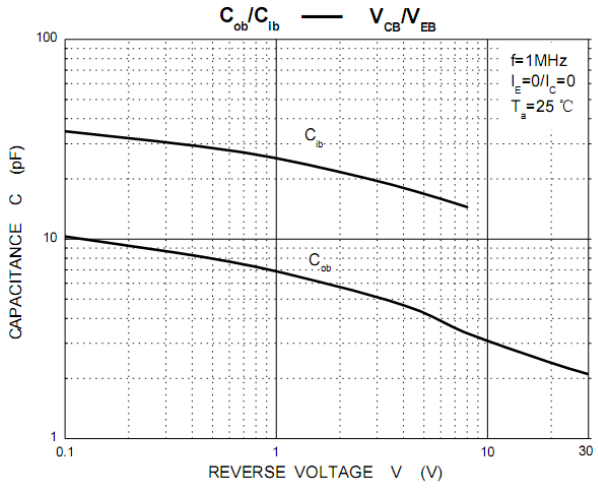


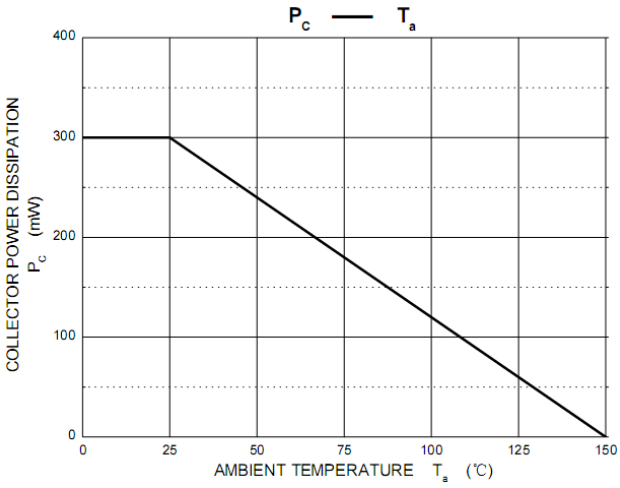

V_{BEsat} — I_C
β=10
T_a=25℃
T_a=100 ℃
BASE-EMITTER SATURATION VOLTAGE V_{BEsat} (mV)
COLLECTOR CURREMT I_C (mA)


V_{CEsat} — I_C
β=10
T_a=100 ℃
T_a=25℃
COLLECTOR-EMITTER SATURATION VOLTAGE V_{CEsat} (mV)
COLLECTOR CURREMT I_C (mA)

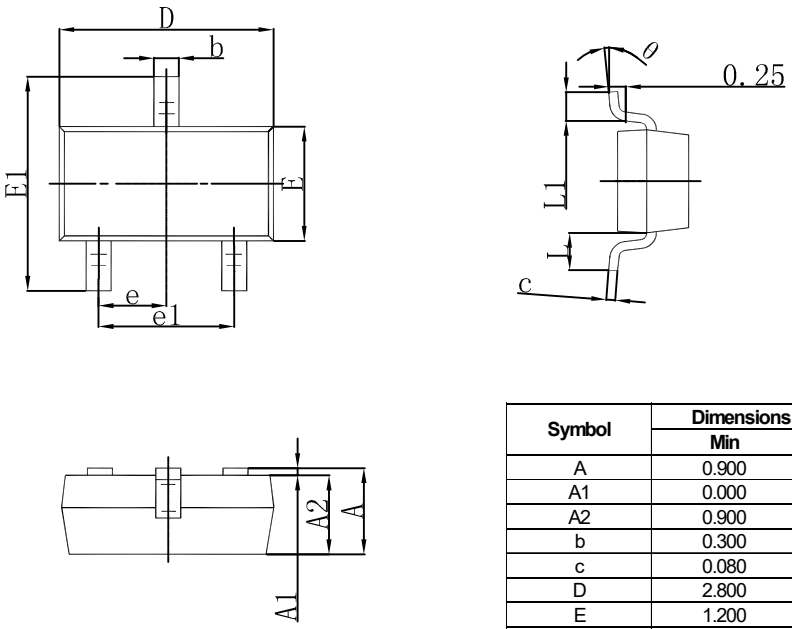

I_C — V_{BE}
COMMON EMITTER
V_{CE}=1V
T_a=100℃
T_a=25℃
COLLECTOR CURRENT I_C (mA)
BASE-EMMITER VOLTAGE V_{BE} (mV)


f_T — I_C
COMMON EMITTER
V_{CE}=10V
T_a=25℃
TRANSITION FREQUENCY f_T (MHz)
COLLECTOR CURRENT I_C (mA)


C_{ob}/C_{ib} — V_{CB}/V_{EB}
f=1MHz
I_E=0/I_C=0
T_a=25 ℃
C_{ib}
C_{ob}
CAPACITANCE C (pF)
REVERSE VOLTAGE V (V)

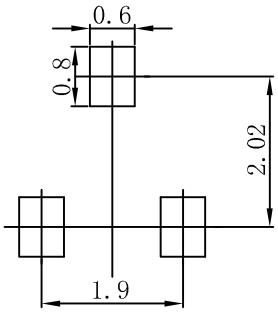

P_C — T_a
COLLECTOR POWER DISSIPATION P_C (mW)
AMBIENT TEMPERATURE T_a (℃)

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
θ	0°	8°	0°	8°

SOT-23 Suggested Pad Layout



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

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