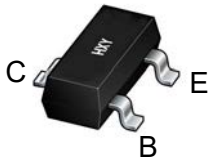
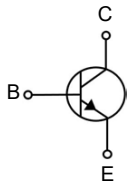
Features

- Power switching applications



SOT-23



Package Marking and Ordering Information

Product ID	Pack	Marking	Qty(PCS)
13001	SOT-23	8D	3000

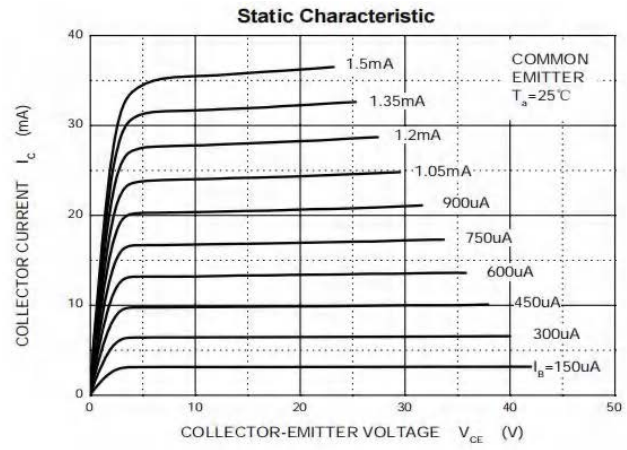
Maxmim Ratings (Ta=25℃ unless otherwise noted)

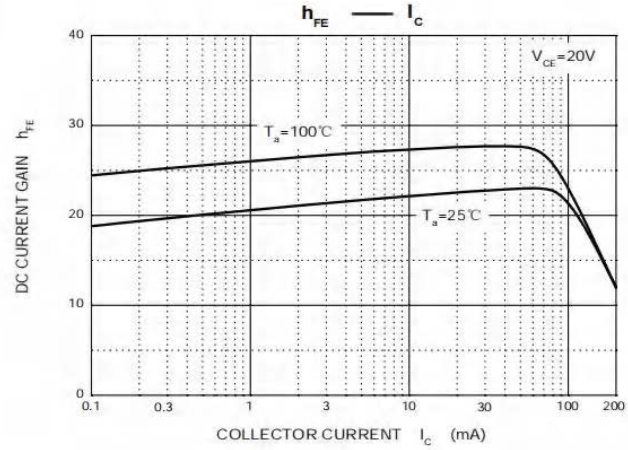
Parameter	Symbol	Limit	Unit
Collector-Base Voltage	V_{CBO}	600	V
Collector-Emitter Voltage	V_{CEO}	420	V
Emitter-Base Voltage	V_{EBO}	7	V
Collector Current	I_C	200	mA
Collector Power Dissipation	P_C	300	mW
Thermal Resistance From Junction To Ambient	$R_{\Theta JA}$	400	℃/W
Junction Temperature	T_j	150	℃
Storage Temperature	T_{stg}	-55～+150	℃

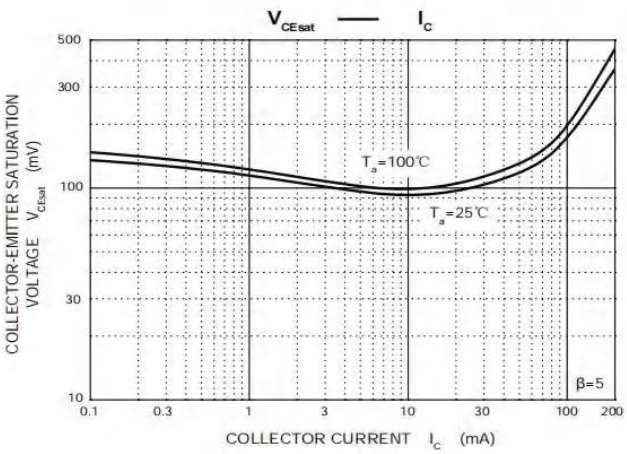
Electrcal Charcteristics (T_a=25℃ unless otherwise specified)

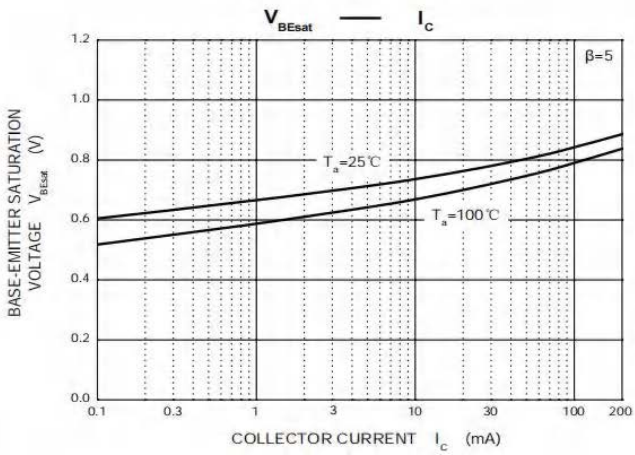
Symbol	Parameter	Test conditions	Min	Typ	Max	Unit
$V_{(BR)CBO}$	Collector-base breakdown voltage	I_C=100μA, I_E=0	600			V
$V_{(BR)CEO}$	Collector-emitter breakdown voltage	I_C=1mA, I_B=0	420			V
$V_{(BR)EBO}$	Emitter-base breakdown voltage	I_E=100μA, I_C=0	7			V
I_{CBO}	Collector cut-off current	V_{CB}=600V, I_E=0			100	μA
I_{CEO}	Collector cut-off current	V_{CE}=400V, I_E=0			200	μA
I_{EBO}	Emitter cut-off current	V_{EB}=7V, I_C=0			100	μA
h_{FE}(1)	DC current gain(1)	V_{CE}=20V, I_C=20mA	18		30	
h_{FE}(2)	DC current gain(2)	V_{CE}=10V, I_C=0.25mA	5			
$V_{CE(sat)}$1	Collector-emitter saturation voltage	I_C=50mA, I_B=10mA			0.5	V
$V_{BE(sat)}$ 1	Base-emitter saturation voltage				1.2	V
f_T	Transition frequency	V_{CE}=20V, I_C=20mA, f=1MHz	8			MHz
tf	Fall time	I_C=50mA, V_{CC}=45V,			0.3	μS
ts	Storage time	I_{B1}=-I_{B2}=5mA,			1.5	μS

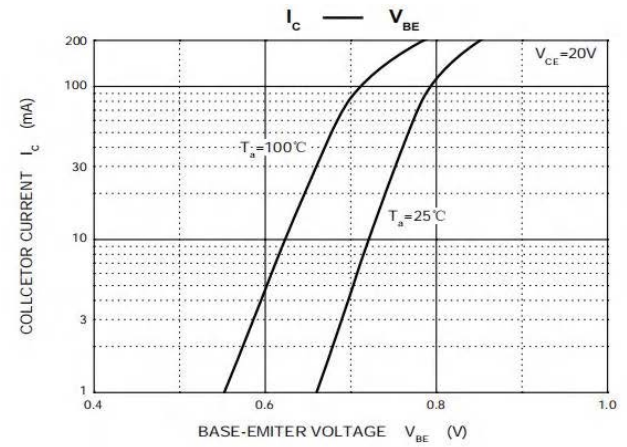
Typical Characteristics

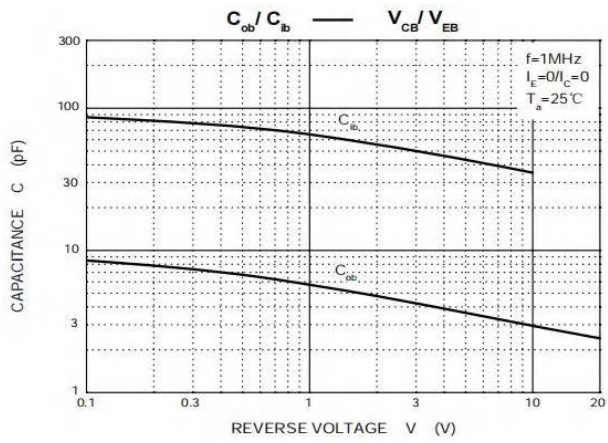


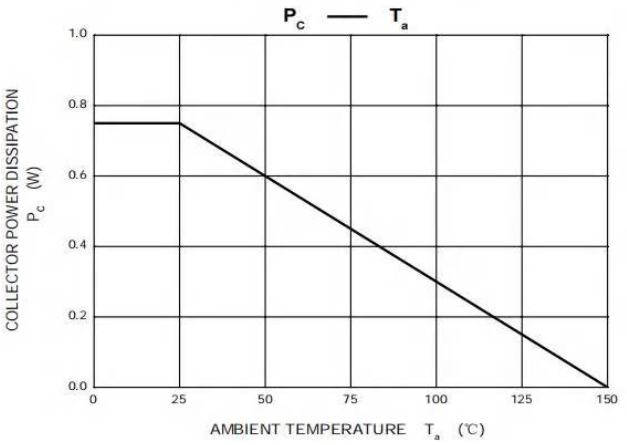




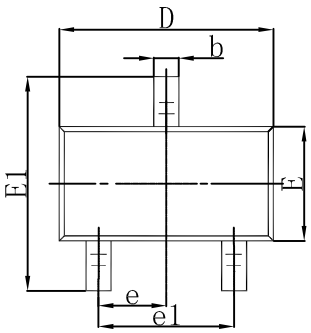


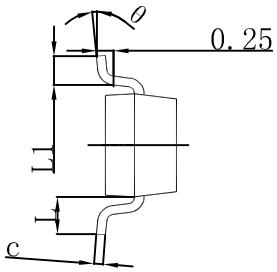

I_C — V_{BE}
V_{CE}=20V
T_a=100℃
T_a=25℃
COLLCETOR CURRENT I_c (mA)
BASE-EMITER VOLTAGE V_{BE} (V)

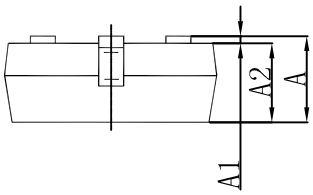

C_{ob} / C_{ib} — V_{CB} / V_{EB}
f=1MHz
I_E=0/I_C=0
T_a=25℃
C_{ib}
C_{ob}
CAPACITANCE C (pF)
REVERSE VOLTAGE V (V)


P_C — T_a
COLLECTOR POWER DISSIPATION P_c (W)
AMBIENT TEMPERATURE T_a (℃)

SOT-23 Package Outline Dimensions

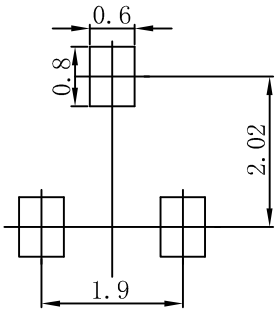






Symbol	Dimensions In Millimeters		Dimensions In Inches	
	Min	Max	Min	Max
A	0.900	1.150	0.035	0.045
A1	0.000	0.100	0.000	0.004
A2	0.900	1.050	0.035	0.041
b	0.300	0.500	0.012	0.020
c	0.080	0.150	0.003	0.006
D	2.800	3.000	0.110	0.118
E	1.200	1.400	0.047	0.055
E1	2.250	2.550	0.089	0.100
e	0.950 TYP		0.037 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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