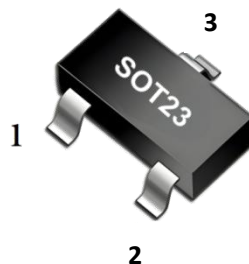


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NPN SILICON TRANSISTOR

FEATURES

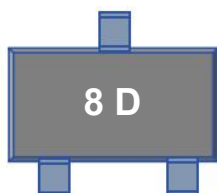
*The 13001 meet the ROHS and Green Product requirement with full function reliability approved.



1. BASE
2. EMITTER
3. COLLECTOR

MARKING

Type Code: Marking: 8D



ABSOLUTE MAXIMUM RATINGS (Tc=25°C, unless otherwise specified)

SYMBOL	PARAMETER	VALUE	UNIT
V _{CB0}	Collector-base voltage	700	V
V _{CEO}	Collector-emitter voltage	420	V
V _{EB0}	Emitter-base voltage	10	V
I _C	Collector current	150	mA
P _{tot}	Power Dissipation	300	mW
T _j	Junction Temperature	150	°C
T _{stg}	Storage Temperature	-55~150	°C
ROJA	Thermal Resistance From Junction To Ambient (note 1)	417	°C/W

Note: Absolute maximum ratings are those values beyond which the device could be permanently damaged. Absolute maximum ratings are stress ratings only and functional device operation is not implied.

1. Device mounted on FR-4 substrate PC board, 2oz copper, with minimum recommended pad layout.

ELECTRICAL CHARACTERISTICS (Tc=25°C, unless otherwise specified)

PARAMETER	SYMBOL	TEST CONDITIONS	MIN	TYP	MAX	UNIT
Collector-base breakdown voltage	V _{(BR)CBO}	I _C =100μA, I _E =0	700			V
Collector-emitter breakdown voltage	V _{(BR)CEO}	I _C =1mA, I _B =0	420			V
Emitter-base breakdown voltage	V _{(BR)EBO}	I _E =100μA, I _C =0	10			V
Collector cutoff current	I _{CBO}	V _{CB} =700V, I _E =0			100	μA
Collector cut-off current	I _{CEO}	V _{CE} =420V, I _B =0			100	μA
Emitter-base cut-off current	I _{EBO}	V _{CE} =10V, I _B =0			100	μA
DC Current Gain	h _{FE}	V _{CE} =20V, I _C =10mA	15		25	
Collector-emitter saturation voltage	V _{CE(sat)}	I _C =50mA, I _B =10mA			1.05	V
Base-Emitter Saturation Voltage	V _{BE(sat)}	I _C =50mA, I _B =10mA			1.55	V
Transition frequency	f _T	V _{CE} =10V, I _C = 50mA, f=1MHz	5			MHz

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NPN SILICON TRANSISTOR

TYPICAL CHARACTERISTICS

Fig. 1 Output Characteristics Curve

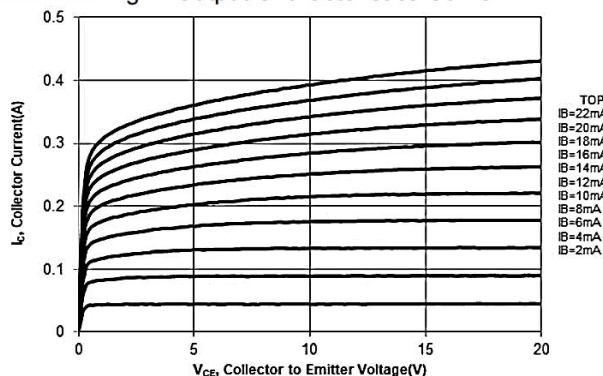


Fig. 2 Output Characteristics Curve

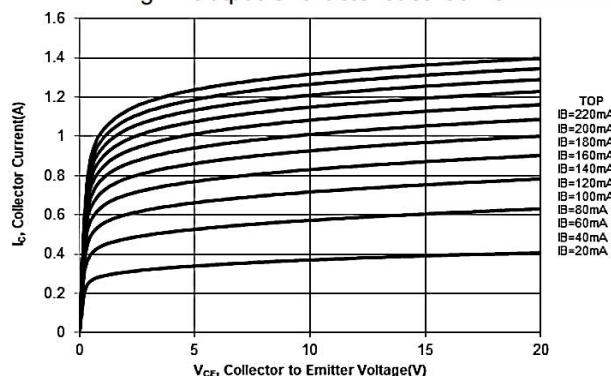


Fig. 3 Collector Current vs. Base to Emitter Voltage

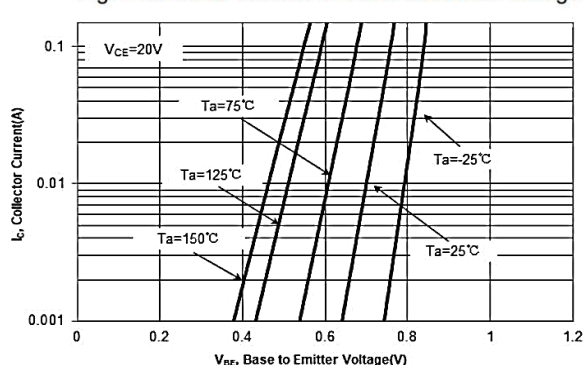


Fig. 4 h_{FE} , DC Current Gain vs. Collector Current

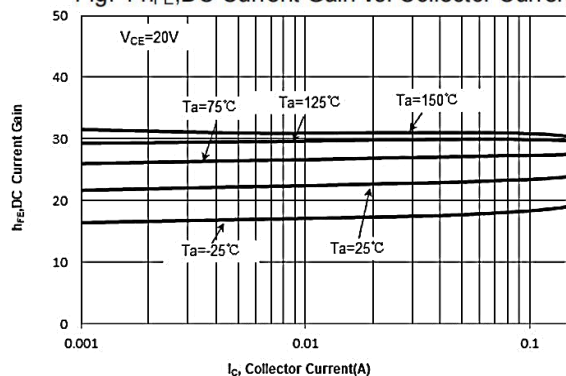


Fig. 5 V_{BESAT} vs. Collector Current

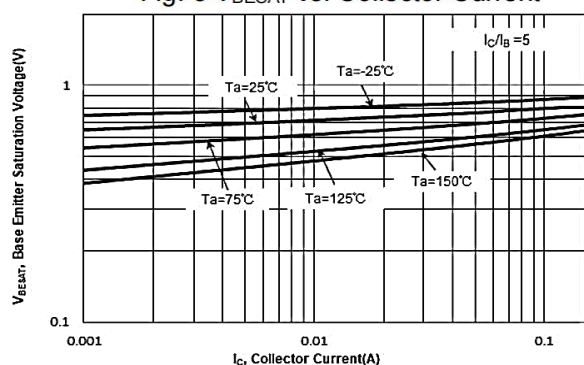


Fig. 6 V_{CESAT} vs. Collector Current

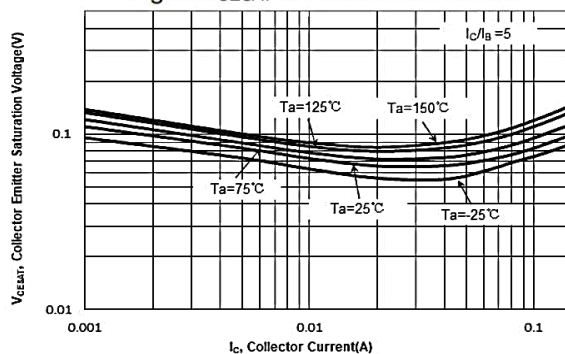


Fig. 7 Output Capacitance

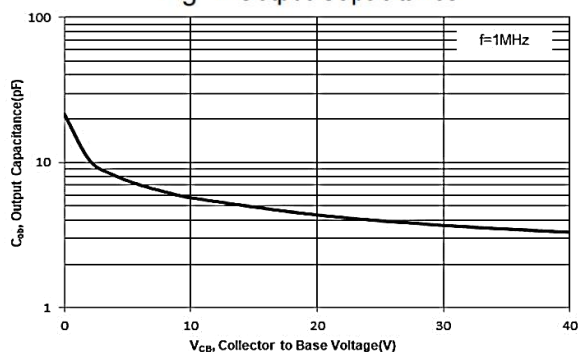
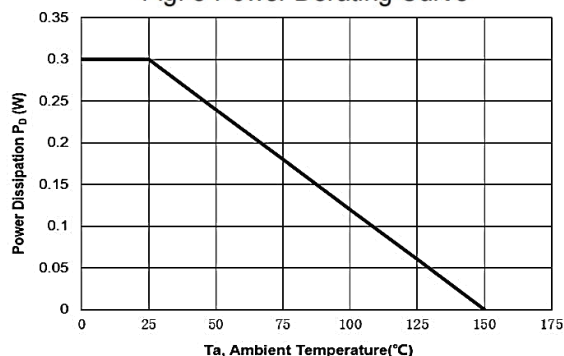


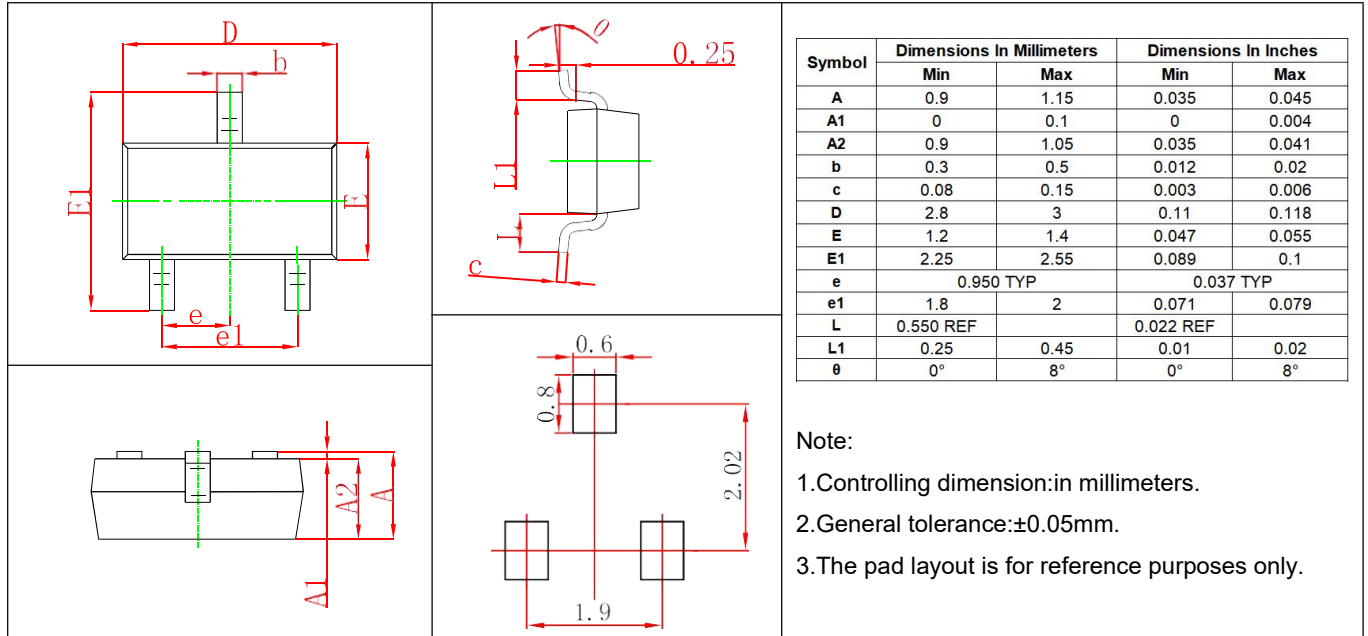
Fig. 8 Power Derating Curve



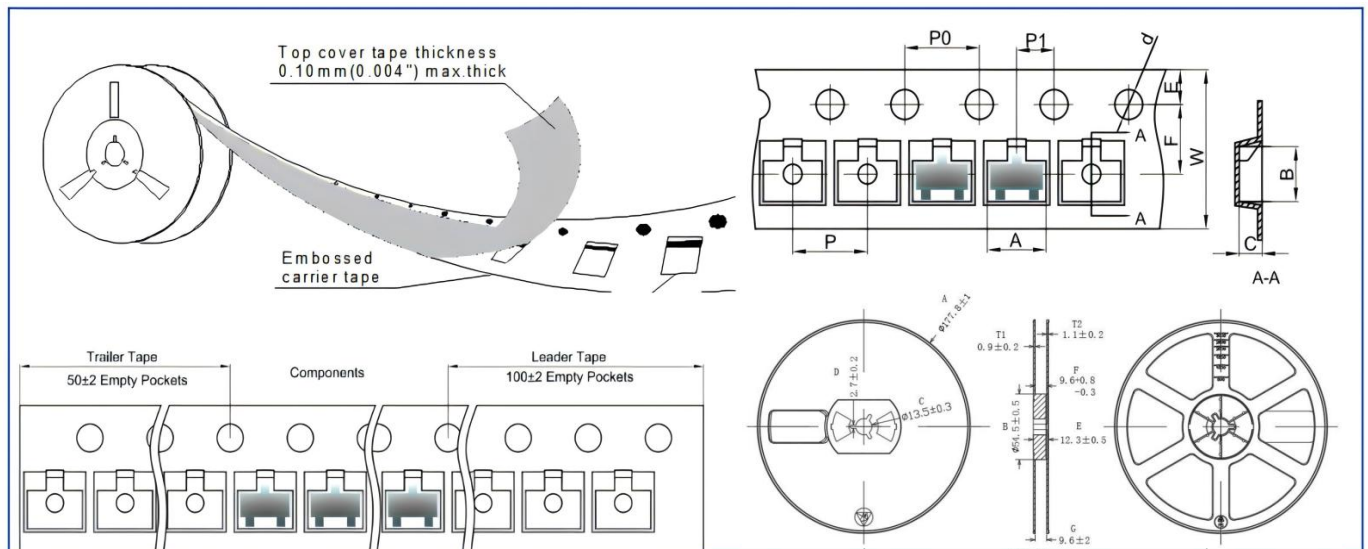
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NPN SILICON TRANSISTOR

SOT23 PACKAGE OUTLINE DIMENSIONS



REEL PACKING



Dimensions are in millimeter										
PKG TYPE	A	B	C	d	E	F	Po	P	P1	W
SOT-23	3.17	2.77	1.22	Φ1.55	1.75	3.50	4.00	4.00	2.00	8.00
Reel Option	A	B	C	D	E	F	G	T1	T2	Q.TY PER REEL
7" Dia	Φ177.8	Φ54.5	Φ13.5	2.7	12.3	9.6	9.6	0.9	1.1	3000PCS