

MSKSEMI 美森科

SEMICONDUCTOR



ESD



TVS



TSS



MOV



GDT



PLED

MS13001

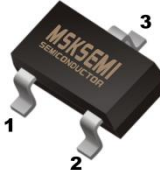

Product specification

TRANSISTOR (NPN)

FEATURES

- power switching applications

Reference News

PACKAGE OUTLINE	MARKING
 <p>1. BASE 2. EMITTER 3. COLLECTOR</p>	
SOT-23	

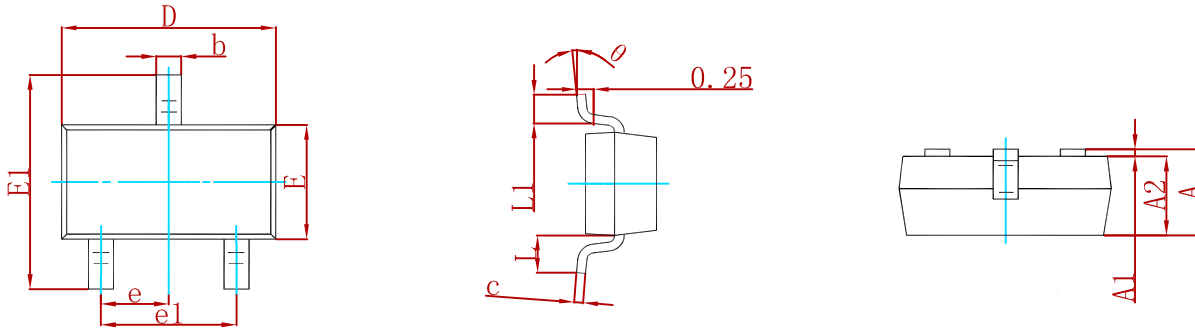
MAXIMUM RATINGS (Ta=25°C unless otherwise noted)

Symbol	Parameter	Value	Unit
V _{CBO}	Collector -Base Voltage	700	V
V _{CEO}	Collector-Emitter Voltage	400	V
V _{EBO}	Emitter-Base Voltage	9	V
I _c	Collector Current -Continuous	0.2	A
P _c	Collector Power Dissipation	0.35	W
T _J	Junction Temperature	150	°C
T _{stg}	Storage Temperature	-55~150	°C

ELECTRICAL CHARACTERISTICS (Ta=25°C unless otherwise specified)

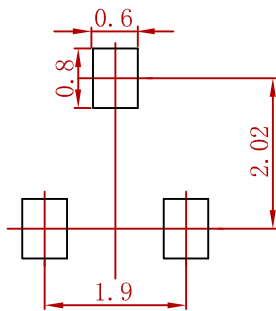
Parameter	Symbol	Test conditions	Min	Typ	Max	Unit
Collector-base breakdown voltage	V _{(BR)CBO}	I _c = 1mA, I _E = 0	700			V
Collector-emitter breakdown voltage	V _{(BR)CEO}	I _c = 1mA, I _B = 0	400			V
Emitter-base breakdown voltage	V _{(BR)EBO}	I _E = 100μA, I _c = 0	9			V
Collector cut-off current	I _{CBO}	V _{CB} = 600V, I _E = 0			10	μA
Emitter cut-off current	I _{EBO}	V _{EB} = 9V, I _c = 0			10	μA
DC current gain	h _{FE(1)}	V _{CE} = 10V, I _c = 20mA	10		40	
Collector-emitter saturation voltage	V _{CE(sat)}	I _c = 100mA, I _B = 20mA			0.5	V
Base-emitter saturation voltage	V _{BE(sat)}	I _c = 100mA, I _B = 20mA			1.2	V
Transition frequency	f _T	V _{CE} = 20V, I _c = 20mA f = 1MHz	5			MHz
Storage time	t _s	I _c = 100mA			3.5	μs

PACKAGE MECHANICAL DATA



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°

Suggested Pad Layout



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

REEL SPECIFICATION

P/N	PKG	QTY
MS13001	SOT-23	3000

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