

# MSKSEMI

SEMICONDUCTOR



ESD



TVS



TSS



MOV

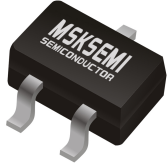


GDT

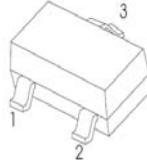


PLED

Product data sheet



SOT - 23



- 1. BASE
- 2. EMITTER
- 3. COLLECTOR

TRANSISTOR ( PNP)

**FEATURES**

- High voltage and high current
- Excellent  $h_{FE}$  Linearity
- Complementary to C1815-MS

**MARKING: BA**

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

Symbol	Parameter	Value	Unit
$V_{CBO}$	Collector-Base Voltage	-50	V
$V_{CEO}$	Collector-Emitter Voltage	-50	V
$V_{EBO}$	Emitter-Base Voltage	-5	V
$I_C$	Collector Current -Continuous	-150	mA
$P_C$	Collector Power Dissipation	200	mW
$R_{\theta JA}$	Thermal Resistance From Junction To Ambient	625	°C/W
$T_J, T_{stg}$	Junction Temperature	-55~+150	°C

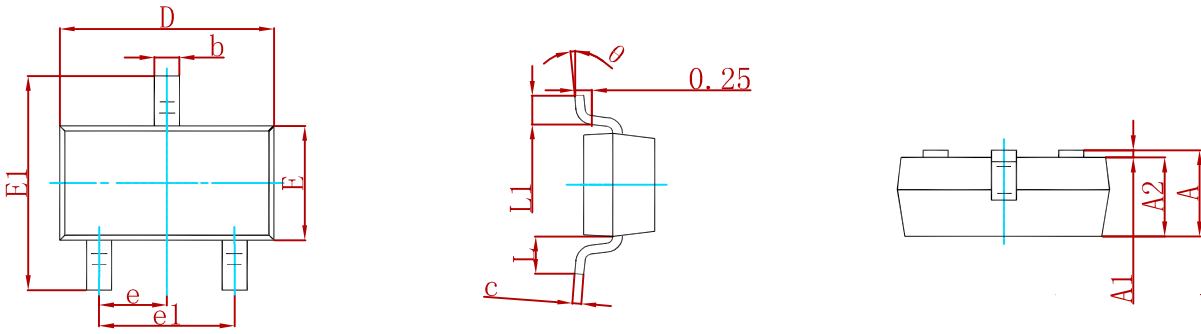
**ELECTRICAL CHARACTERISTICS (Ta=25°C unless otherwise specified)**

Parameter	Symbol	Test conditions	Min	Typ	Max	Unit
Collector-base breakdown voltage	$V_{(BR)CBO}$	$I_C = -100\mu A, I_E = 0$	-50			V
Collector-emitter breakdown voltage	$V_{(BR)CEO}$	$I_C = -0.1mA, I_B = 0$	-50			V
Emitter-base breakdown voltage	$V_{(BR)EBO}$	$I_E = -100\mu A, I_C = 0$	-5			V
Collector cut-off current	$I_{CBO}$	$V_{CB} = -50V, I_E = 0$			-0.1	$\mu A$
Collector cut-off current	$I_{CEO}$	$V_{CE} = -50V, I_B = 0$			-1	$\mu A$
Emitter cut-off current	$I_{EBO}$	$V_{EB} = -5V, I_C = 0$			-0.1	$\mu A$
DC current gain	$h_{FE}$	$V_{CE} = -6V, I_C = -2mA$	120		400	
Collector-emitter saturation voltage	$V_{CE(sat)}$	$I_C = -100mA, I_B = -10mA$			-0.3	V
Base-emitter saturation voltage	$V_{BE(sat)}$	$I_C = -100mA, I_B = -10mA$			-1.1	V
Transition frequency	$f_T$	$V_{CE} = -10V, I_C = -1mA$ $f = 30MHz$	80			MHz

**CLASSIFICATION OF  $h_{FE}$**

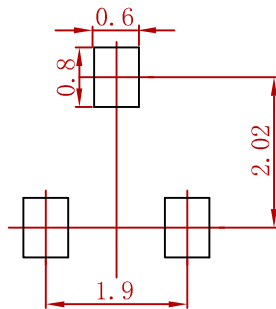
Rank	L	H
Range	120-240	200- 400

**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
2SA1015-MS	SOT-23	3000

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