

isc Silicon PNP Power Transistors

MMBT3906

DESCRIPTION

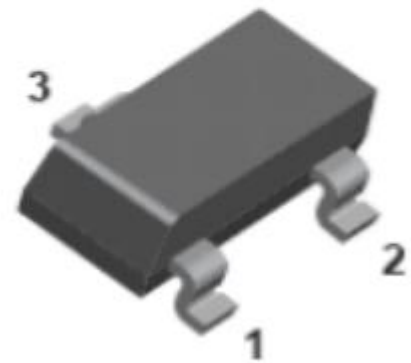
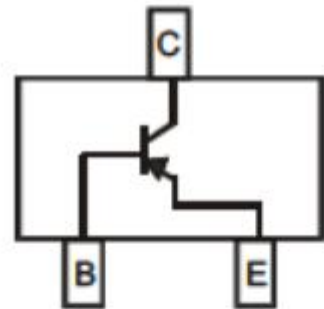
- Collector-Emitter Saturation Voltage-: $V_{CE(sat)} = -0.25V(\text{Max.})@I_C = -10mA$
- Collector-Emitter Breakdown Voltage- : $V_{(BR)CE0} = -40V(\text{Min})$
- Minimum Lot-to-Lot variations for robust device performance and reliable operation

APPLICATIONS

- Relay drivers, lamp drivers, motor drivers

ABSOLUTE MAXIMUM RATINGS($T_a=25^\circ\text{C}$)

SYMBOL	PARAMETER	VALUE	UNIT
V_{CBO}	Collector-Base Voltage	-40	V
V_{CEO}	Collector-Emitter Voltage	-40	V
V_{EBO}	Emitter-Base Voltage	-5.0	V
I_C	Collector Current-Continuous	-0.2	A
I_{CM}	Collector Current-Pulse	-13	A
I_B	Base Current	-2	A
P_C	Collector Power Dissipation $T_C=25^\circ\text{C}$	0.3	W
T_j	Max.Junction Temperature	150	$^\circ\text{C}$
T_{stg}	Storage Ttemperature Range	-55~150	$^\circ\text{C}$



SOT-23

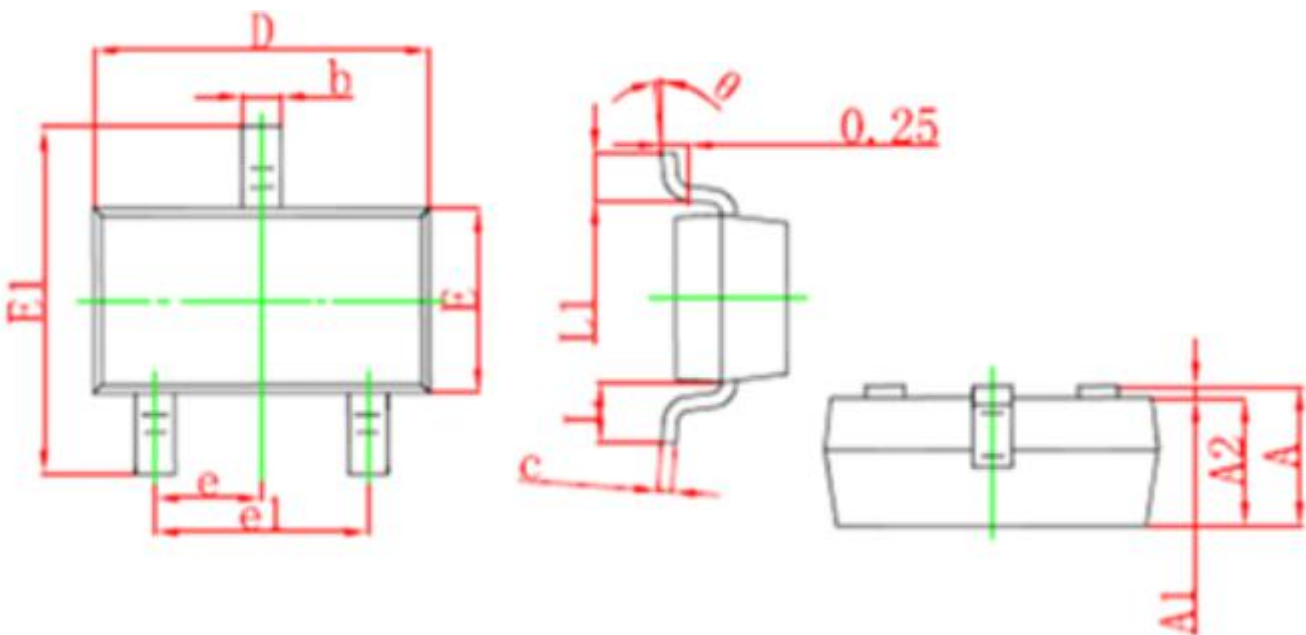
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ELECTRICAL CHARACTERISTICS

 $T_C=25^{\circ}\text{C}$ unless otherwise specified

SYMBOL	PARAMETER	CONDITIONS	MIN	MAX	UNIT
$V_{(BR)CEO}$	Collector-Emitter Breakdown Voltage	$I_C = -1\text{mA}; I_B = 0$	-40		V
$V_{(BR)CBO}$	Collector-Base Breakdown Voltage	$I_C = -10\mu\text{A}; I_E = 0$	-40		V
$V_{(BR)EBO}$	Emitter-Base Breakdown Voltage	$I_E = -10\mu\text{A}; I_C = 0$	-5.0		V
$V_{CE(sat)}$	Collector-Emitter Saturation Voltage	$I_C = -10\text{mA}; I_B = -1.0\text{mA}$		-0.25	V
		$I_C = -50\text{mA}; I_B = -5.0\text{mA}$		0.4	
$V_{BE(sat)}$	Base-Emitter Saturation Voltage	$I_C = -10\text{mA}; I_B = -1.0\text{mA}$		-0.85	V
		$I_C = -50\text{mA}; I_B = -5.0\text{mA}$		0.95	
I_{CBO}	Collector Cutoff Current	$V_{CE} = -40\text{V}; V_{EB} = 0$		-0.1	μA
I_{EBO}	Emitter Cutoff Current	$V_{EB} = -5\text{V}; I_C = 0$		-0.1	μA
h_{FE}	DC Current Gain	$I_C = -10\text{mA}; V_{CE} = -1.0\text{V}$	100	300	
		$I_C = -50\text{mA}; V_{CE} = -1.0\text{V}$	60		
		$I_C = -100\text{mA}; V_{CE} = -1.0\text{V}$	30		



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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	0.100	0.200	0.004	0.008
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	0.950TYP		0.037TYP	
e1	1.800	2.000	0.071	0.079
L	0.550REF		0.022REF	
L1	0.300	0.500	0.012	0.020
θ	0°	8°	0°	8°

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