

**■ Features**

- 625mW power dissipation.
- $I_c$  CONT 2.5A.
- $I_c$  up to 10A peak pulse current.
- Excellent hfe characteristics up to 10A (pulsed).
- Extremely low saturation voltage e.g. 10mV typ..
- Exhibits extremely low equivalent on-resistance;  $R_{CE(sat)}$  .


**■ Absolute Maximum Ratings  $T_a = 25^\circ\text{C}$** 

Parameter	Symbol	Rating	Unit
Collector-base voltage	$V_{CB0}$	-40	V
Collector-emitter voltage	$V_{CEO}$	-40	V
Emitter-base voltage	$V_{EB0}$	-5	V
Peak collector current	$I_{CM}$	-4	A
Collector current	$I_c$	-1.5	A
Base current	$I_B$	-500	mA
Power dissipation	$P_{tot}$	625	mW
Operating and storage temperature range	$T_j, T_{stg}$	-55 to +150	$^\circ\text{C}$

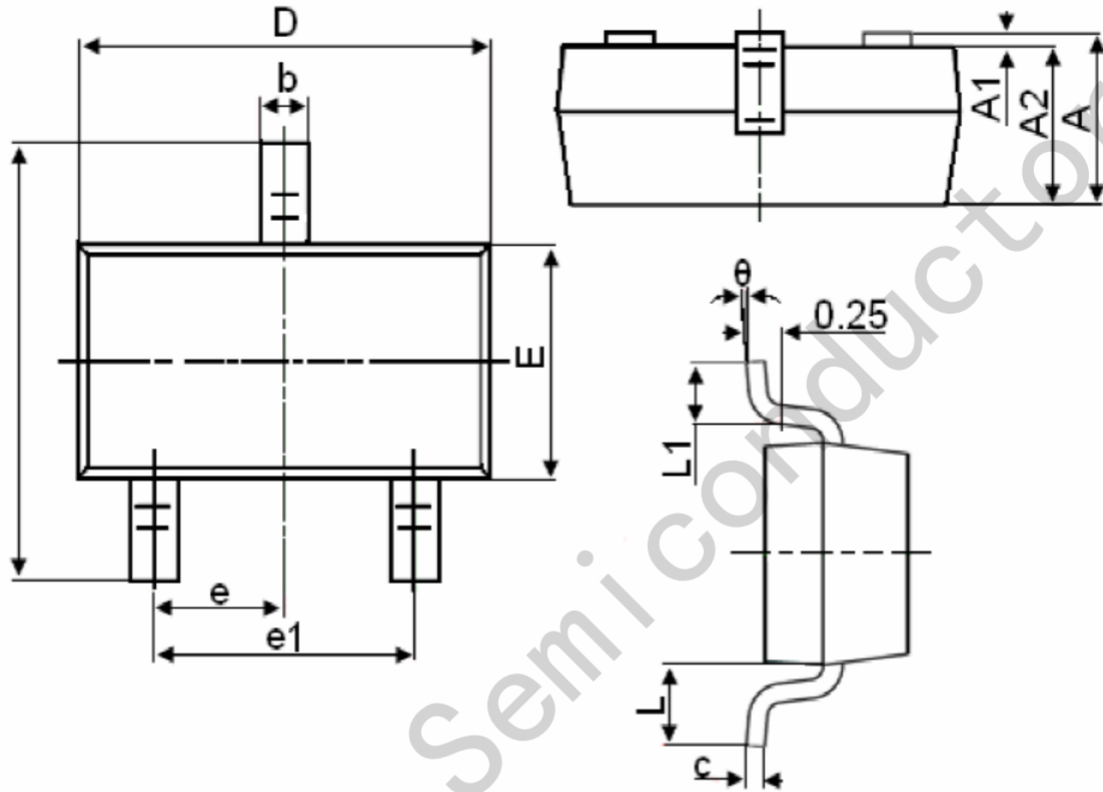
**■ Electrical Characteristics Ta = 25°C**

Parameter	Symbol	Testconditons	Min	Typ	Max	Unit
Collector-base breakdown voltage	$V_{(BR)CBO}$	$I_C = -100\mu A$	-40	-95		V
Collector-emitter breakdown voltage *	$V_{(BR)CEO}$	$I_C = -10mA$	-40	-85		V
Emitter-base breakdown voltage	$V_{(BR)EBO}$	$I_E = -100\mu A$	-5	-8.8		V
Collector cutoff current	$I_{CBO}$	$V_{CB} = -35V$			-100	nA
Emitter cut-off current	$I_{EBO}$	$V_{EB} = -4V$			-100	nA
Collector-emitter saturation voltage *	$V_{CE(sat)}$	$I_C = -0.1A, I_B = -10mA$ $I_C = -1A, I_B = -50mA$ $I_C = -1.5A, I_B = -100mA$		-25 -150 -245	-40 -220 -330	mV
Base-emitter saturation voltage *	$V_{BE(sat)}$	$I_C = -1.5A, I_B = -75mA$		0.89	-1	V
Base-emitter voltage *	$V_{BE(ON)}$	$I_C = -1.5A, V_{CE} = -2V$		-0.80	-1	V
DC current gain *	$h_{FE}$	$I_C = -10mA, V_{CE} = -2V$ $I_C = -0.1A, V_{CE} = -2V$ $I_C = -1A, V_{CE} = -2V$ $I_C = -1.5A, V_{CE} = -2V$ $I_C = -3A, V_{CE} = -2V$	300 300 180 60 12	480 450 290 130 22		
Current-gain-bandwidth product	$f_T$	$I_C = -50mA, V_{CE} = -10V, f = 100MHz$	150	190		MHz
Output capacitance	$C_{obo}$	$V_{CB} = -10V, f = 1MHz$		19	25	pF
Turn-on time	$t_{(on)}$	$V_{CC} = -10V, I_C = -1A$		40		ns
Turn-off time	$t_{(off)}$	$I_{B1} = -I_{B2} = -20mA$		435		ns

\* Pulse test:  $t_p \leq 300 \mu s$ ;  $d \leq 0.02$ .

## Package Information

SOT-23



Symbol	Dimensions in Millimeters (mm)		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	0.950TYP		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
theta	0°	8°	0°	8°

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