

## ● FEATURES

Power dissipation

$$P_{CM} : 0.2 \text{ W (Tamb=25}^\circ\text{C)}$$

Collector current

$$I_{CM} : 0.15 \text{ A}$$

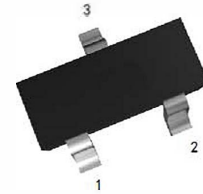
Collector-base voltage

$$V_{(BR)CBO} : 60 \text{ V}$$

Operating and storage junction temperature range

$$T_J, T_{stg} : -55^\circ\text{C to } +150$$

SOT-23



1: Base  
2: Emitter  
3: Collector

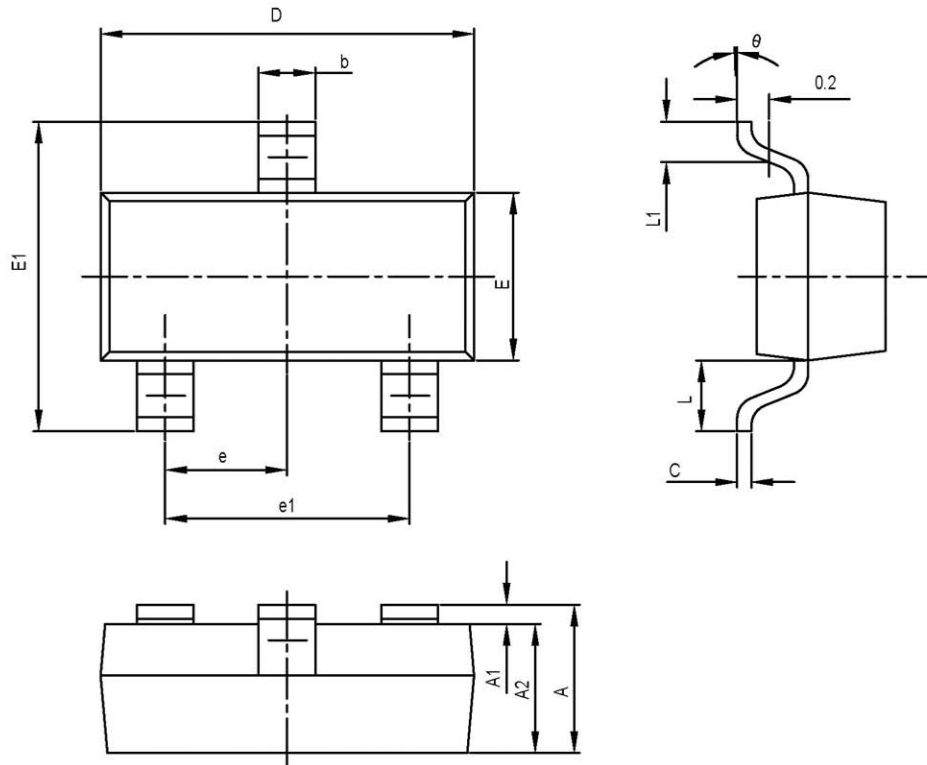
## ● ELECTRICAL CHARACTERISTICS (Tamb=25°C unless otherwise specified)

Parameter	Symbol	Test conditions	MIN	TYP	MAX	UNIT
Collector-base breakdown voltage	$V_{(BR)CBO}$	$I_C = 0.1\text{mA}, I_E = 0$	60			V
Collector-emitter breakdown voltage	$V_{(BR)CEO}$	$I_C = 1\text{mA}, I_B = 0$	50			V
Emitter-base breakdown voltage	$V_{(BR)EBO}$	$I_E = 100\ \mu\text{A}, I_C = 0$	5			V
Collector cut-off current	$I_{CBO}$	$V_{CB} = 60\text{V}, I_E = 0$			0.1	$\mu\text{A}$
Collector cut-off current	$I_{CER}$	$V_{CE} = 55\text{V}, R = 10\text{M}\Omega$			0.1	$\mu\text{A}$
Emitter cut-off current	$I_{EBO}$	$V_{EB} = 5\text{V}, I_C = 0$			0.1	$\mu\text{A}$
DC current gain	$h_{FE(1)}$	$V_{CE} = 6\text{V}, I_C = 1\text{mA}$	130		400	
	$h_{FE(2)}$	$V_{CE} = 6\text{V}, I_C = 0.1\text{mA}$	40			
Collector-emitter saturation voltage	$V_{CE(sat)}$	$I_C = 100\text{mA}, I_B = 10\text{mA}$			0.3	V
Base-emitter saturation voltage	$V_{BE(sat)}$	$I_C = 100\text{mA}, I_B = 10\text{mA}$			1	V
Base-emitter voltage	$V_{BEF}$	$I_E = 310\text{mA}$			1.4	V
Transition frequency	$f_T$	$V_{CE} = 6\text{V}, I_C = 10\text{mA}$ $f = 30\text{MHz}$	150			MHz

## ● CLASSIFICATION OF $h_{FE(1)}$

Rank	L	H
Range	130-200	200-400
MARKING	CR	

## SOT-23 PACKAGE OUTLINE DIMENSIONS



Symbol	Dimensions In Millimeters		Dimensions In Inches	
	Min	Max	Min	Max
A	0.900	1.100	0.035	0.043
A1	0.000	0.100	0.000	0.004
A2	0.900	1.000	0.035	0.039
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	0.950TPY		0.037TPY	
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°