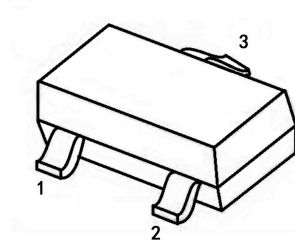


## TRANSISTOR (NPN)

### FEATURES

- Ideally suited for automatic insertion
- For switching and AF amplifier applications

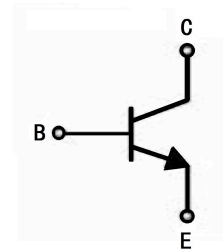
### SOT-23



1: B  
2: E  
3: C

### MARKING : 1A

### CIRCUIT DIAGRAM



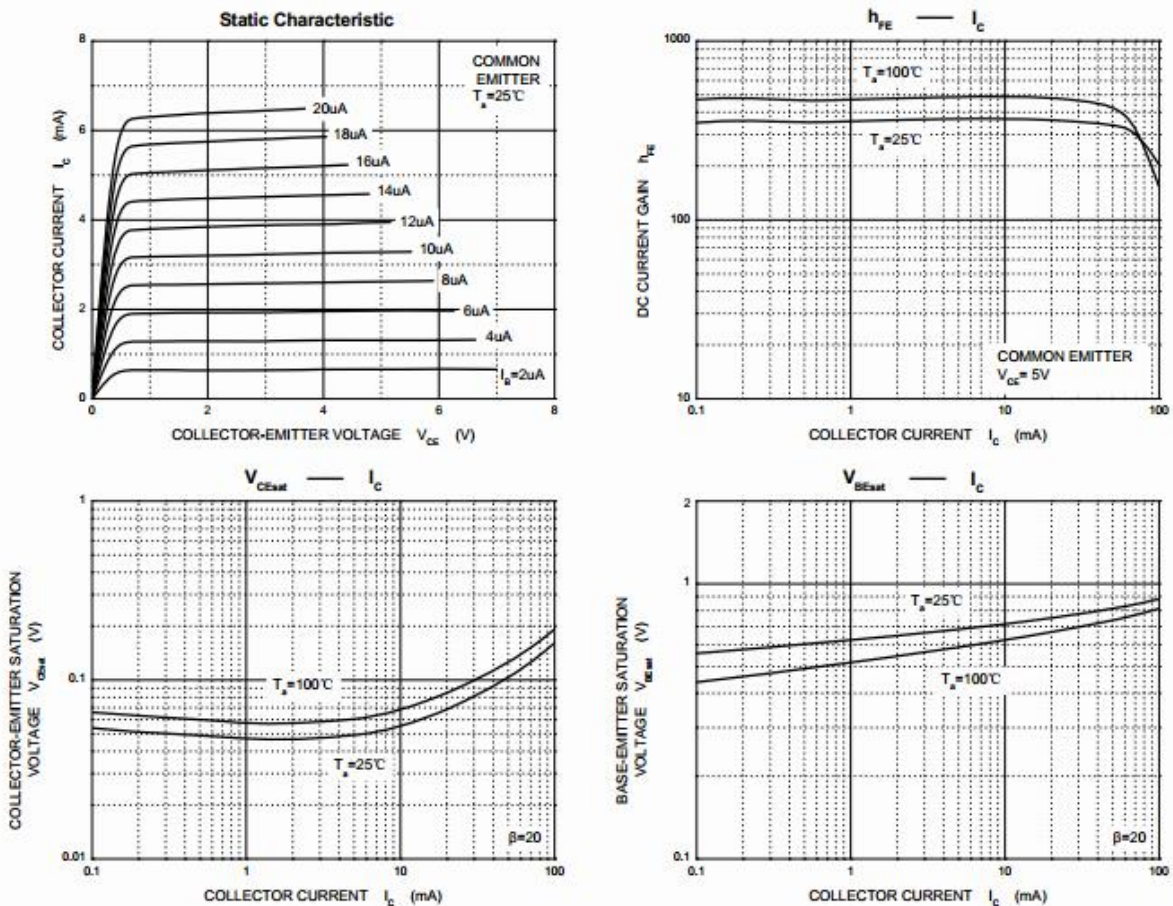
### MAXIMUM RATINGS (Ta=25°C unless otherwise noted)

Parameter	Symbol	Value	Unit
Collector-Base Voltage	$V_{CBO}$	50	V
Collector-Emitter Voltage	$V_{CEO}$	45	V
Emitter-Base Voltage	$V_{EBO}$	5	V
Collector Current	$I_{CM}$	0.1	A
Power Dissipation	$P_C$	0.2	W
Junction Temperature	$T_J$	150	°C
Storage Temperature	$T_{stg}$	-55~150	°C

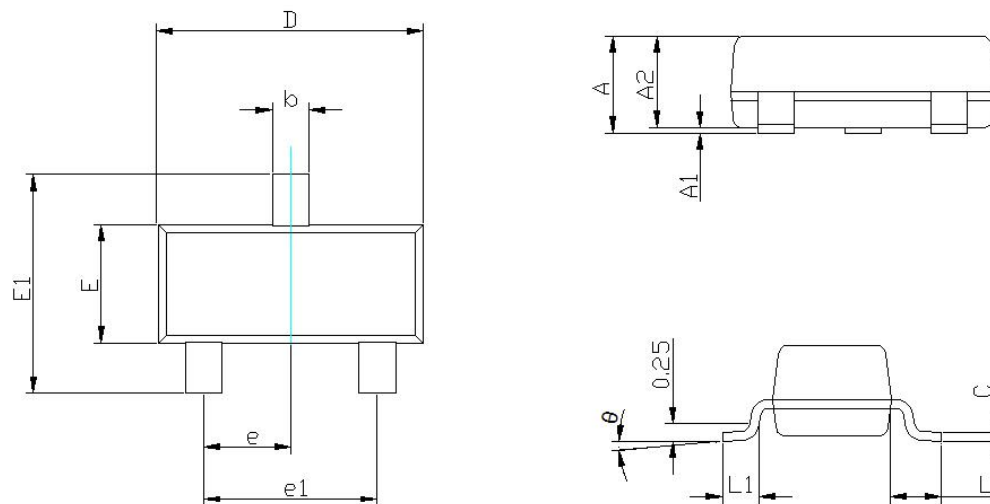
ELECTRICAL CHARACTERISTICS (Ta=25°C unless otherwise specified)

Parameter	Symbol	Test conditions	Min	Max	Unit
Emitter-base breakdown voltage	$BV_{EBO}$	$I_E=100\mu A, I_C=0$	5		V
Collector-base breakdown voltage	$BV_{CBO}$	$I_C=100\mu A, I_E=0$	50		V
Collector-emitter breakdown voltage	$BV_{CEO}$	$I_C=1mA, I_B=0$	45		V
Emitter cut-off current	$I_{EBO}$	$V_{EB}=5V, I_C=0$		0.1	$\mu A$
Collector cut-off current	$I_{CBO}$	$V_{CB}=40V, I_E=0$		0.1	$\mu A$
Collector cut-off current	$I_{CEO}$	$V_{CE}=40V, I_B=0$		0.1	$\mu A$
Collector-emitter saturation voltage	$V_{CESAT}$	$I_C=100mA, I_B=5mA$		0.3	V
Base-emitter saturation voltage	$V_{BESAT}$	$I_C=100mA, I_B=5mA$		1.1	V
DC current gain	$h_{fe}$	$V_{CE}=5V, I_C=1mA$	100	300	
Transition frequency	$f_T$	$V_{CE}=5V, I_C=10mA$ $F=30MHZ$	150		MHZ

TYPICAL CHARACTERISTICS



## SOT-23 PACKAGE OUTLINE DRAWING



SYMBOL	MILLIMETERS		INCHES	
	MIN	MAX	MIN	MAX
A	0.900	1.15	0.035	0.045
A1	0.000	0.125	0.000	0.005
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 (0.4-0.6)		0.022REF (0.016-0.024)	
L1	0.300	0.500	0.012	0.020
$\theta$	0°	8°	0°	8°