

# A1300

10V 2A PNP High-Frequency Low  $V_{ce(sat)}$  Transistor

## 1. Description

- SOT-23-3L High-frequency low  $V_{CE(sat)}$  PNP Transistors

## 2. Features

- High DC Current Gain and Excellent Frequency Performance;
- Low Saturation Voltage

## 3. Application

- Strobe flash, medium power amplifier applications.

## 4. MAXIMUM RATINGS ( $T_a=25^\circ\text{C}$ unless otherwise noted)

Parameter	Symbol	Value	Unit
Collector-Base Voltage	$V_{CB0}$	-20	V
Collector-Emitter Voltage	$V_{CE0}$	-10	V
Emitter-Base Voltage	$V_{EB0}$	-6	V
Collector Current	$I_C$	-2	A
Collector Power Dissipation	$P_C$	750	mW
Junction Temperature	$T_j$	150	$^\circ\text{C}$
Storage Temperature	$T_{stg}$	-55~+150	$^\circ\text{C}$

## 5. Pinning information

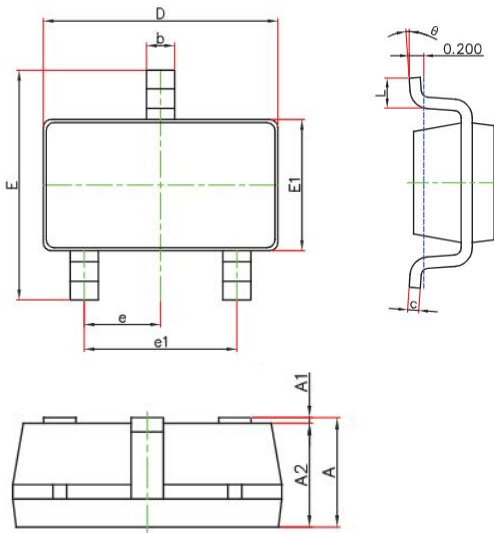
Pin	Symbol	Description	Simplified outline	Equivalent Circuit	Marking	Package
1	B	BASE			J11.	SOT-23-3
2	E	EMITTER				
3	C	COLLECTOR				

### 6. Electrical Characteristics (Ta=25 unless otherwise specified)

Symbol	Parameter	Condition	Min	Typ	Max	Unit
$V_{(BR)CBO}$	Collector-base breakdown voltage	$I_C=-1mA, I_E=0$	-20	—	—	V
$V_{(BR)CEO}$	Collector-emitter breakdown voltage	$I_C=-10mA, I_B=0$	-10	—	—	V
$V_{(BR)EBO}$	Emitter-base breakdown voltage	$I_E=-1mA, I_C=0$	-6	—	—	V
$I_{CBO}$	Collector cut-off current	$V_{CB}=-20V, I_E=0$	—	—	-0.1	$\mu A$
$I_{CEO}$	Collector cut-off current	$V_{CE}=-10V, I_B=0$	—	—	-0.1	$\mu A$
$I_{EBO}$	Emitter cut-off current	$V_{EB}=-6V, I_C=0$	—	—	-0.1	$\mu A$
$h_{FE(1)}$	DC current gain	$V_{CE}=-1V, I_C=-500mA$	140	—	600	—
$h_{FE(2)}$		$V_{CE}=-1V, I_C=-4A$	60	120	—	—
$V_{CE(sat)}$	Collector-emitter saturation voltage	$I_C=-2A, I_B=-50mA$	—	-0.2	-0.5	V
$V_{BE}$	Base-emitter voltage	$I_C=-2A, V_{CE}=-1V$	—	-0.83	-1.5	V
$f_T$	Transition frequency	$V_{CE}=-1V, I_C=-0.5A$	140	—	—	MHz
$C_{ob}$	Capacitance	$V_{CB}=-10V, I_E=0, f=1MHz$	—	50	—	pF

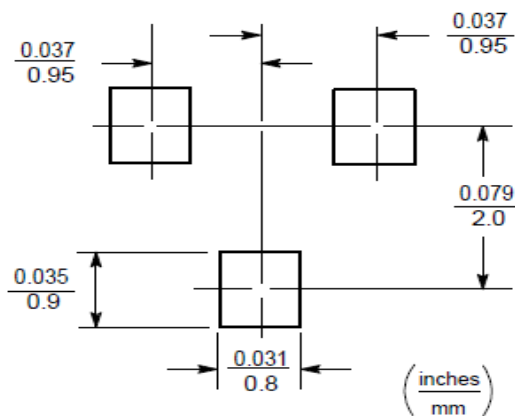
### 7. Outline Drawing

SOT-23-3 Package Outline Dimensions



Symbol	Dimensions In Millimeters		Dimensions In Inches	
	Min.	Max.	Min.	Max.
A	1.050	1.250	0.041	0.049
A1	0.000	0.100	0.000	0.004
A2	1.050	1.150	0.041	0.045
b	0.300	0.500	0.012	0.020
c	0.100	0.200	0.004	0.008
D	2.820	3.020	0.111	0.119
E1	1.500	1.700	0.059	0.067
E	2.650	2.950	0.104	0.116
e	0.950(BSC)		0.037(BSC)	
e1	1.800	2.000	0.071	0.079
L	0.300	0.600	0.012	0.024
θ	0°	8°	0°	8°

### 8. Suggested Pad Layout



- Note:
1. Controlling dimension: in/millimeters.
  2. General tolerance: ±0.05mm.
  3. The pad layout is for reference purposes only.

### 9.Important Notice and Disclaimer

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