



# BAT30S

## SMALL SIGNAL SCHOTTKY DIODES

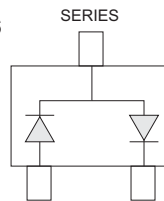
**VOLTAGE** 30 Volts **CURRENT** 300 mA

### FEATURES

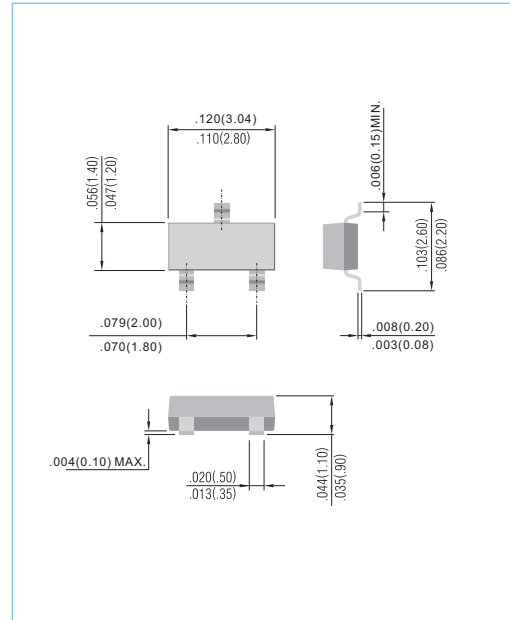
- Very low conduction losses
- Negligible switching losses
- Low forward and reverse recovery times
- Extremely Fast Switching
- Surface mount device
- Low capacitance diode
- In compliance with EU RoHS 2002/95/EC directives

### MECHANICAL DATA

- Case: SOT-23, Plastic
- Terminals: Solderable per MIL-STD-750, Method 2026
- Weight: 0.0003 ounce, 0.0084 gram
- Marking : L33



SOT-23 Unit: inch ( mm )



### ABSOLUTE RATINGS@ T<sub>J</sub>=25°C, UNLESS OTHERWISE SPECIFIED

PARAMETER	SYMBOL	VALUE	UNIT
Repetitive peak reverse voltage	V <sub>RRM</sub>	30	V
Continuous forward current	I <sub>O</sub>	300	m A
Surge non repetitive forward current	I <sub>FSM</sub>	1	A
Storage temperature range	T <sub>STG</sub>	-65 to + 150	°C
Operating junction temperature (Note 1)	T <sub>J</sub>	150	°C
Soldering temperature	T <sub>L</sub>	260	°C

1. Pulse test : tp=5ms, δ < 2%

### THERMAL CHARACTERISTICS

PARAMETER	SYMBOL	VALUE	UNIT
Junction to ambient (Note 2)	R <sub>θJA</sub>	500	°C/W

2. On epoxy printed circuit board with recommended pad layout



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## ELECTRICAL CHARACTERISTICS

PARAMETER	SYMBOL	TEST CONDITIONS		MIN.	TYP.	MAX.	UNIT
Reverse leakage current (Note 3)	$I_R$	$T_J=25^{\circ}\text{C}$	$V_R=5\text{V}$	-	-	0.5	$\mu\text{A}$
			$V_R=10\text{V}$	-	-	1	
			$V_R=25\text{V}$	-	0.65	3	
$V_R=30\text{V}$	-		-	5			
		$T_J=70^{\circ}\text{C}$	$V_R=10\text{V}$	-	7	20	
		$T_J=85^{\circ}\text{C}$		-	18	50	
Forward voltage drop (Note 4)	$V_F$	$T_J=25^{\circ}\text{C}$	$I_F=0.1\text{mA}$	-	-	240	$\text{mV}$
			$I_F=1\text{mA}$	-	-	300	
			$I_F=10\text{mA}$	-	-	375	
			$I_F=30\text{mA}$	-	-	430	
			$I_F=100\text{mA}$	-	-	500	
			$I_F=200\text{mA}$	-	-	580	
			$I_F=300\text{mA}$	-	530	-	

3. Pulse test :  $t_p=5\text{ms}$ ,  $\delta < 2\%$

4. Pulse test :  $t_p=380\mu\text{s}$ ,  $\delta < 2\%$

## DYNAMIC CHARACTERISTICS

PARAMETER	SYMBOL	TEST CONDITIONS	MIN.	TYP.	MAX.	UNIT
Total Capacitance	$C_T$	$V_R=0\text{V}, F=1\text{MHz}$ $V_R=1\text{V}, F=1\text{MHz}$ $V_R=10\text{V}, F=1\text{MHz}$	-	-	65 40 17	$\text{pF}$



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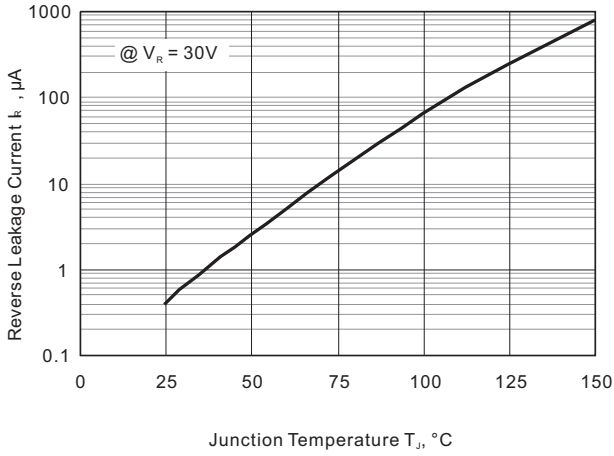


FIG. 1-Reverse Leakage Current vs. Junction Temperature

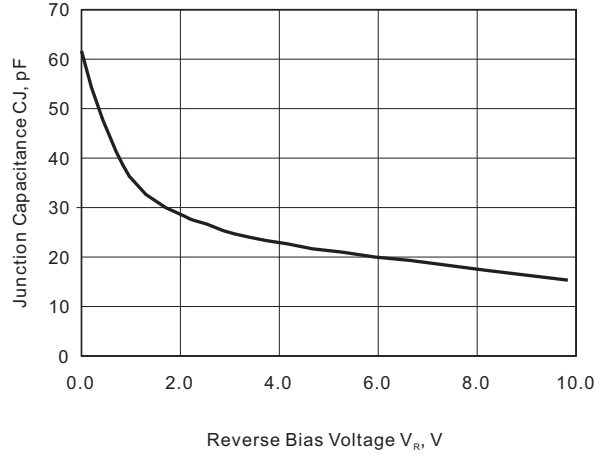


FIG. 2-Typical Junction Capacitance under Bias

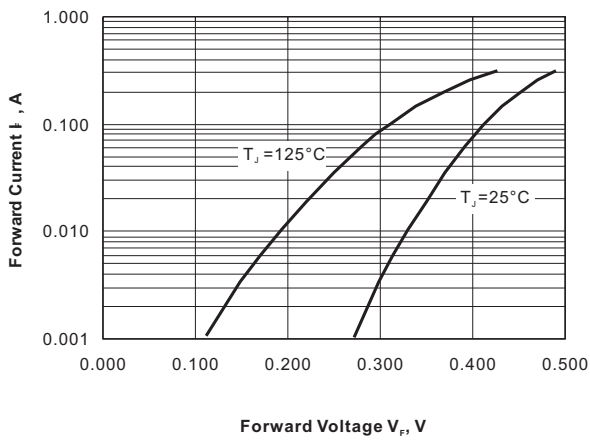
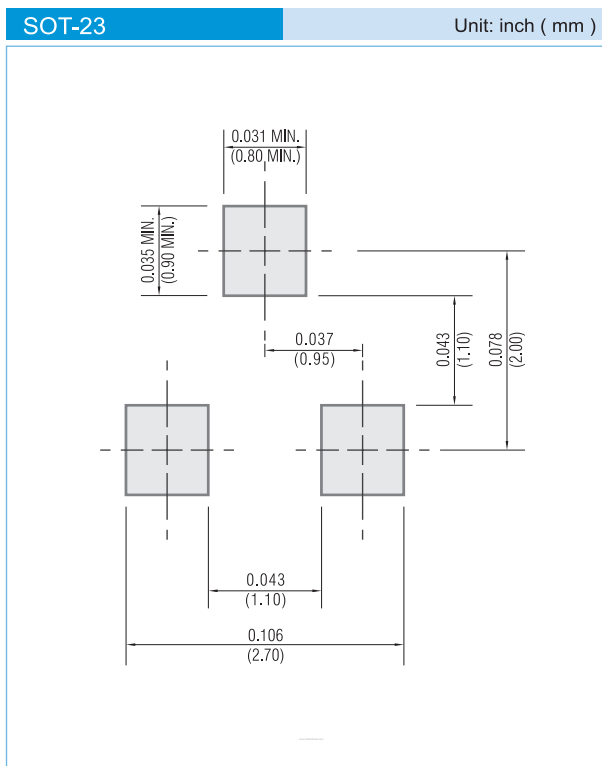


FIG. 3 Typical Forward Voltage characteristic



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## MOUNTING PAD LAYOUT



### ORDER INFORMATION

- Packing information
  - T/R - 12K per 13" plastic Reel
  - T/R - 3K per 7" plastic Reel

### LEGAL STATEMENT

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