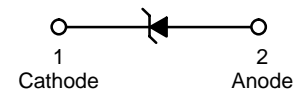
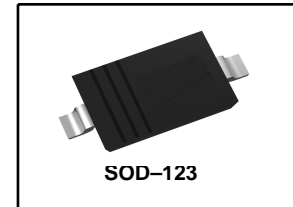


## Surface Mount Schottky Power Rectifier

### Features

- Very small conduction losses
- Negligible switching losses
- Low forward voltage drop
- Surface mount device



### Description

Diodes in the BAT275W is high voltage, small signal Schottky diodes suited for protection and routing operations.

### ORDERING INFORMATION

Device	Package	Shipping
BAT275W	SOD-123	3000/Tape & Reel

### Mechanical Characteristics

- Device Marking: Z46
- Weight: 11.7 mg (approximately)
- Finish: All External Surfaces Corrosion Resistant and Terminal Leads are Readily Solderable
- Lead and Mounting Surface Temperature for Soldering Purposes: 260°C Max. for 10 Seconds

### MAXIMUM RATINGS

Symbol	Parameter	Value	Unit	
$V_{RRM}$	Repetitive peak reverse voltage	100	V	
$I_F$	Continuous forward current	150	mA	
$I_{FSM}$	Surge non repetitive forward current	$t_p = 10$ ms Sinusoidal	1	A
$T_{stg}$	Storage temperature range	-55 to +150	°C	
$T_j$	Maximum operating junction temperature <sup>(1)</sup>	150	°C	
$T_L$	Maximum soldering temperature <sup>(1)</sup>	260	°C	

1. Pulse test:  $t_p = 380 \mu s$ ,  $\delta < 2\%$

## THERMAL CHARACTERISTICS

Symbol	Parameter	Value	Unit
$R_{th(j-a)}$	Junction to ambient <sup>(1)</sup>	500	°C/W

1. On epoxy printed circuit board with recommended pad layout

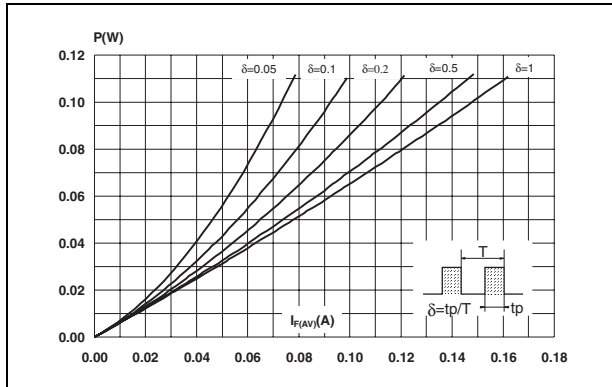
## ELECTRICAL CHARACTERISTICS

Symbol	Parameter	Test conditions	Min.	Typ	Max.	Unit
$I_R^{(1)}$	Reverse leakage current	$T_j = 25^\circ\text{C}$	$V_R = 1.5\text{ V}$		0.5	$\mu\text{A}$
			$V_R = 10\text{ V}$		0.8	
			$V_R = 50\text{ V}$		2	
			$V_R = 75\text{ V}$		5	
		$T_j = 60^\circ\text{C}$	$V_R = 1.5\text{ V}$		5	
			$V_R = 10\text{ V}$		7.5	
			$V_R = 50\text{ V}$		15	
			$V_R = 75\text{ V}$		20	
$V_F^{(2)}$	Forward voltage drop	$T_j = 25^\circ\text{C}$	$I_F = 0.1\text{ mA}$		0.25	V
			$I_F = 10\text{ mA}$		0.45	
			$I_F = 250\text{ mA}$		1	

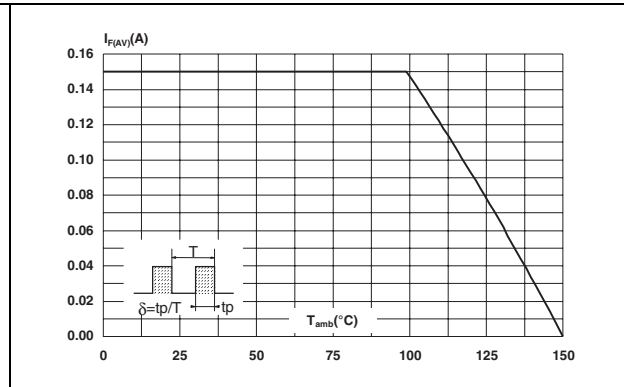
1. Pulse test:  $t_p = 5\text{ ms}$ ,  $\delta < 2\%$
2. Pulse test:  $t_p = 380\text{ }\mu\text{s}$ ,  $\delta < 2\%$

Symbol	Parameter	Test conditions	Min.	Typ	Max.	Unit
C	Diode capacitance	$V_R = 0\text{ V}$ , $F = 1\text{ MHz}$		10		$\text{pF}$
		$V_R = 1\text{ V}$ , $F = 1\text{ MHz}$		6		

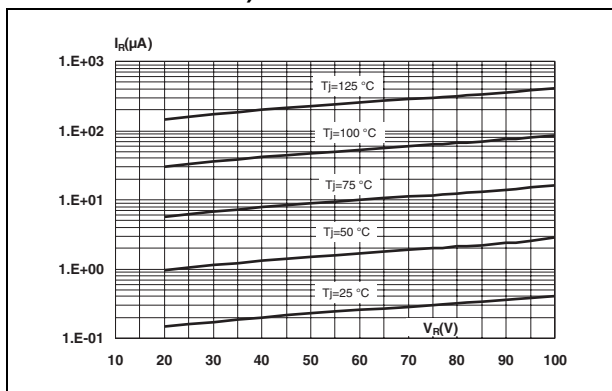
**Figure 1. Average forward power dissipation versus average forward current**



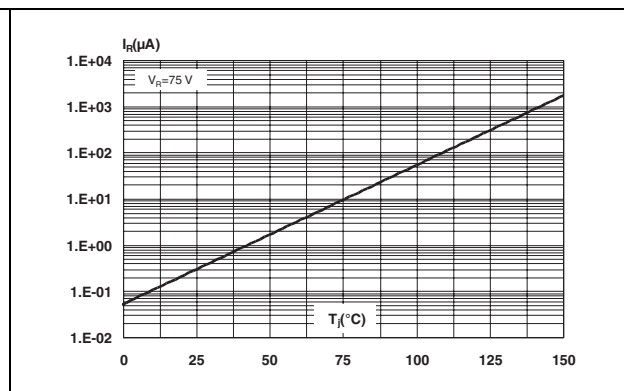
**Figure 2. Average forward current versus ambient temperature ( $\delta = 1$ )**



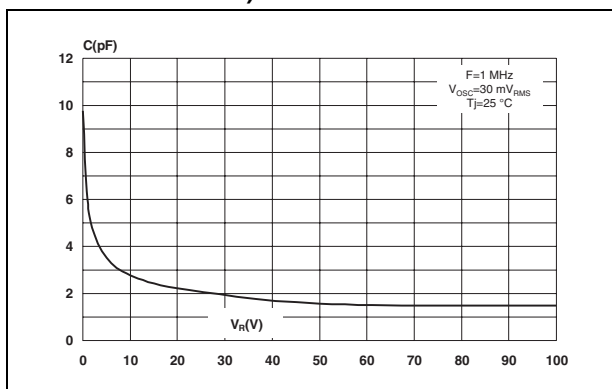
**Figure 3. Reverse leakage current versus reverse applied voltage (typical values)**



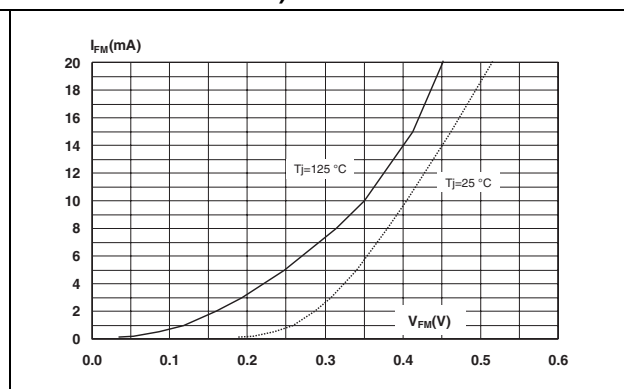
**Figure 4. Reverse leakage current versus junction temperature**



**Figure 5. Junction capacitance versus reverse applied voltage (typical values)**

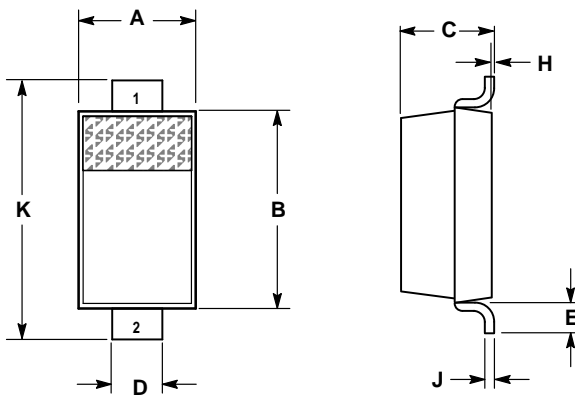


**Figure 6. Forward voltage drop versus forward current (typical values, low-level)**



## PACKAGE DIMENSIONS

### SOD-123

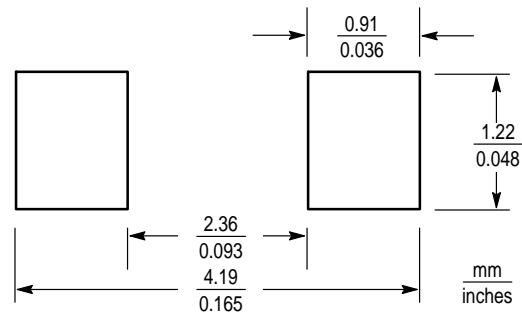


- NOTES:  
 1. DIMENSIONING AND TOLERANCING PER ANSI Y14.5M, 1982.  
 2. CONTROLLING DIMENSION: INCH.

DIM	INCHES		MILLIMETERS	
	MIN	MAX	MIN	MAX
A	0.055	0.071	1.40	1.80
B	0.100	0.112	2.55	2.85
C	0.037	0.053	0.95	1.35
D	0.020	0.028	0.50	0.70
E	0.004	—	0.25	—
H	0.000	0.004	0.00	0.10
J	—	0.006	—	0.15
K	0.140	0.152	3.55	3.85

STYLE 1:  
 PIN 1. CATHODE  
 2. ANODE

## RECOMMENDED FOOTPRINT FOR SOD-123



SOD-123