

### Features

- Low forward voltage
- Fast switching time
- Surface mount package ideally suited for automatic insertion

HF

### Typical Applications

- Schottky barrier detector and switching diodes

### Mechanical Data

- Case: SOD-123,SOD-323,SOD-523,DFN1006-2
- Terminals: solderable per MIL-STD-202, Method 208



BAT43W  
SOD-123

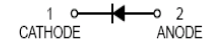
BAT43WS  
SOD-323



BAT43X  
SOD-523



BAT43L  
DFN1006-2



### Ordering Information

Part Number	Package	Shipping	Marking Code
BAT43W	SOD-123	3000pcs / Tape & Reel	S8
BAT43WS	SOD-323	3000pcs / Tape & Reel	S8
BAT43X	SOD-523	3000pcs / Tape & Reel	S8
BAT43L	DFN1006-2	10000pcs / Tape & Reel	S8

### Maximum Ratings (@T<sub>A</sub>=25°C unless otherwise specified)

Parameter	Symbol	Limits	Unit
Peak Repetitive Reverse Voltage	V <sub>RRM</sub>	30	V
Working Peak Reverse Voltage	V <sub>RWM</sub>		
DC Reverse Voltage	V <sub>R</sub>		
RMS Reverse Voltage	V <sub>R(RMS)</sub>	21	V
Average Rectified Output Current	I <sub>O</sub>	100	mA
Repetitive Peak Forward Current @t<1.0s	I <sub>FRM</sub>	500	mA
Peak Forward Surge Current @<10ms	I <sub>FSM</sub>	4	A

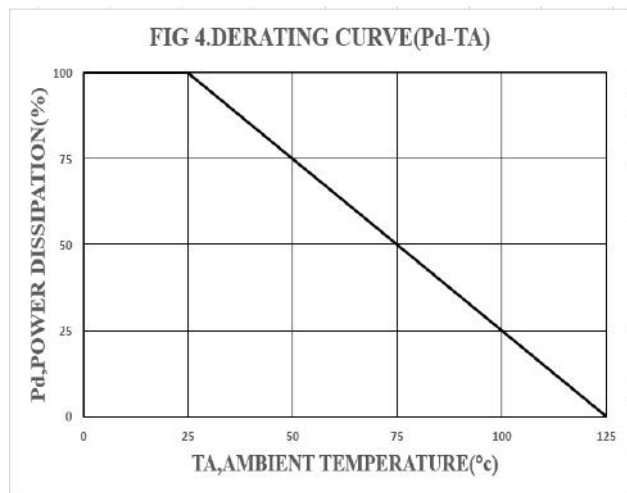
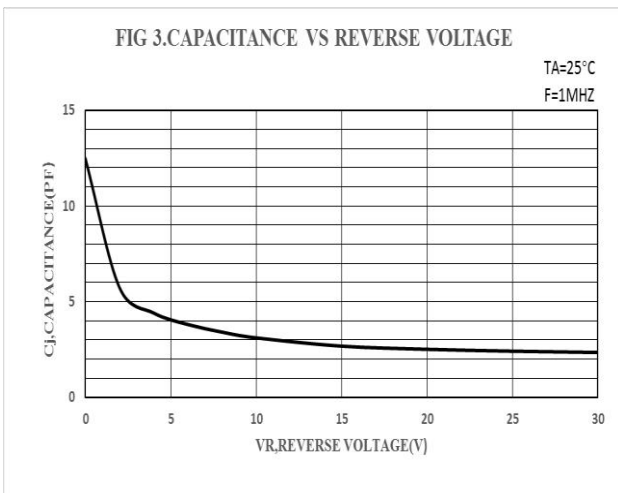
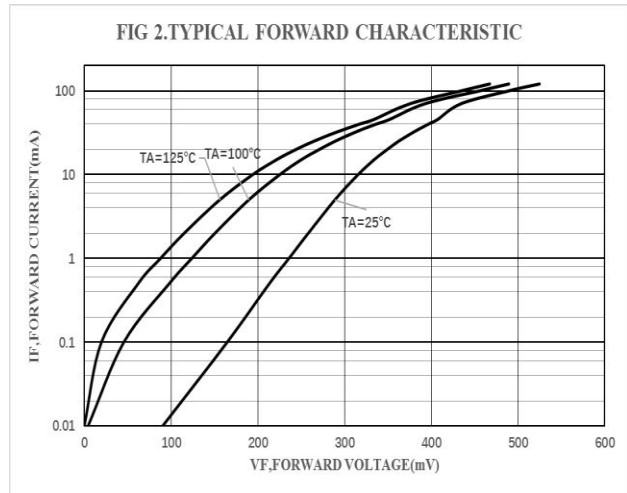
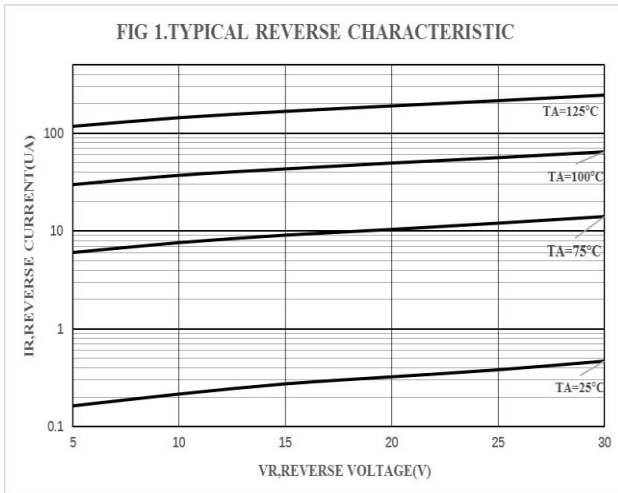
### Thermal Characteristics

Parameter	Symbol	BAT43W	BAT43WS	BAT43X	BAT43L	Units
Power dissipation	$P_D$	400	200	150	100	mW
Typical thermal resistance per leg	$R_{\theta JA}^*$	250	500	667	1000	$^{\circ}\text{C}/\text{W}$
Operating junction temperature range	$T_J$	125				$^{\circ}\text{C}$
Storage temperature range	$T_{STG}$	-55 to +150				$^{\circ}\text{C}$
* Part mounted on FR-4 board with recommended pad layout						

### Electrical Characteristics (@ $T_A=25^{\circ}\text{C}$ unless otherwise specified)

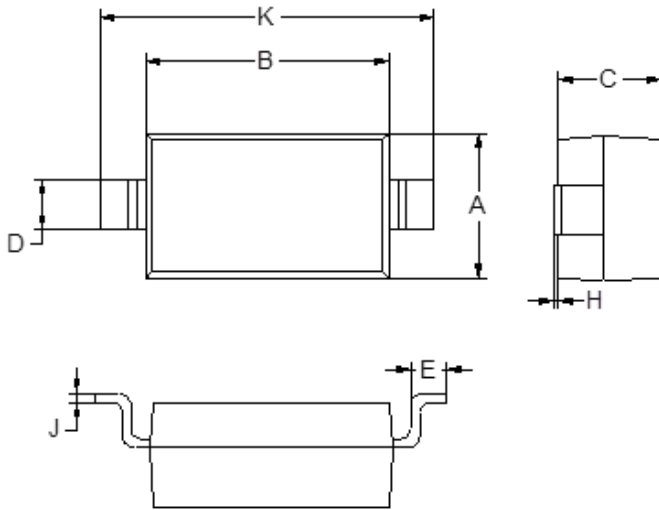
Parameter	Symbol	Conditions	Min	Typ	Max	Unit
Reverse Breakdown Voltage	$V_{(BR)R}$	$I_R=100\mu\text{A}$	30	-	-	V
Forward Voltage *1	$V_F$	$I_F=2\text{mA}$	0.26	-	0.33	V
		$I_F=15\text{mA}$	-	-	0.45	
		$I_F=200\text{mA}$	-	-	1.0	
Reverse Leakage Current *2	$I_R$	$V_R=25\text{V}$	-	-	500	nA
Capacitance Between Terminals	$C_T$	$V_R=1\text{V}, f=1\text{MHz}$	-	-	10	pF
Reverse Recovery Time	$t_{rr}$	$I_F=I_R=10\text{mA}, I_{rr}=1\text{mA}$ $R_L=100\Omega$	-	-	5	ns
Rectification efficiency	$\eta_V$	$R_L=15\Omega, C_L=300\text{pF},$ $f=45\text{MHz}$	80	-	-	%
*1: pulse test, $t_p \leq 300\mu\text{s}$						
*2: pulse test, $t_p \leq 5\text{ms}$						

**Ratings and Characteristic Curves** ( $T_A=25^\circ\text{C}$  unless otherwise noted)



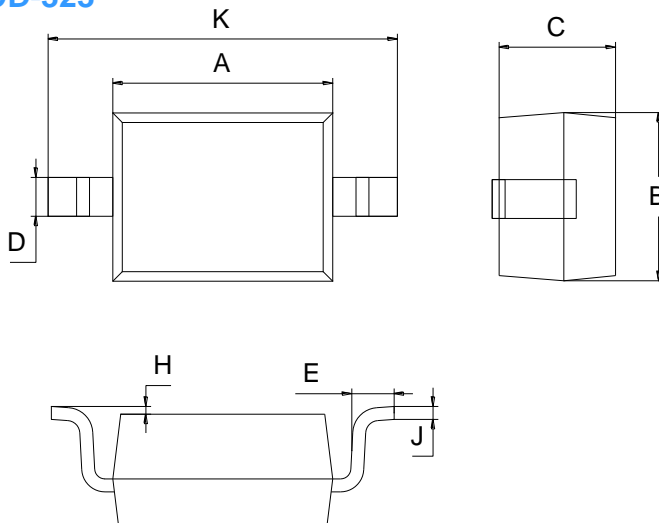
### Package Outline Dimensions (unit:mm)

#### SOD-123



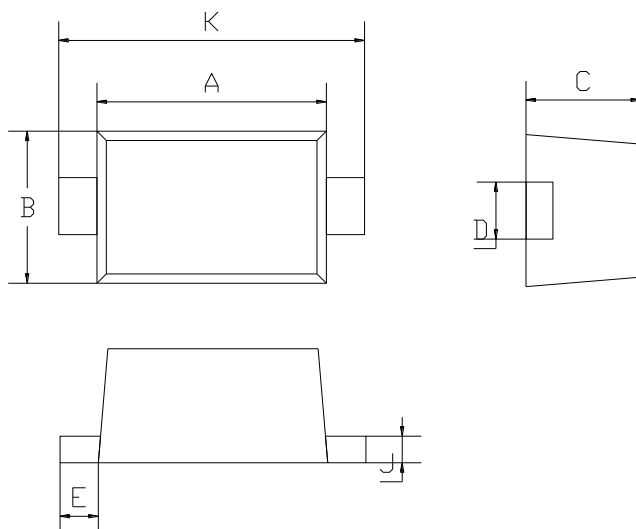
SOD-123		
Dim	Min	Max
A	1.45	1.75
B	2.55	2.85
C	1.00	1.30
D	0.50	0.60
E	0.25	0.45
H	0.02	0.10
J	0.05	0.15
K	3.55	3.85

#### SOD-323



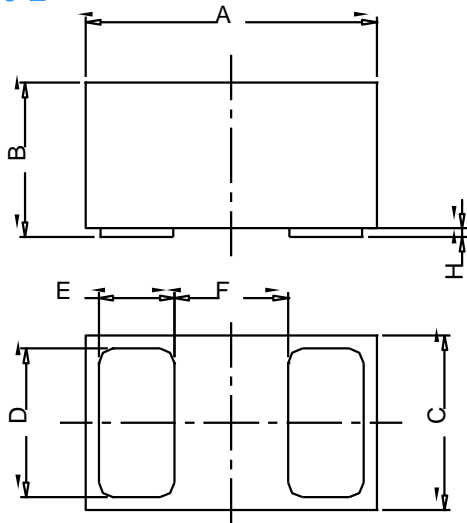
SOD-323		
Dim	Min	Max
A	1.60	1.80
B	1.20	1.40
C	0.80	0.90
D	0.25	0.35
E	0.22	0.42
H	0.02	0.10
J	0.05	0.15
K	2.55	2.75

#### SOD-523



SOD-523		
Dim	Min	Max
A	1.10	1.30
B	0.70	0.90
C	0.50	0.70
D	0.25	0.35
E	0.15	0.25
J	0.05	0.15
K	1.50	1.70

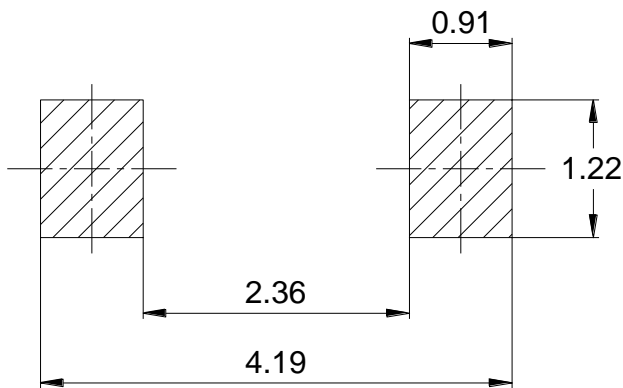
**DFN1006-2**



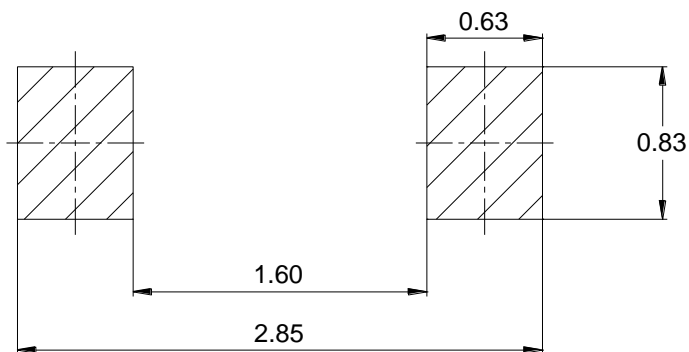
DFN1006-2			
Dim	Min	Typ	Max
A	0.95	1.00	1.075
B	0.47	0.50	0.53
C	0.55	0.60	0.675
D	0.45	0.50	0.55
E	0.20	0.25	0.30
F	-	0.40	-
H	0	0.03	0.05

**Mounting Pad Layout**(unit:mm)

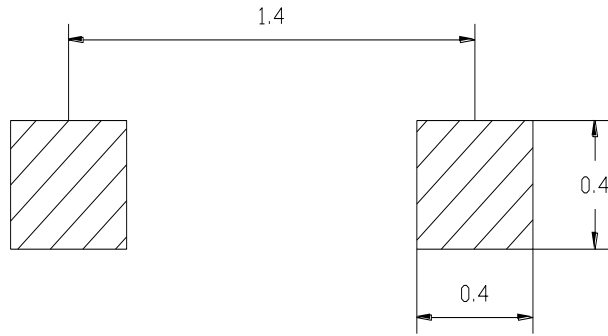
**SOD-123**



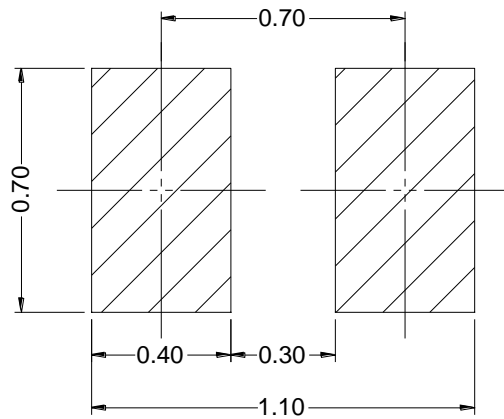
**SOD-323**



**SOD-523**



**DFN1006-2**



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