
**FEATURES**

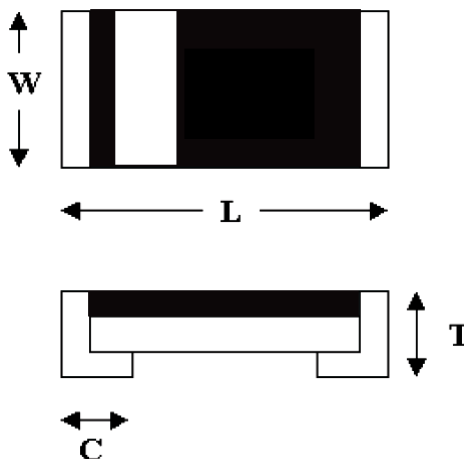
- Silicon epitaxial planar diode
- SMD chip pattern, available in various dimension included 1206 & 0603
- Leadfree and RoHS compliance components

**MECHANICAL CHARACTERISTICS**

- Size: 0805
- Weight: approx. 6mg
- Marking: Cathode terminal

**DIMENSIONS**

Dimension/mm	0805
L	2.0±0.2
W	1.25±0.2
T	0.85±0.1
C	0.45±0.2


**THERMAL CHARACTERISTICS**

Parameter at $T_{amb}=25^{\circ}C$	Symbol	Unit	Value
Junction Temperature	$T_j$	$^{\circ}C$	175
Thermal Resistance Junction to Ambient air	$R_{\theta JA}$	$^{\circ}C/W$	375 <sup>1)</sup>
Storage Temperature range	$T_{stg}$	$^{\circ}C$	-65 to 175

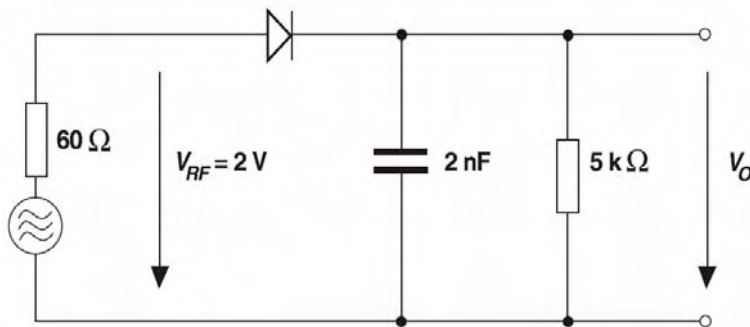
1) Valid provided that electrodes are kept at ambient temperature.

**ELECTRICAL CHARACTERISTICS**

Parameter at $T_{amb}=25^{\circ}\text{C}$	Symbol	Unit	Value
Reverse Voltage	$V_R$	V	75
Peak Reverse Voltage	$V_{RM}$	V	100
Forward Continuous Current	$I_{FM}$	mA	300
Average rectified current sin half wave rectification with resistive load $f \geq 50\text{Hz}$	$I_{F(AV)}$	mA	150 <sup>1)</sup>
Surge Forward Current at $t < 1\text{s}$ and $T_j = 25^{\circ}\text{C}$	$I_{FSM}$	mA	500
Power Dissipation	$P_{tot}$	mW	400 <sup>1)</sup>
Forward Voltage at $I_F = 10\text{mA}$	$V_F$	V	1.0 <small>MAX</small>
Leakage Current at $V_R = 20\text{V}$ at $V_R = 75\text{V}$ at $V_R = 20\text{V}, T_j = 150^{\circ}\text{C}$	$I_R$	nA	25 <small>MAX</small>
	$I_R$	$\mu\text{A}$	5 <small>MAX</small>
	$I_R$	$\mu\text{A}$	50 <small>MAX</small>
Capacitance at $V_F = V_R = 0\text{V}$	$C_{tot}$	pF	4 <small>MAX</small>
Voltage rise when switching ON, tested with 50mA pulses, $t_p = 0.1\mu\text{s}$ , rise time $< 30\text{ns}$ , $f_p = (5-100)\text{kHz}$	$V_{fr}$	V	2.5 <small>MAX</small>
Reverse Recovery Time at $I_F = 10\text{mA}$ to $I_R = 1\text{mA}$ , $V_R = 6\text{V}$ , $R_L = 100\Omega$	$t_{rr}$	ns	4 <small>MAX</small>
Rectification efficiency at $f = 100\text{MHz}$ , $V_{RF} = 2\text{V}$	$\eta_r$	%	45 <small>MIN</small>

1) Valid provided that electrodes are kept at ambient temperature.

Rectification Efficiency Measurement Circuit



**ENVIRONMENTAL CHARACTERISTICS**

Product	Hazardous Substance or Element/ppm					
	Pb	Cd	Hg	Cr <sup>6+</sup>	PBB	PBDE
BAS216	<1000	<100	<1000	<1000	<1000	<1000

**TEST CHARACTERISTICS**

Test Item	Test Condition	Requirement
Solderability	Sn bath at 250±5°C for 2±0.5s	>95% area tin covered
Resistance to Soldering Heat	Sn bath at 260±5°C for 10±2s	V <sub>F</sub> , V <sub>Z</sub> & I <sub>R</sub> within spec; no mechanical damage
Humidity Steady State	At 85°C 85%RH for 1000hrs	V <sub>F</sub> , V <sub>Z</sub> & I <sub>R</sub> within spec
Continue Forward Operating Life	At 25°C I <sub>F</sub> = I <sub>0</sub> ± 10% for 1000hrs	V <sub>F</sub> , V <sub>Z</sub> & I <sub>R</sub> within spec
Hi-Temperature Reverse Bias	At 150°C V <sub>R</sub> = 0.8V <sub>R</sub> rated for 1000hrs	V <sub>F</sub> , V <sub>Z</sub> & I <sub>R</sub> within spec
Thermal Shock	-55 ± 5°C/5min to 150 ± 5°C/5min for 10cycles	V <sub>F</sub> , V <sub>Z</sub> & I <sub>R</sub> within spec
Bending Strength	Bending up to 2mm for 1cycle	V <sub>F</sub> , V <sub>Z</sub> & I <sub>R</sub> within spec; no mechanical damage

**PACKING METHOD**

Product	Quality/Reel	Reel Size	Tape
BAS216	5,000pcs	7"	Paper

**APPLICATIONS**

- Function: Fast Switching
- Soldering Condition:

Recommended Profile Condition	Sn-Pb Soldering	Leadfree Soldering	Wave Soldering
Ramp-up rate (from pre-heat stage)	<3°C/s	<3°C/s	ΔT < 150°C
Pre-heat Temperature & Time	100-150 °C 60-120s	150-200 °C 60-180s	100-150 °C 60-120s
Soldering Temperature & Time	183 °C 60-150s	217 °C 60-150s	260±5°C 5±2°C
Peak Temperature	230±5°C	245±5°C	260±5°C
Time within 5°C of peak temperature	10-30s	20-40s	-
Ramp-down rate	<6°C/s	<6°C/s	<6°C/s
Time 25°C to peak temperature	<6min	<8min	-

Manual Soldering: Approx. 350°C for 3s, avoid solder iron tip direct touch the components body

- Storage Condition: Product termination solderability can degrade due to high temperature and humidity or chemical environment. Storage condition must be in an ambient temperature of <40°C and ambient humidity of <80%RH, and free from chemical.