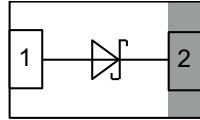


## Small Signal Schottky Diode with $T_J$ max. = 175 °C



### LINKS TO ADDITIONAL RESOURCES



### MECHANICAL DATA

**Case:** DFN1006-2A

**Weight:** 0.83 mg

**Molding compound flammability rating:** UL 94 V-0

**Terminals:** high temperature soldering guaranteed:  
Peak temperature max. 260 °C

**Packaging codes/options:**

08/10K per 7" reel (8 mm tape)

### FEATURES

- $T_J$  max. = 175 °C, rated for high temperature, mission critical applications
- This device is protected by a PN junction guard ring against excessive voltage, such as electrostatic discharges
- Leadless ultra small DFN1006-2A package (1 mm × 0.6 mm × 0.45 mm)
- Power dissipation better than SOT-23
- Surface-mounted device (SMD) plastic package with visible and sidewall plated / wettable flanks
- Soldering can be checked by standard visual inspection. No X-ray inspection necessary to meet automotive AOI requirements
- AEC-Q101 qualified available
- Material categorization: for definitions of compliance please see [www.vishay.com/doc?99912](http://www.vishay.com/doc?99912)



PARTS TABLE					
PART	ORDERING CODE	AEC-Q101 QUALIFIED	CIRCUIT CONFIGURATION	TYPE MARKING	REMARKS
BAS40LTH	BAS40LTH-G3-08	no	Single	GE	Tape and reel
	BAS40LTH-HG3-08	yes			

ABSOLUTE MAXIMUM RATINGS ( $T_{amb} = 25$ °C, unless otherwise specified)				
PARAMETER	TEST CONDITION	SYMBOL	VALUE	UNIT
Reverse voltage		$V_R$	40	V
Forward current	on FR-4 board with recommended soldering footprint	$I_F$	200	mA
Non-repetitive peak forward current	$T_J = 25$ °C, $t_p = 10$ ms	$I_{FSM}$	500	mA
	$T_J = 100$ °C, $t_p = 10$ ms		200	
	$T_J = 125$ °C, $t_p = 20$ $\mu$ s		500	
Power dissipation	on FR-4 board with recommended soldering footprint	$P_{tot}$	350	mW
	$R_{thJL} = 100$ K/W		1500	mW

THERMAL CHARACTERISTICS ( $T_{amb} = 25$ °C, unless otherwise specified)				
PARAMETER	TEST CONDITION	SYMBOL	VALUE	UNIT
Thermal resistance junction to ambient air	according to JEDEC® 51-3 on FR-4 board with recommended soldering footprint	$R_{thJA}$	420	K/W
Thermal resistance junction to lead		$R_{thJL}$	100	K/W
Maximum junction temperature		$T_{Jmax}$	175	°C
Storage temperature range		$T_{stg}$	-55 to +175	°C
Operating temperature range		$T_{op}$	-55 to +175	°C



<b>ELECTRICAL CHARACTERISTICS</b> ( $T_{amb} = 25\text{ }^{\circ}\text{C}$ , unless otherwise specified)						
PARAMETER	TEST CONDITION	SYMBOL	MIN.	TYP.	MAX.	UNIT
Leakage current	$V_R = 40\text{ V}, T_J = 25\text{ }^{\circ}\text{C}$	$I_R$			10	$\mu\text{A}$
	$V_R = 30\text{ V}, T_J = 150\text{ }^{\circ}\text{C}$				200	$\mu\text{A}$
	$V_R = 40\text{ V}, T_J = 150\text{ }^{\circ}\text{C}$				500	$\mu\text{A}$
Forward voltage	$I_F = 1\text{ mA}$	$V_F$			400	mV
	$I_F = 10\text{ mA}$				560	mV
	$I_F = 40\text{ mA}$				1000	mV
Diode capacitance	$V_R = 0\text{ V}, f = 1\text{ MHz}$	$C_D$		2.9		pF

**TYPICAL CHARACTERISTICS** ( $T_{amb} = 25\text{ }^{\circ}\text{C}$ , unless otherwise specified)

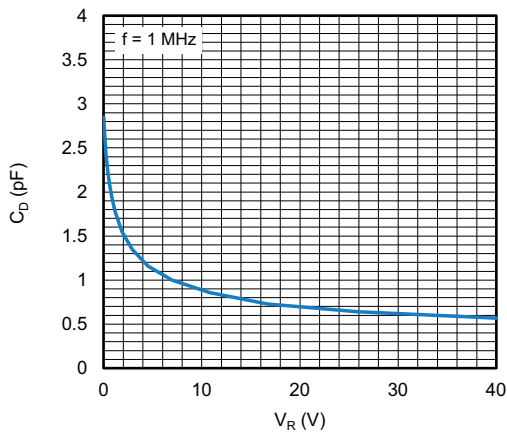


Fig. 1 - Typical Capacitance vs. Reverse Voltage

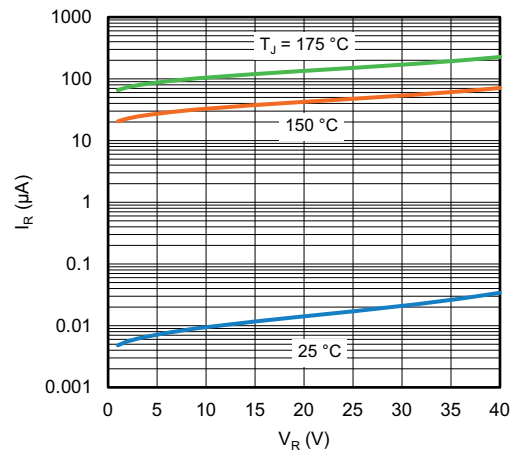


Fig. 3 - Typical Reverse Leakage Current vs. Reverse Voltage

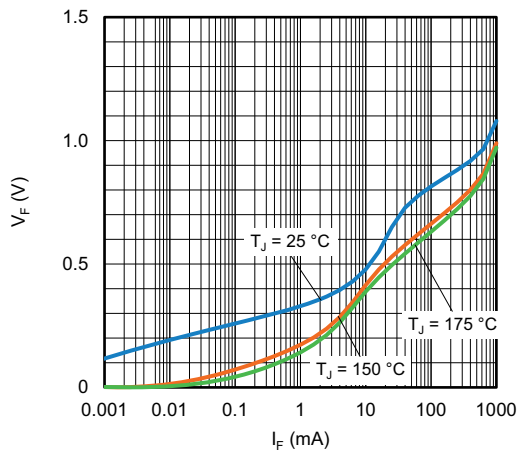
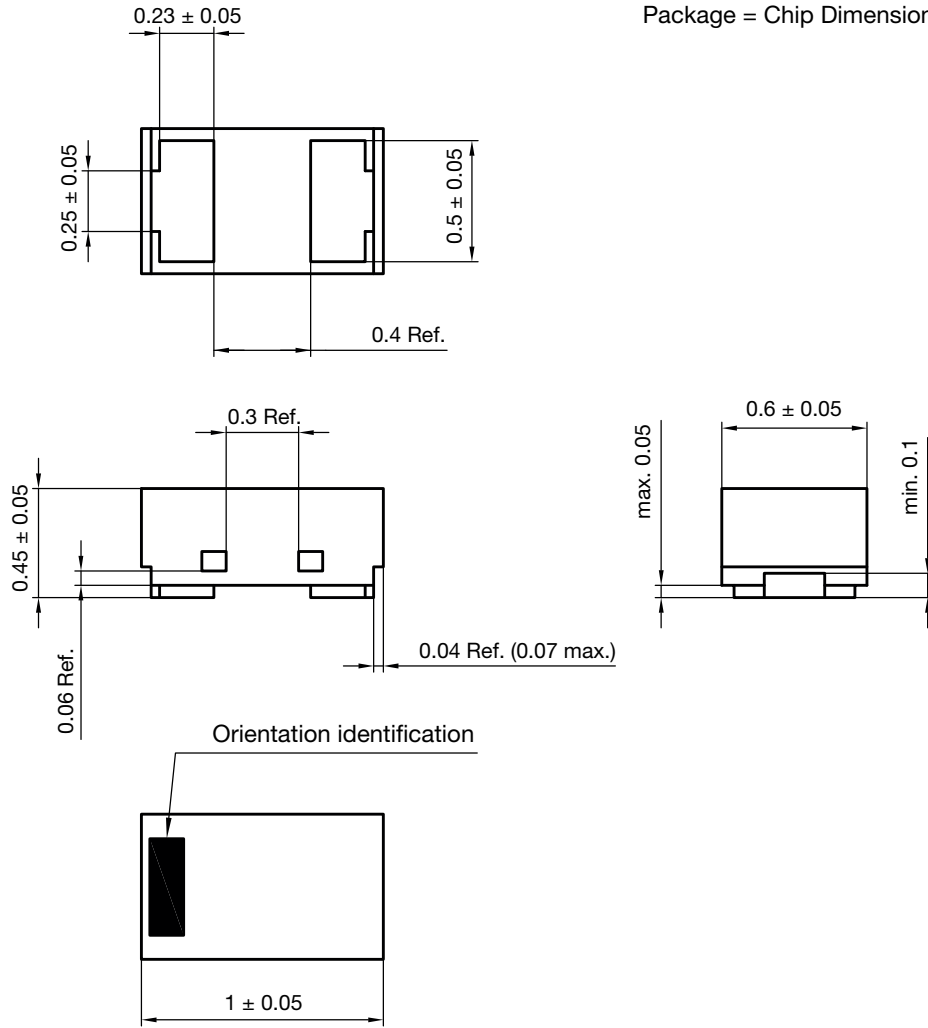


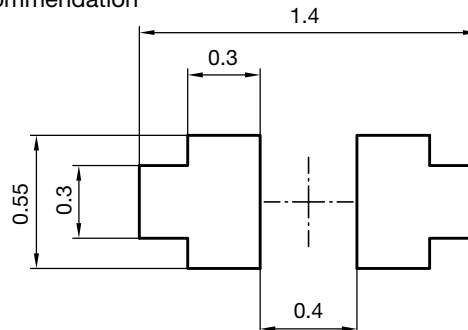
Fig. 2 - Typical Forward Voltage vs. Forward Current

**PACKAGE DIMENSIONS** in millimeters: **DFN1006-2A**

Package = Chip Dimension in mm



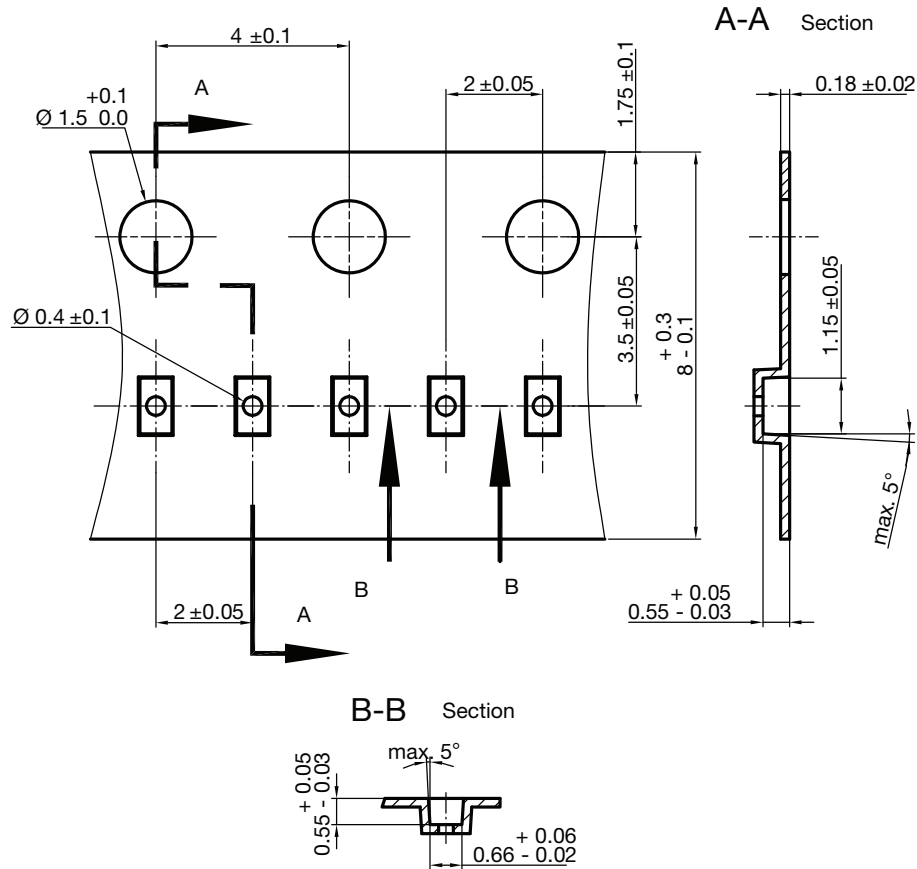
**Footprint recommendation**



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 Rev.5 - Date: 17-Sep-2021

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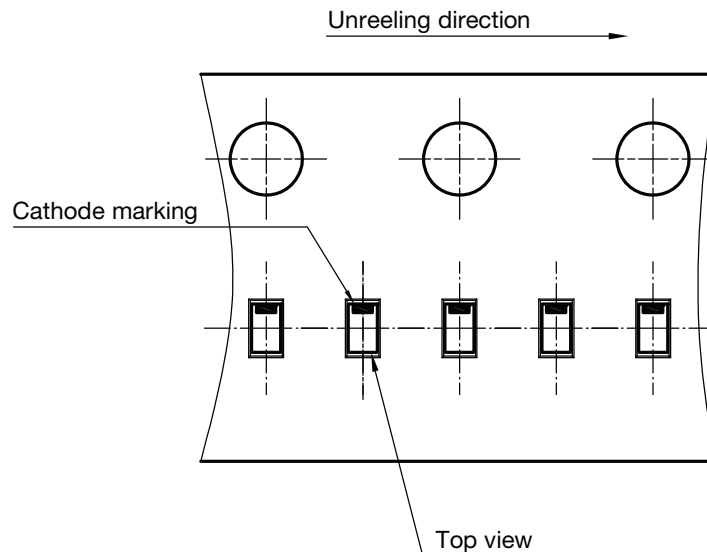
**CARRIER TAPE DFN1006-2A**



S8-V-3906.04-063 (4)  
created 28.10.2019

surface resistance:  $10^5 - 10^{11} \frac{\text{OHMS}}{\text{SQ}}$   
Cumulative tolerances of 10 sprocket holes is  $\pm 0.2$  mm

**ORIENTATION IN CARRIER TAPE DFN1006-2A**



S8-V-3906.04-064 (4)  
created 28.10.2019



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