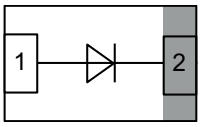
Small Signal Switching Diode with T_J max. = 175 °C



LINKS TO ADDITIONAL RESOURCES

3D Models | Models | Application Notes

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
- Fast switching diode
- 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

AUTOMOTIVE GRADE Available

Pb-free

e3

RoHS COMPLIANT

HALOGEN FREE GREEN (5-2008)

PARTS TABLE

PART	ORDERING CODE	AEC-Q101 QUALIFIED	CIRCUIT CONFIGURATION	TYPE MARKING	REMARKS
BAS16LTH	BAS16LTH-G3-08	no	Single	GD	Tape and reel
	BAS16LTH-HG3-08	yes			

ABSOLUTE MAXIMUM RATINGS (T_{amb} = 25 °C, unless otherwise specified)

PARAMETER	TEST CONDITION	SYMBOL	VALUE	UNIT
Reverse voltage		V_R	100	V
Forward current	on FR-4 board with recommended soldering footprint	I_F	250	mA
Non repetitive forward current (1)	t_p = 1 µs	I_{FSM}	9	A
	t_p = 1 ms		1.7	
	t_p = 1 s		1	
Repetitive peak forward current	T_L = 100 °C, t_p = ≤ 1 ms, D = 0.05	I_{FRM}	500	mA
Power dissipation	on FR-4 board with recommended soldering footprint	P_{tot}	350	mW
	R_{thJL} = 100 K/W		1500	mW

Note

(1) Square wave, T_J = 25 °C prior to surge

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		$T_{J\ max.}$	175	°C
Storage temperature range		T_{stg}	-55 to +175	°C
Operating temperature range		T_{op}	-55 to +175	°C

ELECTRICAL CHARACTERISTICS (T_{amb} = 25 °C, unless otherwise specified)					
PARAMETER	**TEST CONDITION**	**SYMBOL**	**TYP.**	**MAX.**	**UNIT**
Forward voltage	I_F = 150 mA	V_F		1.250	V
	I_F = 50 mA			1.0	V
	I_F = 10 mA			0.86	V
	I_F = 1 mA			0.715	V
Leakage current	V_R = 80 V	I_R		500	nA
	V_R = 80 V, T_J = 150 °C	I_R		100	µA
	V_R = 80 V, T_J = 175 °C	I_R		550	µA
	V_R = 100 V	I_R		1	µA
Diode capacitance	V_R = 0 V, f = 1 MHz	C_D	0.36	2	pF
Reverse recovery time	I_F = 10 mA, I_R = 10 mA, i_R = 1 mA	t_{rr}		4	ns

TYPICAL CHARACTERISTICS (T_{amb} = 25 °C, unless otherwise specified)

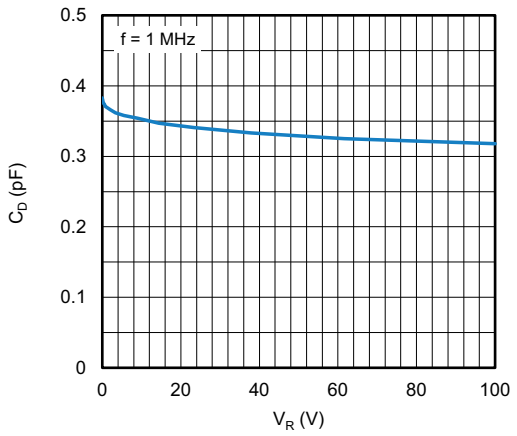


Fig. 1 - Typical Capacitance vs. Reverse Voltage

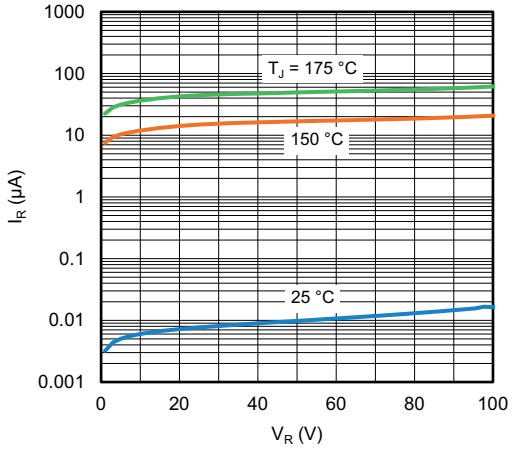


Fig. 3 - Typical Reverse Leakage Current vs. Reverse Voltage

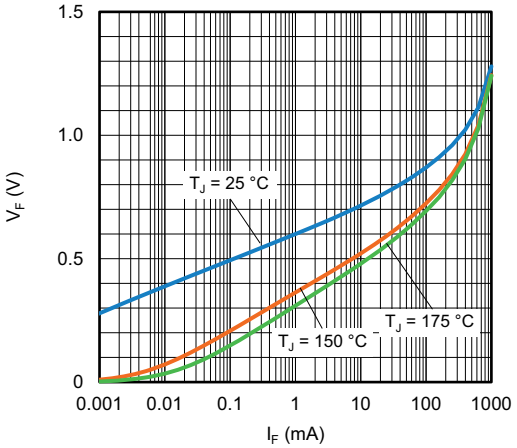
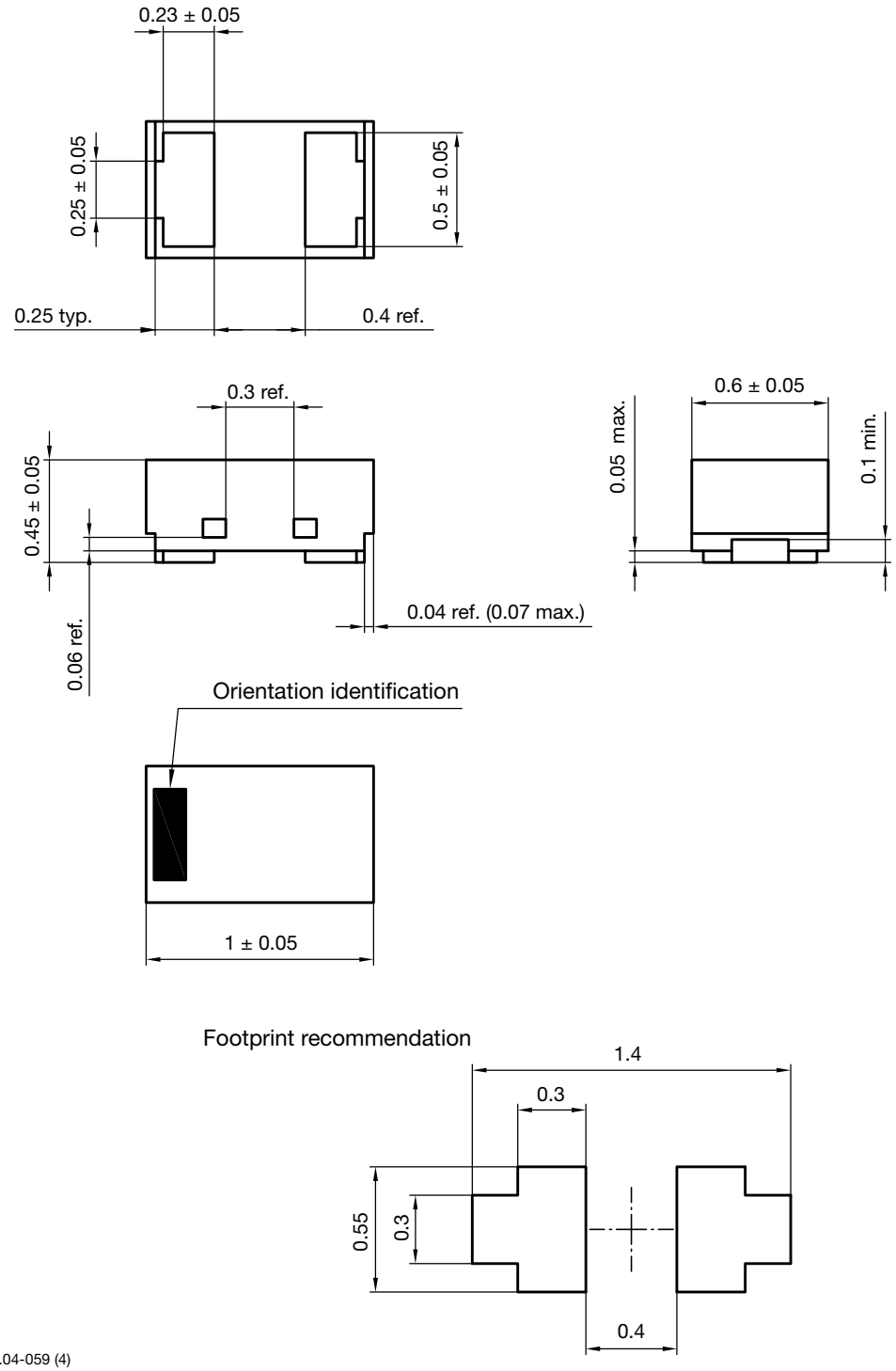


Fig. 2 - Typical Forward Voltage vs. Forward Current

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

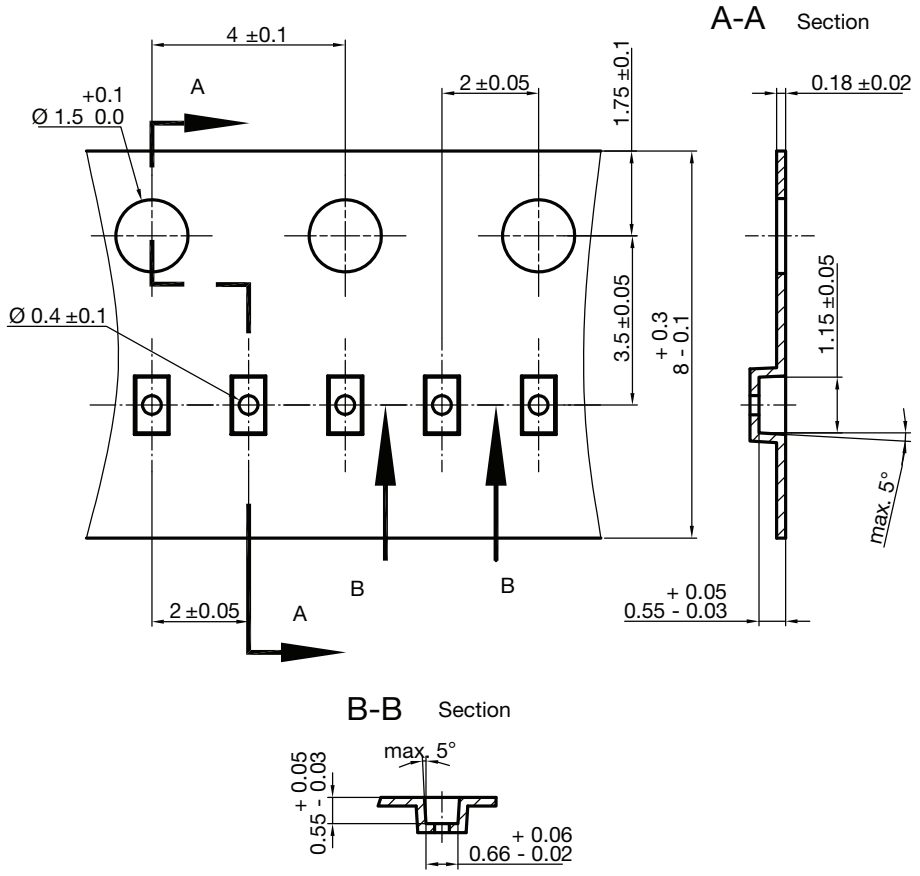


Footprint recommendation

Document no.: S8-V-3906.04-059 (4)
Created - Date: 11-Jul-2018
Rev.6 - Date: 12-Nov-2024

23191

CARRIER TAPE DFN1006-2A



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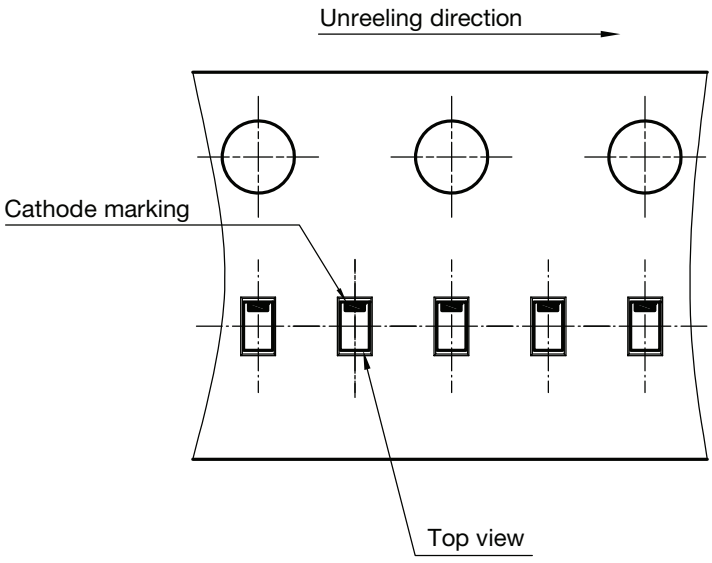
created 28.10.2019

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

ORIENTATION IN CARRIER TAPE DFN1006-2A



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created 28.10.2019

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