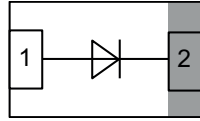


Small Signal Fast Switching Diode



FEATURES

- Silicon epitaxial planar diode
- 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

RoHS
COMPLIANT
HALOGEN
FREE
GREEN
(5-2008)

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)

PARTS TABLE					
PART	ORDERING CODE	AEC-Q101 QUALIFIED	CIRCUIT CONFIGURATION	TYPE MARKING	REMARKS
BAS16L	BAS16L-G3-08	no	Single	.D	Tape and reel
	BAS16L-HG3-08	yes			

ABSOLUTE MAXIMUM RATINGS ($T_{amb} = 25\text{ °C}$, 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⁾	$t_p = 1\ \mu\text{s}$	I_{FSM}	9	A
	$t_p = 1\ \text{ms}$		1.7	
	$t_p = 1\ \text{s}$		1	
Repetitive peak forward current	$T_L = 100\text{ °C}$, $t_p \leq 1\ \text{ms}$, $D = 0.05$	I_{FRM}	500	mA
Power dissipation	on FR-4 board with recommended soldering footprint	P_{tot}	300	mW
	$R_{thJL} = 100\ \text{K/W}$		1250	mW

Note
⁽¹⁾ Square wave, $T_j = 25\text{ °C}$ prior to surge

THERMAL CHARACTERISTICS ($T_{amb} = 25\text{ °C}$, 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		$T_{j\ max.}$	150	°C
Storage temperature range		T_{stg}	-55 to +150	°C
Operating temperature range		T_{op}	-55 to +150	°C

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

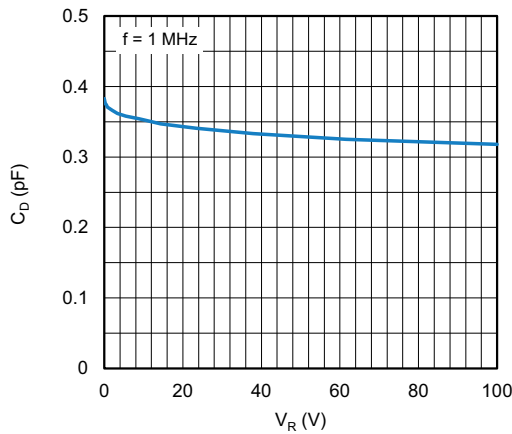
TYPICAL CHARACTERISTICS ($T_{amb} = 25\text{ }^{\circ}\text{C}$, unless otherwise specified)


Fig. 1 - Typical Capacitance vs. Reverse Voltage

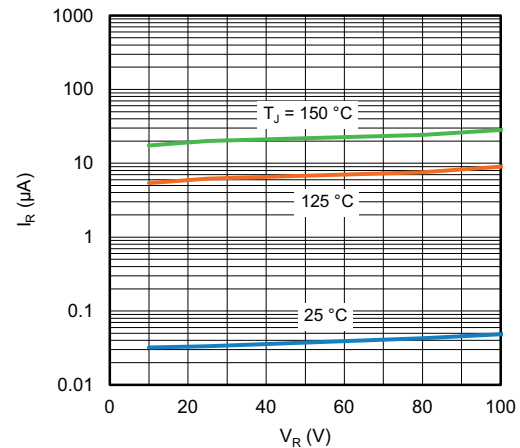


Fig. 3 - Typical Reverse Leakage Current vs. Reverse Voltage

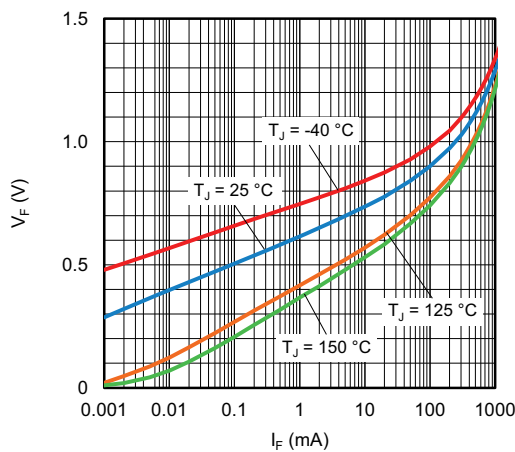
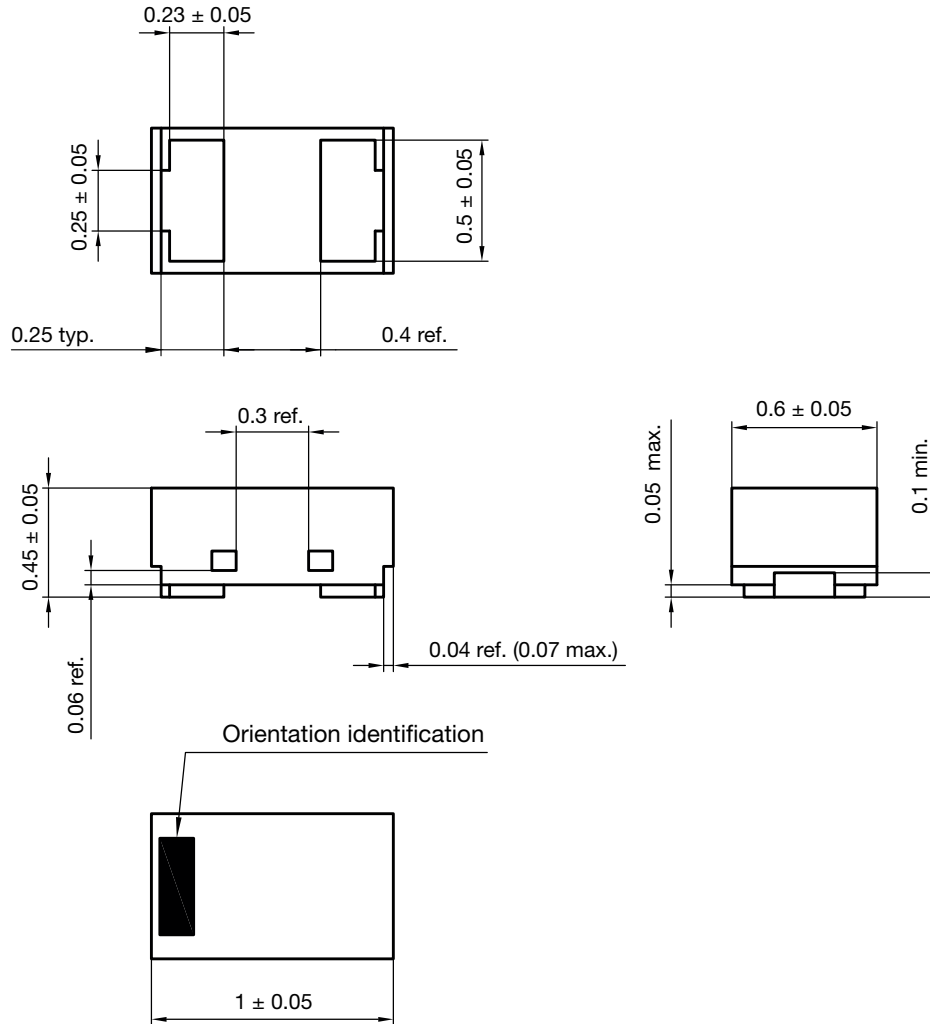
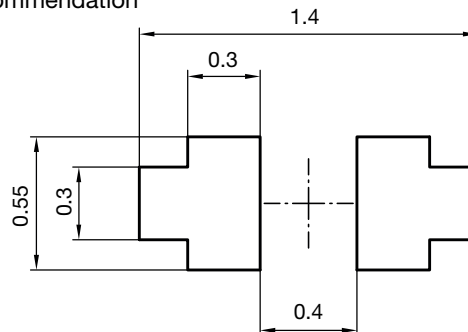


Fig. 2 - Typical Forward Voltage vs. Forward Current

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



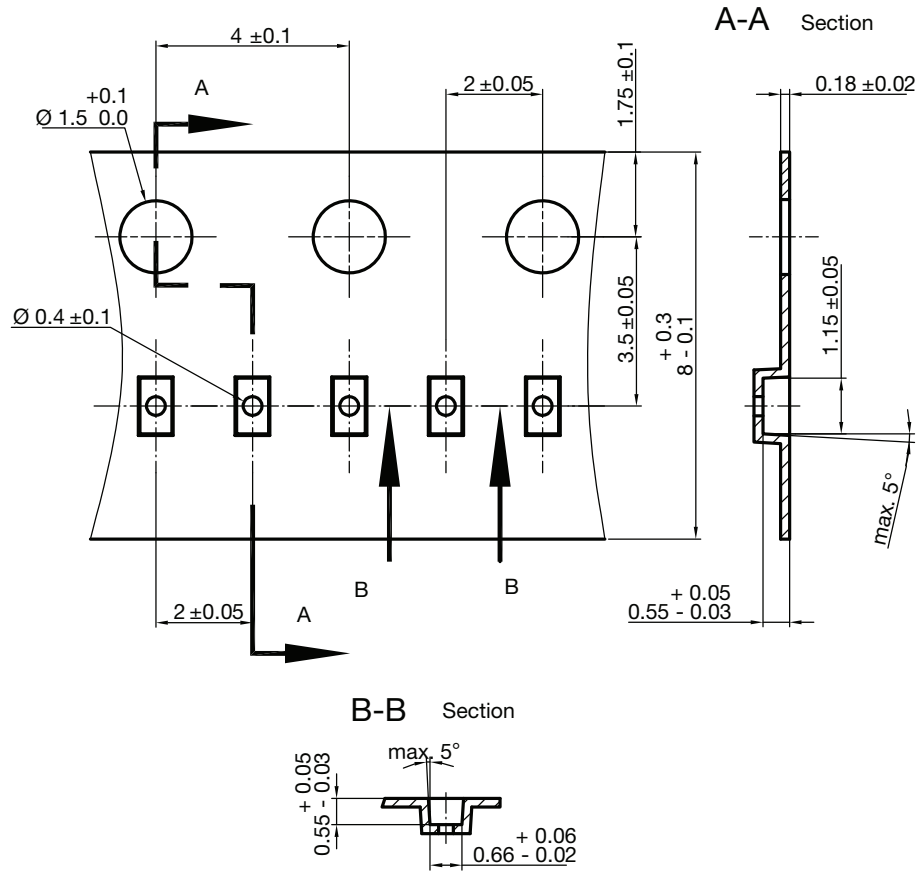
Footprint recommendation



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

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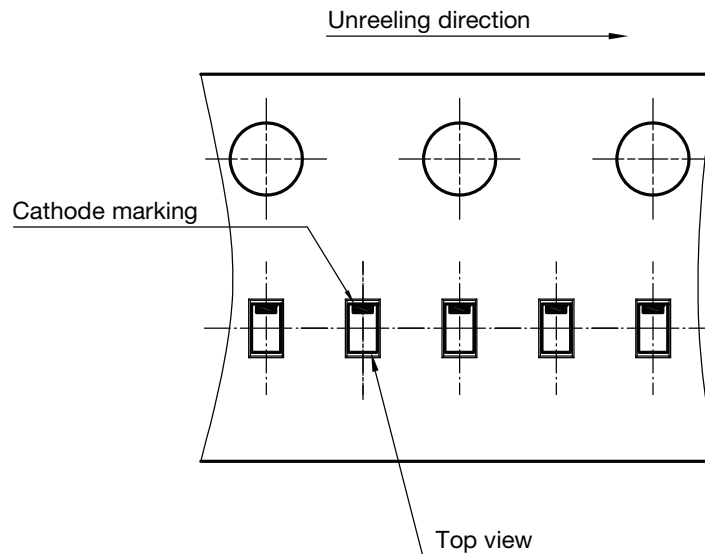
CARRIER TAPE DFN1006-2A



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

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

ORIENTATION IN CARRIER TAPE DFN1006-2A



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