NextGen Components,Inc.

PART CODE: BAS16WSA6SD323

SPECIFICATION SHEET

SPECIFICATION SHEET NO.	Q1222- BAS16WSA6SD323	
DATE	Dec. 22, 2023	
REVISION	A0	Updated With Most Recent Data - Official First Release
DESCRIPTION AND MAIN PARAMETRICS	SMD Fast Switching Diode, SOD-323 series, 2 pads BAS16WS Type, Continuous Reverse Voltage(Vr) 100V Max. Current Average Rectified (Io) 150 mA Max. Junction & Storage Temperature Range −55 ~ +150°C, Package in Tape/Reel, 3000pcs/Reel RoHS/RoHS III compliant, RoHS Annex III lead Exemption (Exempt per RoHS EU 2015/863)	
CUSTOMER		
CUSTOMER PART NO.		
CROSS REF. PART NO.		
ORIGINAL MFG/PART NO.	MDD Diodes/BAS16WS	
PART CODE	BAS16WSA6SD323	

VENDOR APPROVE			
Issued/Checked/Approved	NextGen Components, Inc. Mandy Xu	NextGen Components, Inc. Ruby Zhang	NextGen Components, Inc. Jack Zhang
DATE: Dec. 22, 2023			

CUSTOMER APPROVE
DATE:

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NextGen Components,Inc.

PART CODE: **BAS16WSA6SD323**

SMD FAST SWITHING DIODES SOD-323 SERIES

MAIN FEATURE

- Fast Switching Speed
- For General Purpose Switching Applications
- Surface Mount Package Ideally Suited For Automatic Insertion
- Cross Competitors Parts and More.
- RoHS/RoHS III compliant, RoHS Annex III lead Exemption (Exempt per RoHS EU 2015/863)

APPLICATION

- For General Purpose Switching Applications

ELECTRICAL CHARACTERISTICS

See Page 4~ Page 5

HOW TO ORDER

Please follow up Part Code Guide and indicate pat code when you order or RFQ.

PART CODE GUIDE

RFQ
Request For Quotation

BAS16WS	A6	S	D323
1	2	3	4

1. BAS16WS: Product Code For Original Part Number BAS16WS
2. A6: Internal Control Code Or Special Parameters Code, Letter A~Z Or Digits (1-9); Blank: N/A
3. S: Package Code, Tape/Reel, 3000pcs/Reel.
4. D323: Series Code For SMD Fast Switching Diode, 2 Pads, Package SOD-323 Series

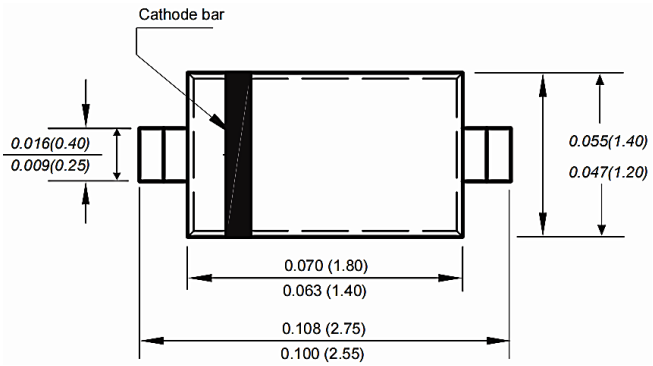
SMD FAST SWITHING DIODES SOD-323 SERIES

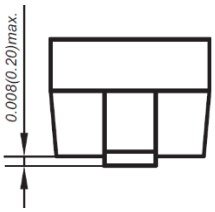
DIMENSION (Unit: Inch/mm)

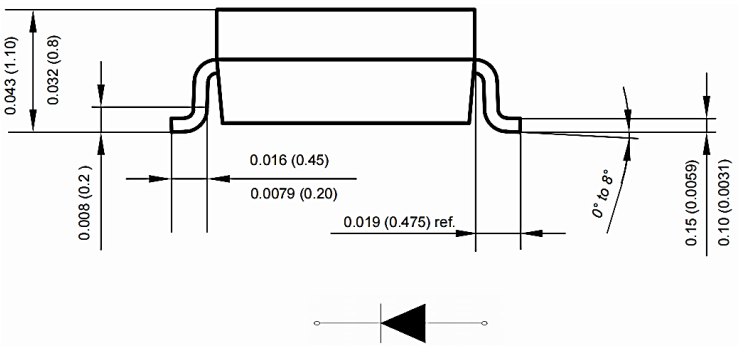
Image for reference

Marking: A6

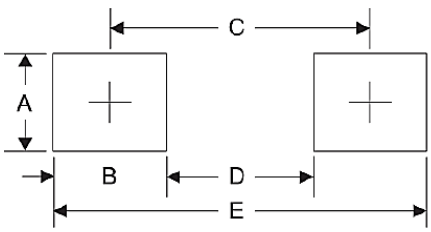
SOD-323







Recommend Pad Layout



Symbol	Unit (inch)	Unit (mm)
A	0.047	1.20
B	0.047	1.20
C	0.102	2.60
D	0.055	1.40
E	0.149	3.80

SMD FAST SWITHING DIODES SOD-323 SERIES

MECHANICAL DATA

CASE	TERMINALS	POLARITY	MOUNTING POSITION	WEIGHT PER PIECE
JEDEC SOD-323 Molded Plastic Body	Solder Plated, Solderable Per MIL-STD-750, Method 2026	Polarity Symbol Marking On Case	Any	0.00019 Ounce, 0.00548 grams

ABSOLUTE MAX. RATING AT 25 °C

PARAMETER	SYMBOLS	VALUE	UNITS
Non-Repetitive Peak Reverse Voltage	V_{RM}	100	V
Peak Repetitive Peak Reverse Voltage	V_{RRM}	75	V
Working Peak Reverse Voltage	V_{RWM}	75	V
DC Blocking Voltage	V_R	75	V
RMS Reverse Voltage	$V_{R(RMS)}$	53	V
Forward Continuous Current	I_{FM}	300	mA
Average Rectified Output Current	I_O	150	mA
Non-Repetitive Peak Forward Surge Current @ t=1.0us	I_{FSM}	2.0	A
Non-Repetitive Peak Forward Surge Current @ t=1.0s	I_{FSM}	1.0	A
Power Dissipation	P_d	200	mW
Thermal Resistance junction To Ambient	$R_{\theta JA}$	625	°C/W
Junction Temperature Range	T_J	150	°C
Storage Temperature Range	T_{STG}	-55 ~ +150	°C

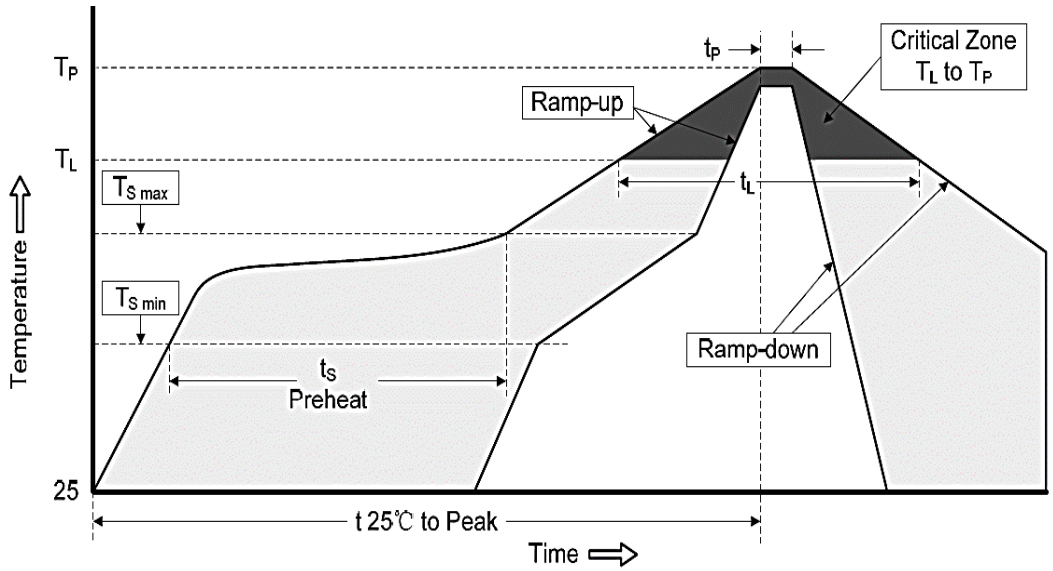
CHARACTERISTICS AT TA= 25 °C

PARAMETER	SYMBOLS	VALUE			UNIT	CONDITION
		MIN.	TYP.	MAX.		
Reverse Breakdown Voltage	$V_{(BR)}$	75			V	I_R=100uA
Reverse Voltage Leakage Current	I_R			1.0	uA	V_R=75V
Forward Voltage	V_{F1}			0.715	V	I_F=1.0mA
	V_{F2}			0.855	V	I_F=10mA
	V_{F3}			1.0	V	I_F=50mA
	V_{F4}			1.25	V	I_F=150mA
Diode Capacitance	C_D			2	pF	V_R=0V, f=1.0MHz
Reverse Recovery Time	t_{rr}			6.0	ns	I_F=10mA, I_R=10mA Irr=0.1xIR, R_L=100Ω

RELIABILITY

NUMBER	EXPERIMENT ITEMS	EXPERIMENT METHOD AND CONDITIONS	REFERENCE DOCUMENTS
1	Solder Resistance Test	Test 260°C± 5°C for 10 ± 2 sec. Immerse body into solder 1/16" ± 1/32"	MIL-STD-750D METHOD-2031.2
2	Solderability Test	230°C ±5°C for 5 sec.	MIL-STD-750D METHOD-2026.1 0
3	Pull Test	1 kg in axial lead direction for 10 sec.	MIL-STD-750D METHOD-2036.4
4	Bend Test	0.5Kg Weight Applied To Each Lead, Bending Arcs 90 °C ± 5 °C For 3 Times	MIL-STD-750D METHOD-2036.4
5	High Temperature Reverse Bias Test	T_A=100°C for 1000 Hours at V_R=80% Rated V_R	MIL-STD-750D METHOD-1038.4
6	Forward Operation Life Test	TA=25°C Rated Average Rectified Current	MIL-STD-750D METHOD-1027.3
7	Intermittent Operation Life Test	On state: 5 min with rated IRMS Power Off state: 5 min with Cool Forced Air. On and off for 1000 cycles.	MIL-STD-750D METHOD-1036.3
8	Pressure Cooker Test	15 PSIG, T_A=121°C, 4 hours	MIL-S-19500 APPENOIXC
9	Temperature Cycling Test	-55°C~+125°C; 30 Minutes For Dwelled Time 5 minutes for transferred time. Total: 10 cycles.	MIL-STD-750D METHOD-1051.7
10	Thermal Shock Test	0°C for 5 minutes., 100°C for 5minutes, Total: 10 cycles	MIL-STD-750D METHOD-1056.7
11	Forward Surge Test	8.3ms Single Sale Sine-wave One Surge.	MIL-STD-750D METHOD-4066.4
12	Humidity Test	T_A=65°C, RH=98% for 1000 hours.	MIL-STD-750D METHOD-1021.3
13	High Temperature Storage life Test	150°C for 1000 Hours	MIL-STD-750D METHOD-1031.5

SUGGESTED REFLOW PROFILE (For Reference Only)



PROFILE FEATURE		PB-FREE ASSEMBLY
Average Ramp-up Rate (Ts Max to Tp)		3℃/second Max
Preheat	Temperature Min (Ts Min.)	150℃
	Temperature Max (Ts Max.)	200℃
	Time (ts Min. to ts Max.)	60 ~ 180 seconds
Time maintained above	Temperature (T_L)	217℃
	Time (t_L)	60 ~ 150 seconds
Peak/Classification Temperature (Tp)		260 ℃
Time within 5℃ of actual Peak Temperature (tp)		20 ~ 40 seconds
Ramp-down rate		6 ℃ /Second Max.
Time 25 ℃ to Peak Temperature		8 minutes Max.
Suggest reflow times		3 Times Max.

RATINGS AND CHARACTERISTIC CURVES (For Reference Only)

Fig.1 Power Derating Curve

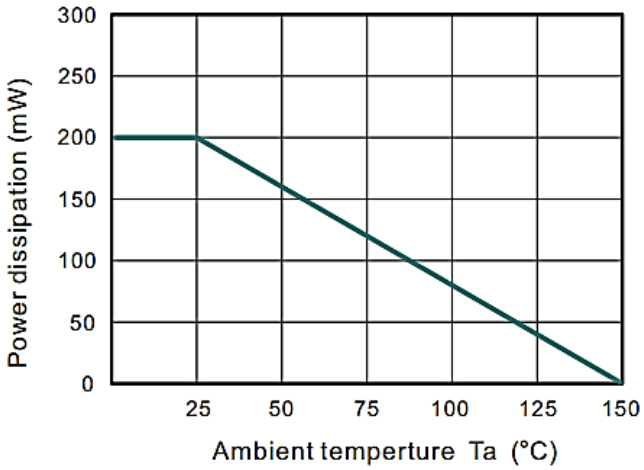
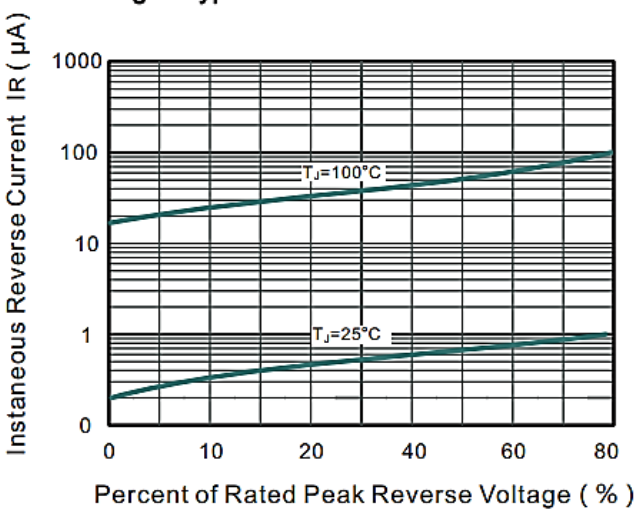


Fig.2 Typical Reverse Characteristics



RATINGS AND CHARACTERISTIC CURVES (For Reference Only)

Fig.3 TYPICAL FORWARD VOLTAGE

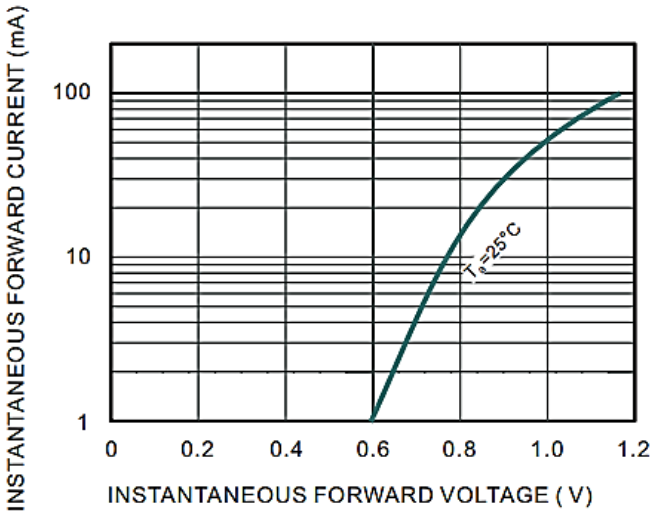
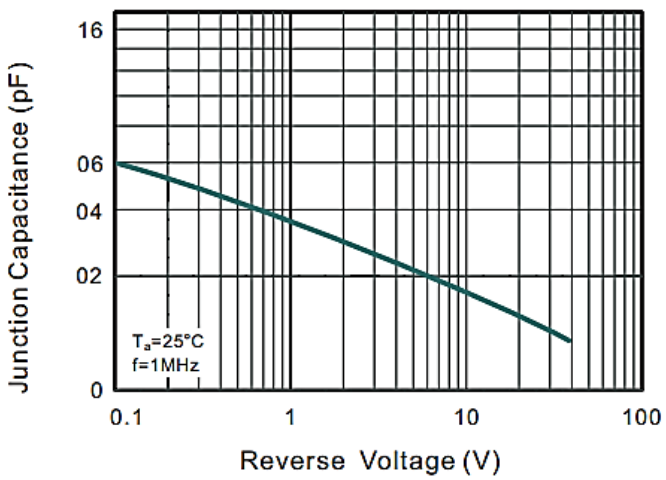
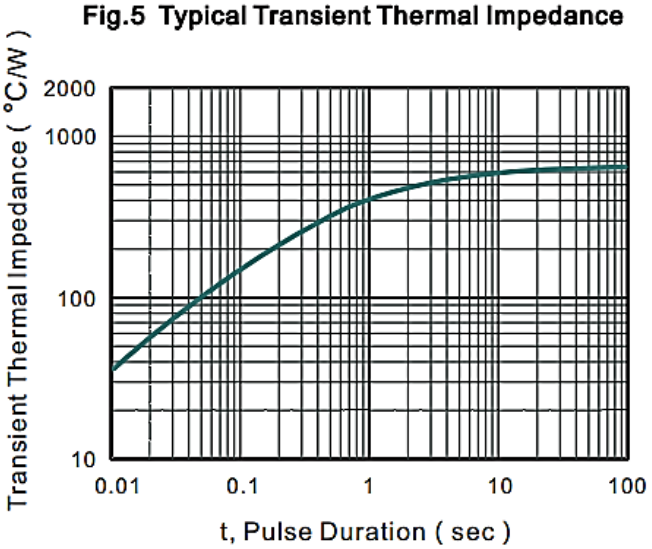


Fig.4 Typical Junction Capacitance



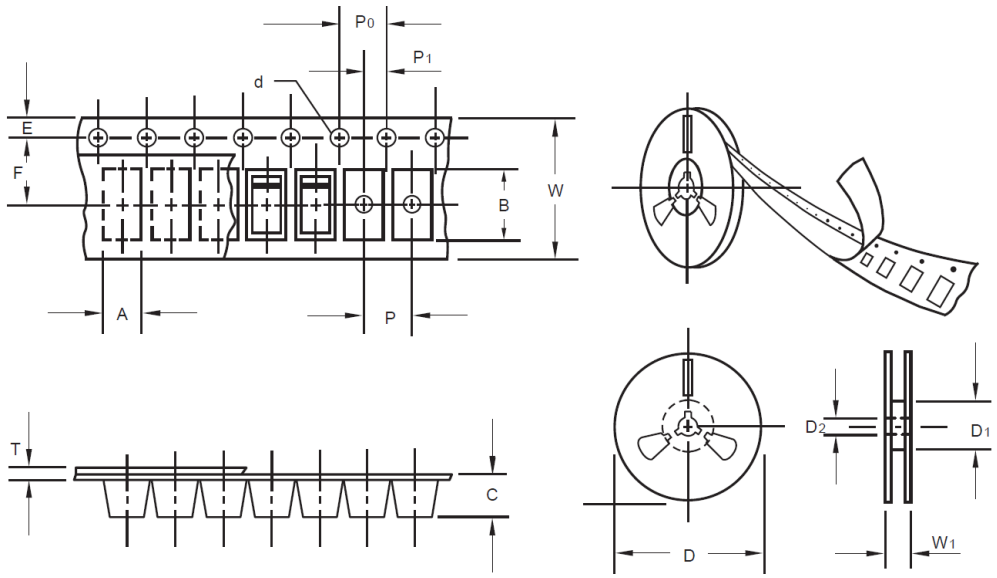
RATINGS AND CHARACTERISTIC CURVES (For Reference Only)

Fig.5 Typical Transient Thermal Impedance



TAPE/REEL (Unit: mm) (For Reference Only)

All Devices are packed in accordance with EIA standard RS-481-A and specifications.



Item	Symbol	Tolerance	SO-323
Carrier width	A	0.1	1.46
Carrier Length	B	0.1	2.90
Carrier Depth	C	0.1	1.25
Sprocket hole	d	0.05	1.50
13”Reel outside diameter	D	2.0	330.00
13”Reel inner diameter	D1	Min.	50.00
7”Reel outside diameter	D	2.0	178.0
7”Reel inner diameter	D1	Min.	54.40
Feed hole diameter	D2	0.5	13.00
Sprocket hole position	E	0.1	1.75
Punch hole position	F	0.1	3.50
Punch hole pitch	P	0.1	4.00
Sprocket hole pitch	P0	0.1	4.00
Embossment center	P1	0.1	2.00
Overall tape thickness	T	0.1	0.06
Tape width	W	0.3	8.00
Reel width	W1	1.0	12.30
Qty./Reel (pcs)	3000		

IMPORTANT NOTES AND DISCLAIMER

1. RoHS Compliance: The levels of RoHS restricted materials in this product are below the maximum concentration values (also referred to as the threshold limits) permitted for such substances, or are used in an exempted application, in accordance with EU RoHS Directive (EU) 2015/863 EC (RoHS3). RoHS Test Report for this product can be obtained at Download Center.
2. REACH Compliance: REACH substances of high concern (SVHCs) information is available for this product. Since the European Chemical Agency (ECHA) has published notice of their intent to frequently revise the SVHC listing for the foreseeable future, REACH Test Report for this product can be obtained at Download Center.
3. All Product parametric performance is indicated in the Electrical Characteristics for the listed herein test conditions, unless otherwise noted. Product performance may not be indicated by the Electrical Characteristics if operated under different conditions.
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