SPECIFICATION SHEET

GENERAL PURPOSE SILICON RECTIFIER AXIAL LEAD R6 SERIES

SPECIFICATION SHEET NO.	S0319 – 10A10L000L1000	
ORIGINAL MFG/PART NO.	MDD Diodes/10A10/10A10-TB/R610A10000AA0A	
NEXTGEN PART CODE	10A10L000L1000	Indicate This Code For RFQ Order
DATE	Mar. 19, 2025	
REVISION	A3	Updated With Most Recent Data
DESCRIPTION AND MAIN PARAMETRICS	General Purpose Silicon Rectifier, Axial Lead, R6 Series, 10A10 Type, Maximum Average Forward Rectified Current $I_{(AV)}$:10A Maximum Repetitive Peak Reverse Voltage V_{RRM}: 1000V Maximum V_{RMS} voltage V_{RMS}: 700V Operating Junction And Storage Temperature Range T_J,T_{STG} : -50°C ~+150°C Package in Tape, 500pcs/Tape Box RoHS III/REACH Compliant and Halogen Free (HF)	
CUSTOMER		
CUSTOMER PART NUMBER		
CROSS REF. PART NUMBER		
MEMO		

VENDOR APPROVE
Issued/Checked/Approved Mandy Xu · Ruby Zhang · Jack Zhang (NextGen Components, Inc.)
Effective Date: Mar. 19, 2025

CUSTOMER APPROVE
Date:

MAIN FEATURE

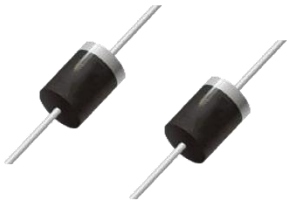


Image shown is a representation only. Exact specifications should be obtained from the product dimension.

- The Plastic Package Carries Underwriters Laboratory
- Flammability Classification 94V-0
- Construction Utilizes Void-free Molded Plastic Technique
- Low Reverse Leakage
- High Forward Surge Current Capability
- High Temperature Soldering Guaranteed: 250° C/10 Seconds,0.375”(9.5mm) Lead Length, 5 Lbs. (2.3kg) Tension
- REACH/RoHS III Complaint and Halogen Free
- Cross Main Competitor Parts in Market

APPLICATION

- For Printed Circuit Board

ELECTRICAL CHARACTERISTICS

- See Page 5 ~ Page 6
- All Products Parameters are Subject To NextGen Components’ Final Confirmation.

HOW TO ORDER

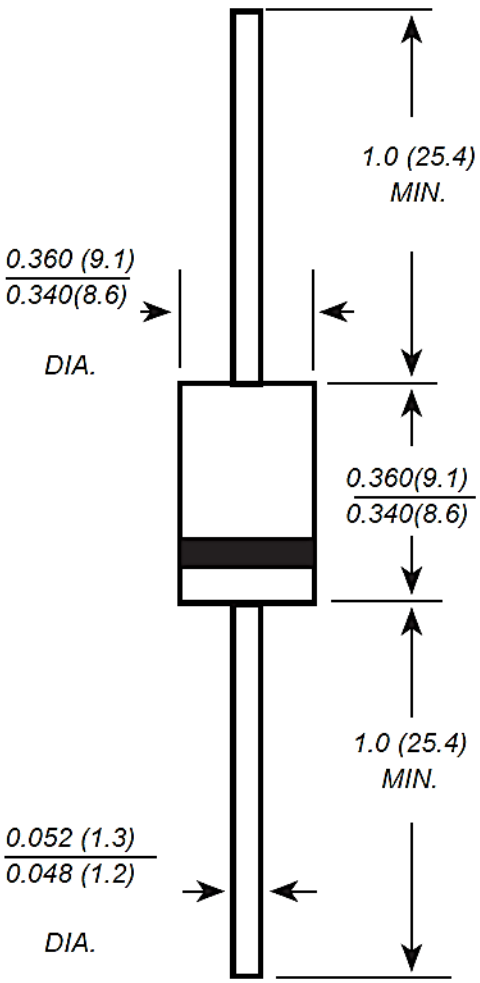
- Please Follow Up Part Code Guide And Indicate NextGen Part Code 10A10L000L1000 For RFQ and Order.

PART CODE GUIDE

RFQ
Request For Quotation

CODE	NAME	KEY SPECIFICATION OPTION
10A	Series Code	General Purpose Silicon Rectifier, Axial Lead; Forward Current 10A Series
10	Max. Repetitive Peak Reverse Voltage	05: 50V ; 1: 100V; 2: 200V; 4: 400V; 6: 600V; 8: 800V; 10: 1000V
L000	Internal Control Code	Letter A~Z, a~z or digits (0~9)
L	Package Code	L: Packed in Tape Box
1000	Max. DC Blocking Voltage	050: 50V ; 100: 100V; 200: 200V; 400: 400V; 600: 600V; 800: 800V; 1000: 1000V
XX	Special/Custom Parameters	Blank: N/A; XX: Letter A~Z, a~z or digits (0~9) for Special/Custom Parameters

DIMENSION - Unit: Inch (mm), Axial Lead, R6 Series Outline



MECHANICAL DATA

CASE	TERMINALS	POLARITY	MOUNTING POSITION	WEIGHT PER PIECE
JEDEC R-6 Molded Plastic Body	Solder Plated, Solderable Per MIL-STD-750, Method 2026	Polarity Symbol Marking On Body	Any	0.072 Ounce, 2.05 grams

MAXIMUM RATINGS AND ELECTRICAL CHARACTERISTICS

- Ratings at 25 °C ambient temperature unless otherwise specified.
- Single phase half-wave 60Hz, resistive or inductive load, for capacitive load current derate by 20%.

PARAMETER		SYMBOLS	VALUE			UNITS
			MIN.	TYPICAL	MAX.	
Maximum Average Forward Rectified Current 0.375”(9.5mm) Lead Length at TA=60°C		I_{AV}			10.0	A
Peak Forward Surge Current 8.3ms Single Half Sine-wave Superimposed On Rated Load (JEDEC Method)		I_{FSM}		400		A
Instantaneous Forward Voltage at 10.0A		V_F			1.0	Volts
DC Reverse Current At Rated DC Blocking Voltage	TA=25℃	I_R			10	μA
	TA=100℃				100	μA
Junction Capacitance (Note 1)		C_J		150		pF
Thermal Resistance (Note 2)		$R_{\theta JA}$		10		°C/W
Operating Junction And Storage Temperature Range		T_J, T_{STG}	-50		+150	°C

Notes

1. Measured at 1MHz and applied reverse voltage of 4.0V D.C.
2. Thermal resistance from junction to ambient at 0.375”(9.5mm) lead length, P.C.B. mounted

ELECTRICAL PARAMETERS – FOR DIFFERENT PART CODE- Ta = 25℃

PART CODE	ORINIGAL PART NO.	MAX. REVERSE VOLTAGE V_{RRM}	MAX. RMS VOLTAGE V_{RMS}	MAX. DC BLOCKING VOLTAGE V_{DC}	MARKING
		V	V	V	
10A05L0000L050	10A05	50	35	50	10A05
10A1L00000L100	10A1	100	70	100	10A1
10A2L00000L200	10A2	200	140	200	10A2
10A4L00000L400	10A4	400	280	400	10A4
10A6L00000L600	10A6	600	420	600	10A6
10A8L00000L800	10A8	800	560	800	10A8
10A10L000L1000	10A10	1000	700	1000	10A10

RATINGS AND CHARACTERISTIC CURVES - For Reference Only

FIG. 1- FORWARD CURRENT DERATING CURVE

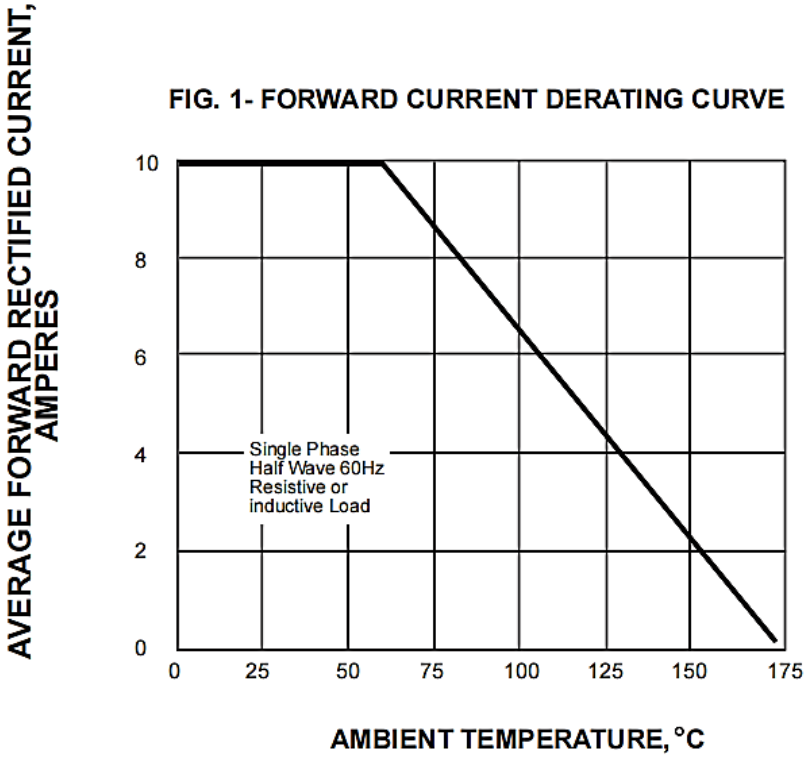
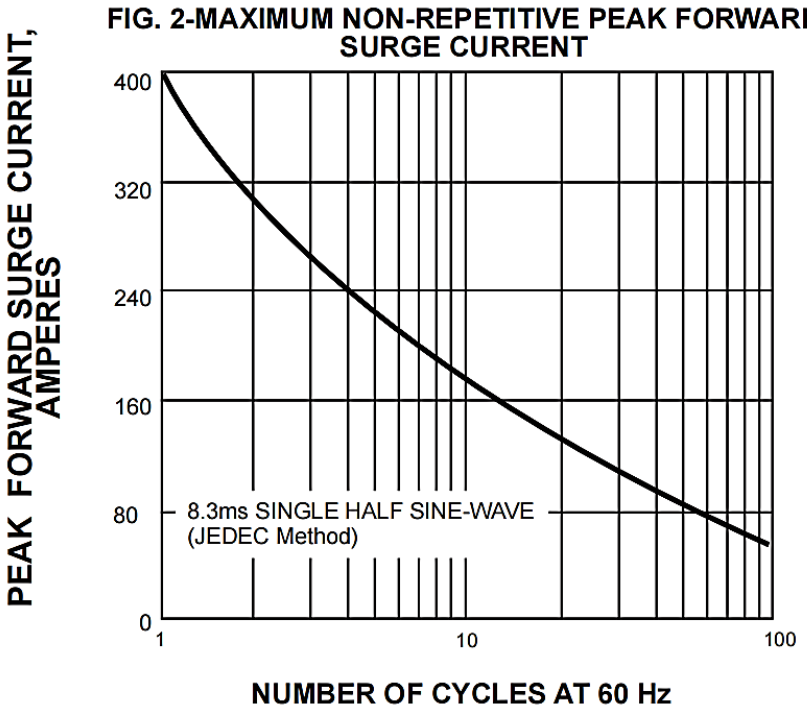


FIG. 2-MAXIMUM NON-REPETITIVE PEAK FORWARD SURGE CURRENT



RATINGS AND CHARACTERISTIC CURVES - For Reference Only

FIG. 3-TYPICAL INSTANTANEOUS FORWARD CHARACTERISTICS

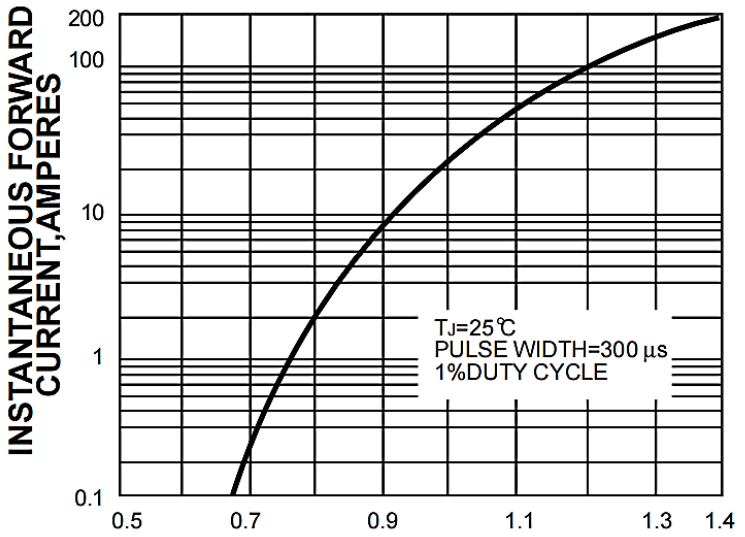
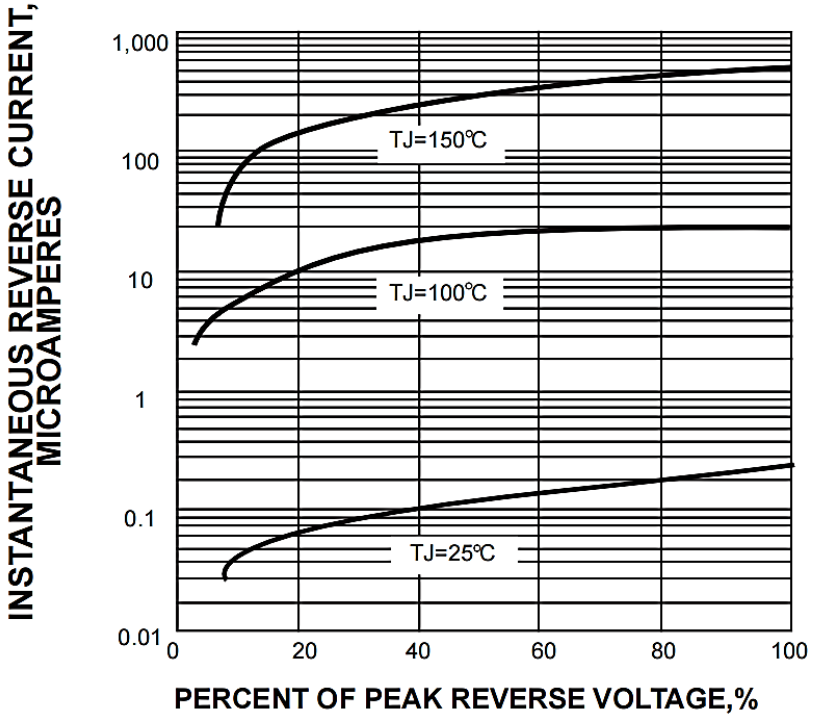


FIG. 4-TYPICAL REVERSE CHARACTERISTICS



RATINGS AND CHARACTERISTIC CURVES - For Reference Only

FIG. 5-TYPICAL JUNCTION CAPACITANCE

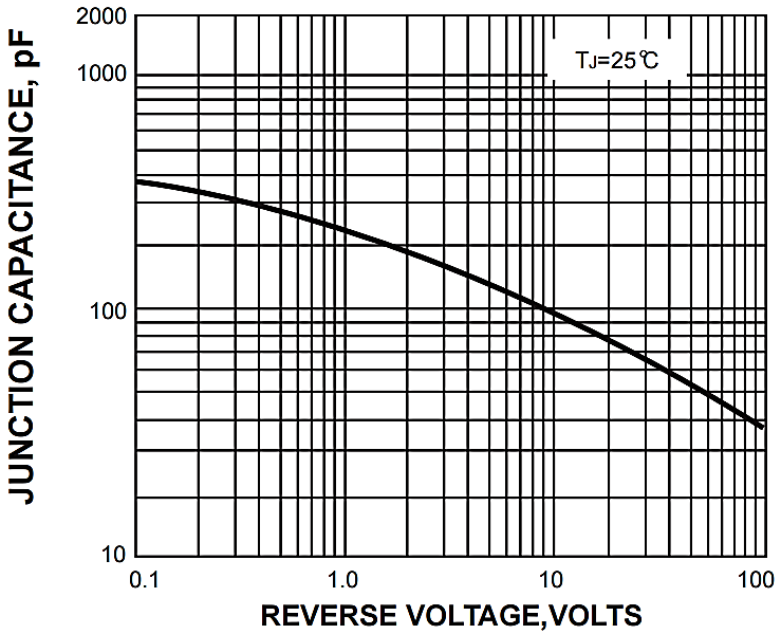
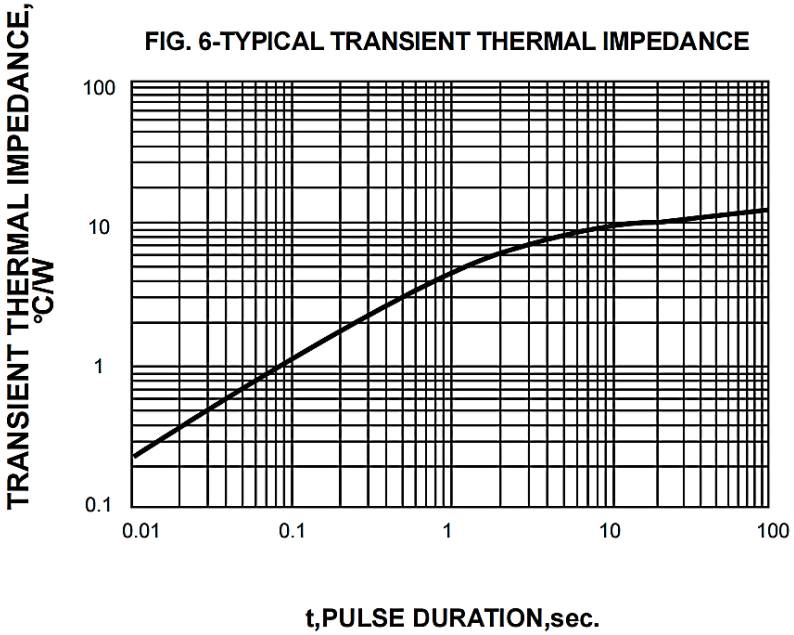
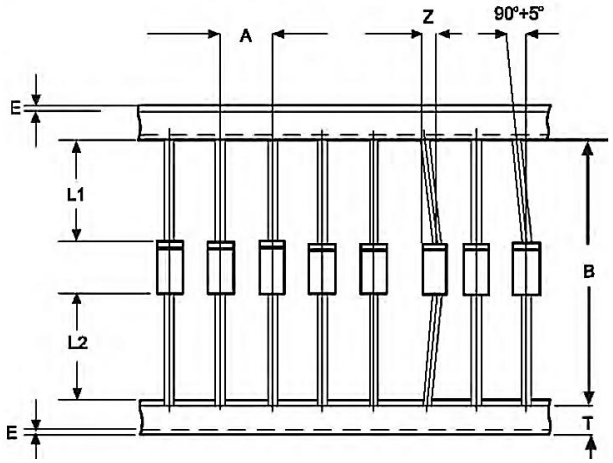


FIG. 6-TYPICAL TRANSIENT THERMAL IMPEDANCE



DIMENSION FOR TAPE

- All Devices are packed in accordance with EIA standard RS-296-D and specifications.
- Each component lead shall be sandwiched between taps for A minimum of 3.2 mm (0.126”)



ITEM	SYMBOL	R-6 (MM)	R-6 (INCH)
Component Alignment	Z	1.2 Max.	0.048 Max.
Tape Width	T	6.0 +/- 0.4	0.236 +/- 0.016
Exposed Adhesive	E	0.8 Max.	0.032 Max.
Body Eccentricity	L1 – L2	1.0 Max.	0.040 Max.
Component Pitch A (2.0mm/10 pitch)	A	10	0.197
Component Pitch B (2.0mm/10 pitch)	B	52.4	1.023
Component Pitch A (2.0mm/20 pitch)	-	-	-

PACKAGE IN INNER BOX

CASE CODE	QTY. PER TAPE	COMPONENT SPACE	TAPE SPACE	INNER BOX
	PCS	MM	MM	MM
R6	500	10	52.4	L198*W86*H21

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 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 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.
4. NextGen Component, Inc (*NextGen*) reserves the right to make changes to this document and its products and specifications at any time without notice. Customers should obtain and confirm the latest product information and specifications before final design, purchase or use.
5. *NextGen* makes no warranty, representation or guarantee regarding the suitability of its products for any particular purpose, not does *NextGen* assume any liability for application assistance or customer product design.
6. *NextGen* does not warrant or accept any liability with products which are purchased or used for any unintended or unauthorized application. No license is granted by implication or otherwise under any intellectual property rights of NextGen.
7. *NextGen* products are not authorized for use as critical components in life support devices or systems without express written approval by *NextGen.*
8. *NextGen* requires that customers first obtain an RMA (Returned Merchandise Authorization) number prior to returning any products. Returns must be made within 30 days of the date of invoice, be in the original packaging, unused and like-new condition. At the time of quoting or purchasing, a product may say that it is Non-Cancelable/ Non-Returnable (NCNR). These products are not returnable and not refundable.