

MURS120(LS)

**SURFACE MOUNT
SUPER FAST RECTIFIERS**

**REVERSE VOLTAGE – 200 Volts
FORWARD CURRENT – 1.0 Amperes**

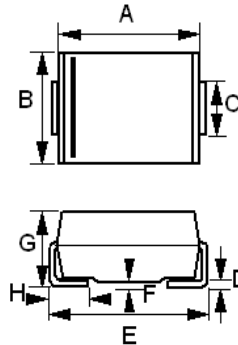
FEATURES

- Glass passivated chip
- Super fast switching for high efficiency
- For surface mounted applications
- Low forward voltage drop and high current capability
- Low reverse leakage current
- **Lead-Free Finish; RoHS Compliant (Notes 1 & 2)**
- **Halogen and Antimony Free. "Green" Device (Note 3)**
- **For automotive applications requiring specific change control (i.e.: parts qualified to AEC-Q100/101/104/200, PPAP capable, and manufactured in IATF 16949 certified facilities), please refer to the related automotive grade (Q-suffix) part. A listing can be found at <https://www.diodes.com/products/automotive/automotive-products/>.**
- **This part is qualified to JEDEC standards (as references in AEC-Q) for High Reliability.**
<https://www.diodes.com/quality/product-definitions/>

MECHANICAL DATA

- Package: Molded plastic SMB
- Package Material: Molding compound, UL Flammability classification 94V-0, "Halogen-free"
- Moisture Sensitivity: Level 1 per J-STD-020
- Terminals: Solder Plated Terminal - Solderable per MIL-STD-202, Method 208, Lead Free Plating (Matte Tin Finish) Ⓢ
- Polarity: Color band denotes cathode
- Weight: 0.003 ounces, 0.093 grams (Approximate)
- Marking : U1DB

SMB



SMB		
DIM.	MIN.	MAX.
A	4.06	4.57
B	3.30	3.94
C	1.96	2.21
D	0.15	0.31
E	5.21	5.59
F	0.05	0.20
G	2.01	2.50
H	0.76	1.52

All Dimensions in millimeter

MAXIMUM RATINGS AND ELECTRICAL CHARACTERISTICS

Ratings at 25°C ambient temperature unless otherwise specified.

CHARACTERISTICS	SYMBOL	MURS120	UNIT
Maximum Recurrent Peak Reverse Voltage	V_{RRM}	200	V
Maximum RMS Voltage	V_{RMS}	140	V
Maximum DC Blocking Voltage	VDC	200	V
Maximum Average Forward Rectified Current @ $T_L=135^{\circ}C$	$I(AV)$	1.0	A
Peak Forward Surge 8.3ms single half sine-wave superimposed on rated load (JEDEC METHOD)	I_{FSM}	40	A
Maximum forward Voltage at 1.0A DC	V_F	0.875	V
Maximum DC Reverse Current @ $T_j=25^{\circ}C$ at Rated DC Blocking Voltage @ $T_j=150^{\circ}C$	I_R	2.0 50	μA
Maximum Reverse Recovery Time (Note 4)	T_{RR}	25	ns
Typical Junction Capacitance Note 5)	C_J	27	pF
Typical Thermal Resistance (Note 6)	$R_{\theta JL}$	15	$^{\circ}C/W$
Operating Temperature Range	T_J	-55 to +175	$^{\circ}C$
Storage Temperature Range	T_{STG}	-55 to +175	$^{\circ}C$

Notes:

1. EU Directive 2002/95/EC (RoHS), 2011/65/EU (RoHS 2) & 2015/863/EU (RoHS 3) compliant. All applicable RoHS exemptions applied.
2. See <https://www.diodes.com/quality/lead-free/> for more information about Diodes Incorporated's definitions of Halogen- and Antimony-free, "Green" and Lead-free.
3. Halogen- and Antimony-free "Green" products are defined as those which contain <900ppm bromine, <900ppm chlorine (<1500ppm total Br + Cl) and <1000ppm antimony compounds.
4. Reverse Recovery Test Conditions: $I_F=0.5A$, $I_R=1.0A$, $IRR=0.25A$.
5. Measured at 1.0MHz and applied reverse voltage of 4.0V DC.
6. Thermal Resistance junction to Lead.

RATING AND CHARACTERISTIC CURVES
MURS120

FIG.1 - FORWARD CURRENT DERATING CURVE

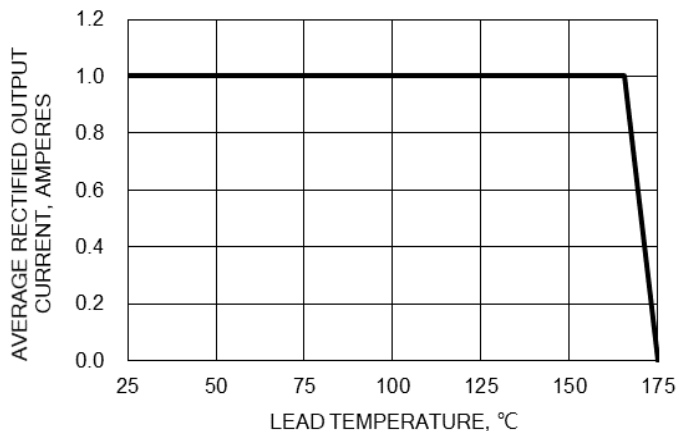


FIG.2 - MAXIMUM NON-REPETITIVE SURGE CURRENT

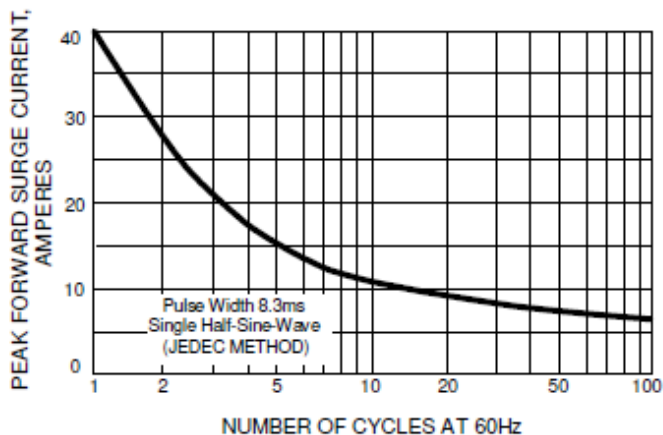


FIG.3 - TYPICAL FORWARD CHARACTERISTICS

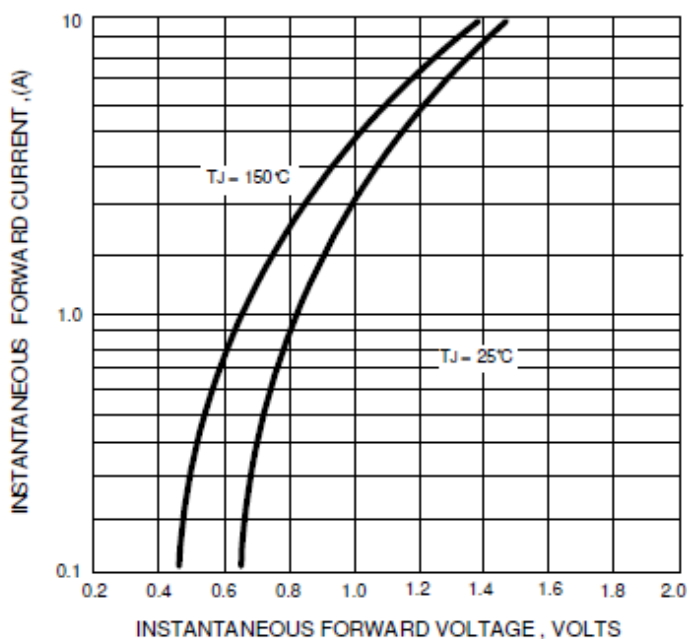
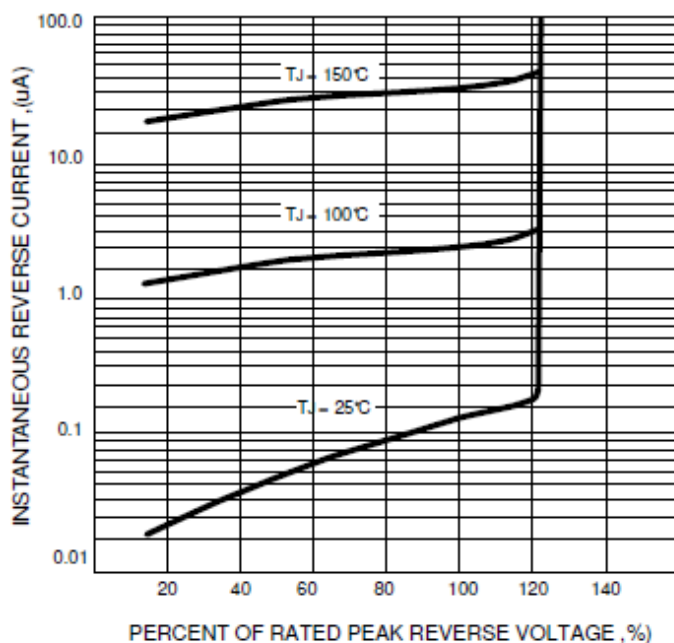


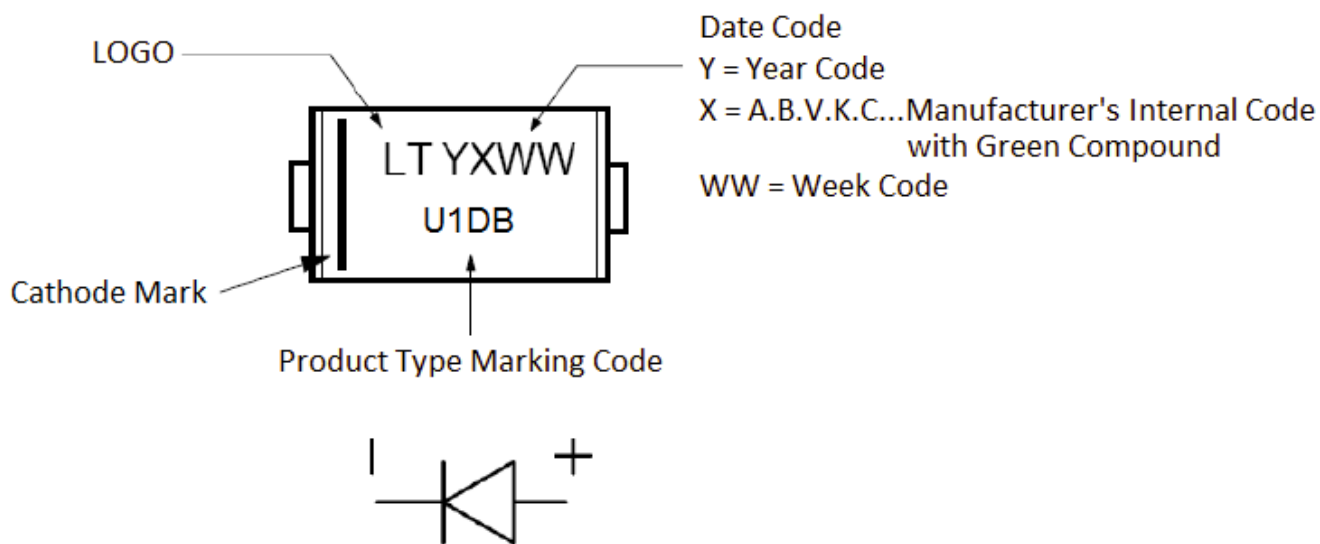
FIG.4 - TYPICAL REVERSE CHARACTERISTICS



Ordering Information :

Part Number	Package	Packing	
		Qty.	Carrier
MURS120	SMB	3000	Tape & Reel

Marking Information :



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