

Fast Recovery Diodes



Features

- High efficiency
- High current capability
- High reliability
- High frequency operation
- Glass Passivated Chip Junction
- High purity, high temperature epoxy encapsulation for enhanced mechanical strength and moisture resistance
- Passivation for enhanced ruggedness and long term reliability

Typical Applications

Typical applications are in switching power supplies, converters, freewheeling diodes, and reverse battery protection.

Mechanical Data

- **Package:** TO-220AC
Molding compound meets UL 94 V-0 flammability rating, RoHS-compliant
- **Terminals:** Tin plated leads, solderable per J-STD-002 and JESD22-B102
- **Polarity:** As marked

■Maximum Ratings (T_j=25°C Unless otherwise specified)

PARAMETER	SYMBOL	UNIT	MURL15140
Device marking code			MURL15140
Repetitive Peak Reverse Voltage	V_{RRM}	V	1400
Average Rectified Output Current @60Hz sine wave, R-load, T _c (FIG.1)	I_O	A	15
Surge(Non-repetitive)Forward Current @60Hz half sine-wave, 1 cycle, T _j =25°C	I_{FSM}	A	200
Current Squared Time @1ms≤t≤8.3ms T _j =25°C,	I^2t	A ² s	166
Storage Temperature	T _{stg}	°C	-55 ~ +150
Junction Temperature	T _j	°C	-55 ~ +150
Typical Junction capacitance @4V,1MHz	C _j	pF	58



MURL15140

■Electrical Characteristics

PARAMETER	SYMBOL	UNIT	TEST CONDITIONS	Min	Typ	Max
Instantaneous forward voltage drop per diode	V_{FM}	V	$I_{FM}=15.0A$ @ $T_j=25^{\circ}C$		1.17	1.3
			$I_{FM}=15.0A$ @ $T_j=125^{\circ}C$		1.06	1.2
DC reverse current at rated DC blocking voltage per diode	I_{RRM1}	μA	$V_{RM}=V_{RRM}$ $T_j=25^{\circ}C$			5
	I_{RRM2}		$V_{RM}=V_{RRM}$ $T_j=125^{\circ}C$			100
Maximum reverse recovery time	T_{rr}	ns	$I_F=0.5A$; $I_R=1.0A$; $I_{rr}=0.25A$; $T_j=25^{\circ}C$		400	500

■Thermal Characteristics ($T_j=25^{\circ}C$ Unless otherwise specified)

PARAMETER		SYMBOL	UNIT	MURL15140
Thermal Resistance	Between junction and case	$R_{\theta J-C}$	$^{\circ}C/W$	4

■Ordering Information (Example)

PREFERRED P/N	UNIT WEIGHT(g)	MINIMUM PACKAGE(pcs)	INNER BOX QUANTITY(pcs)	OUTER CARTON QUANTITY(pcs)	DELIVERY MODE
MURL15140	Approximate 1.88	50	1000	5000	Tube

■Characteristics (Typical)

FIG1: I_o - T_c Curve

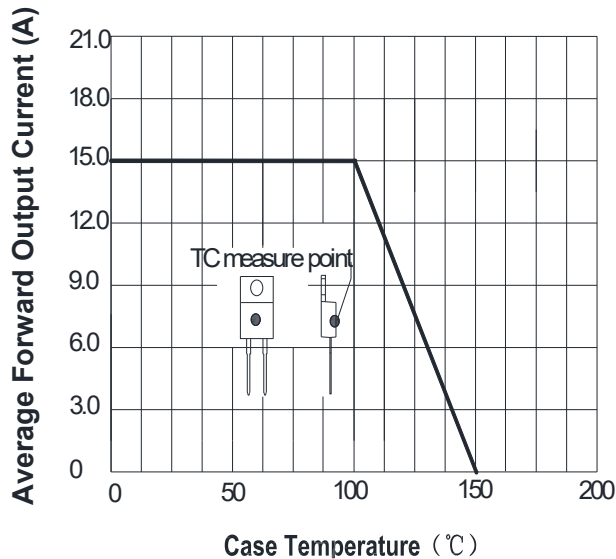


FIG2: Surge Forward Current Capability

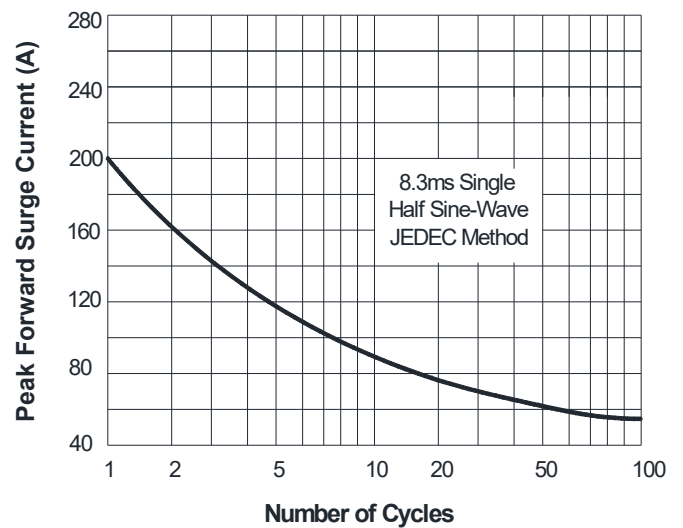
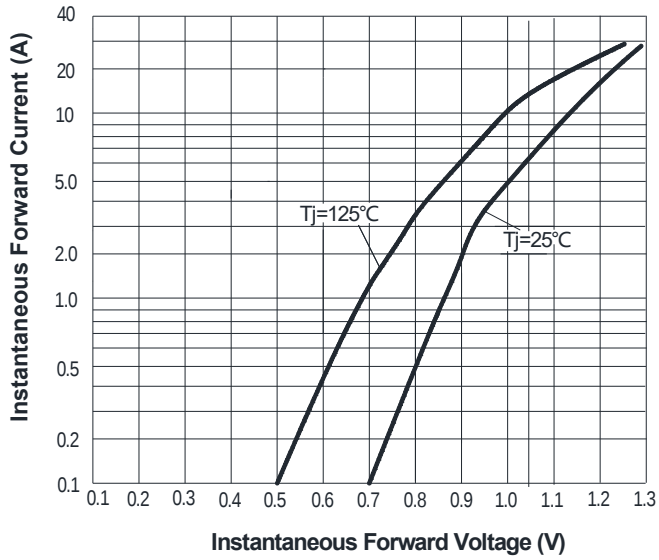
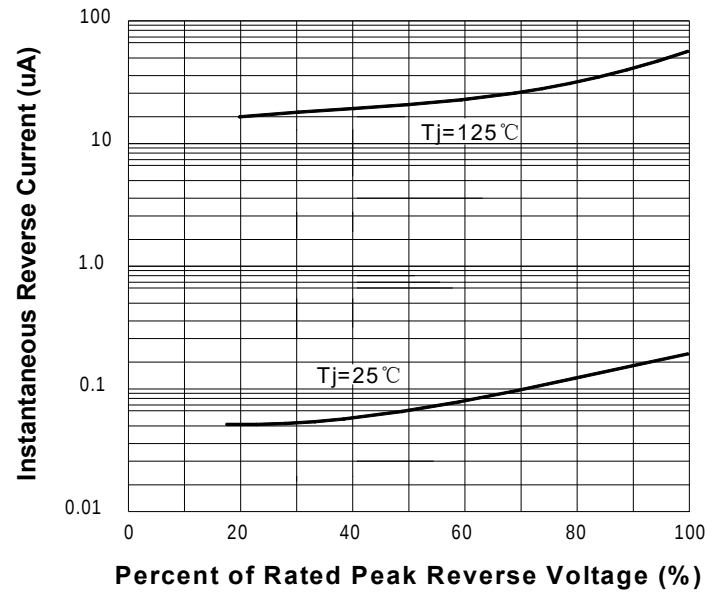
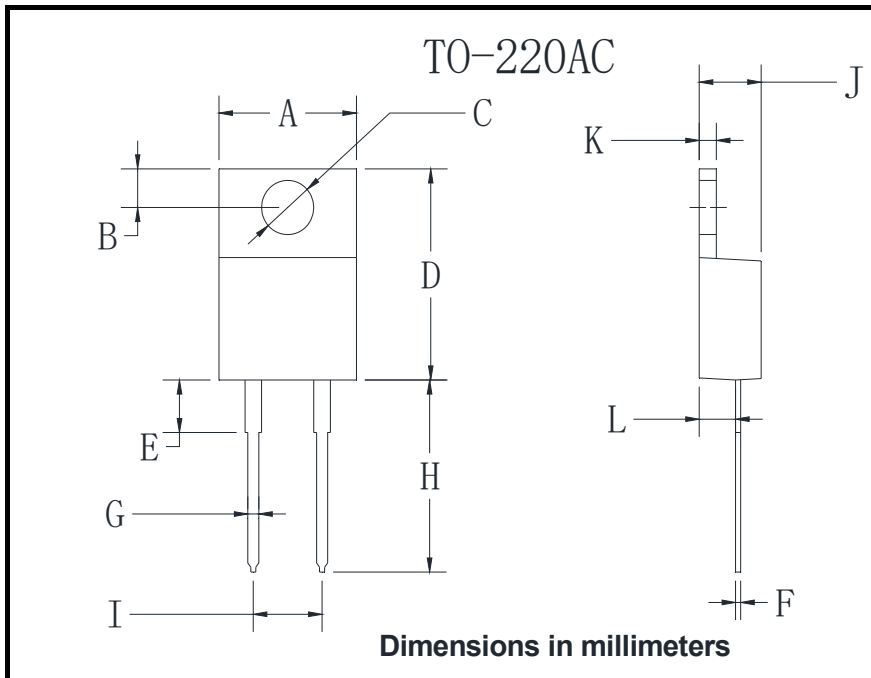


FIG3: Forward Voltage

FIG.4: Instantaneous Reverse Characteristics


■Outline Dimensions



TO-220AC		
Dim	Min	Max
A	9.95	10.35
B	2.55	2.95
C	3.75	4.05
D	14.95	15.25
E	3.75	4.25
F	0.26	0.5
G	0.68	0.94
H	13.3	13.9
I	4.86	5.26
J	4.38	4.78
K	1.14	1.4
L	2.37	2.79



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