



Fast Recovery Epi Diodes

Reverse Voltage - 200~600 Volts

Forward Current - 20 Amperes

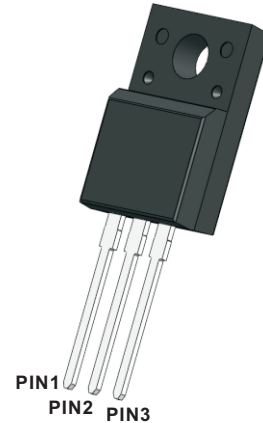
Features

- High frequency operation
- High surge forward current capability
- High purity, high temperature epoxy encapsulation for enhanced mechanical strength and moisture resistance
- Guard ring for enhanced ruggedness and long term reliability
- Solder dip 275 °C max. 7s, per JESD 22-B106

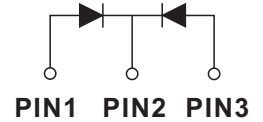
Mechanical data

- Case: TO-220F-3L
- Approx Weight: 1.767g (0.062oz)
- RoHS compliant
- Case Material: “Green” molding compound, UL flammability classification 94V-0, “Halogen-free”.

TO-220F-3L



RoHS
COMPLIANT



Maximum Ratings And Electrical Characteristics

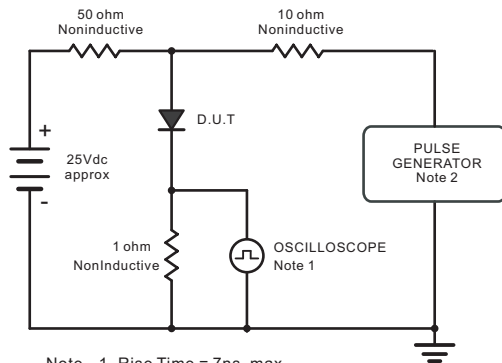
Ratings At 25°C Ambient Temperature Unless Otherwise Specified

Characteristics	Symble	MUR2020FD	MUR2040FD	MUR2060FD	Units
Maximum Recurrent Peak Reverse Voltage	V_{RRM}	200	400	600	V
Maximum RMS voltage	V_{RMS}	140	280	420	V
Maximum DC Blocking Voltage	V_{DC}	200	400	600	V
Maximum Average Forward Rectified Current Per leg Per device	$I_{F(AV)}$	10 20			A
Peak Forward Surge Current, 8.3ms Single Half Sine-wave Superimposed on Rated Load (JEDEC method)(Per leg)	I_{FSM}	150			A
Max Instantaneous Forward Voltage at 10 A (Per leg)	V_F	1.0	1.3	1.6	V
Maximum DC Reverse Current $T_a = 25^\circ\text{C}$ at Rated DC Reverse Voltage $T_a = 125^\circ\text{C}$	I_R	10 500			μA
Maximum Reverse Recovery Time ⁽¹⁾	t_{rr}	35			ns
Typical Junction Capacitance (f=1MHz, $V_R=4\text{V}$)	C_j	65	50	30	pF
Typical Thermal Resistance	$R_{\theta JC}$	4			$^\circ\text{C/W}$
Operating Junction Temperature Range	T_j	-55 ~ +150			$^\circ\text{C}$
Storage Temperature Range	T_{stg}	-55 ~ +150			$^\circ\text{C}$

NOTE 1: Reverse recovery test conditions $I_F=0.5\text{A}$, $I_R=1.0\text{A}$, $I_{rr}=0.25\text{A}$



Fig.1 Reverse Recovery Time Characteristic And Test Circuit Diagram



Note: 1. Rise Time = 7ns, max.
Input Impedance = 1megohm, 22pF.
2. Rise Time = 10ns, max.
Source Impedance = 50 ohms.

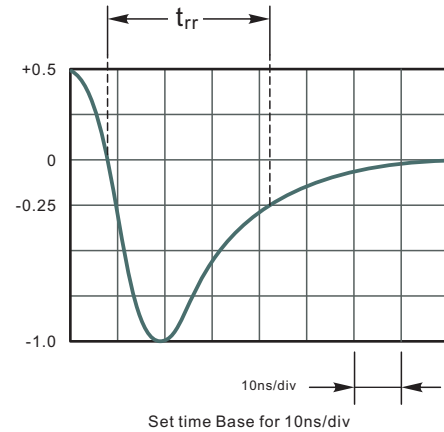


Fig.2 Forward Current Derating Curve

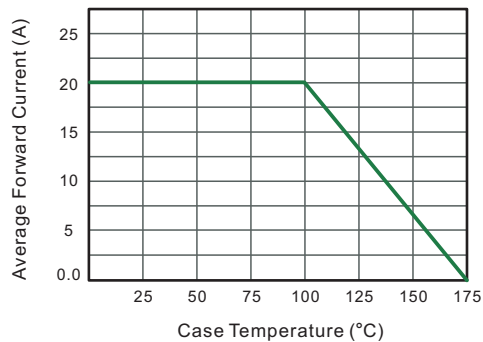


Fig.3 Typical Instantaneous Reverse Characteristics

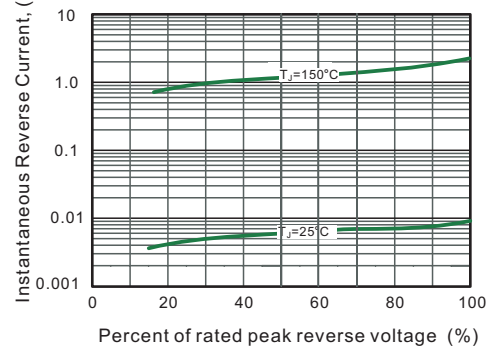


Fig.4 Typical Forward Characteristic

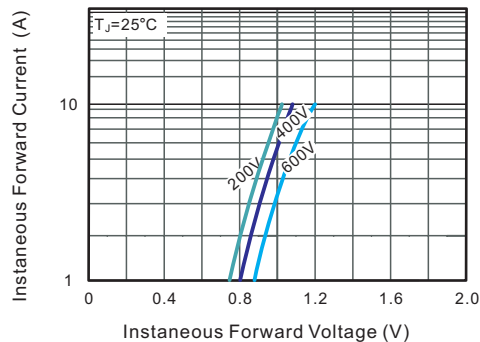


Fig.5 Maximum Non-Repetitive Peak Forward Surge Current

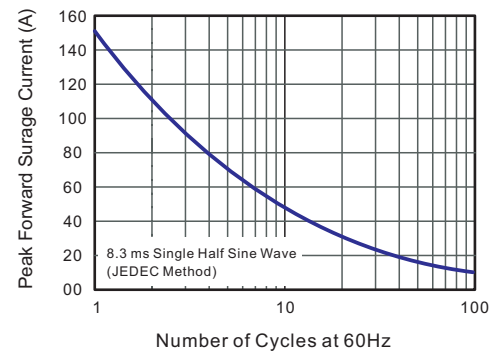


Fig.6 Max. Transient Thermal Impedance

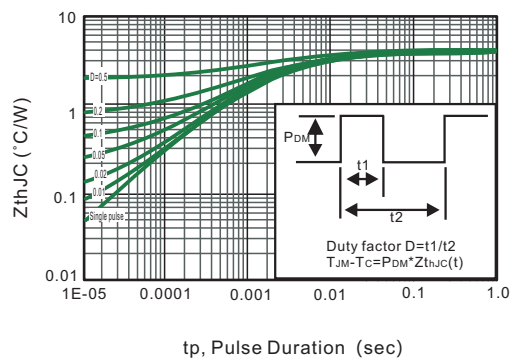
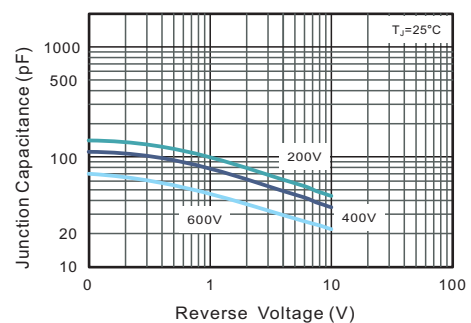


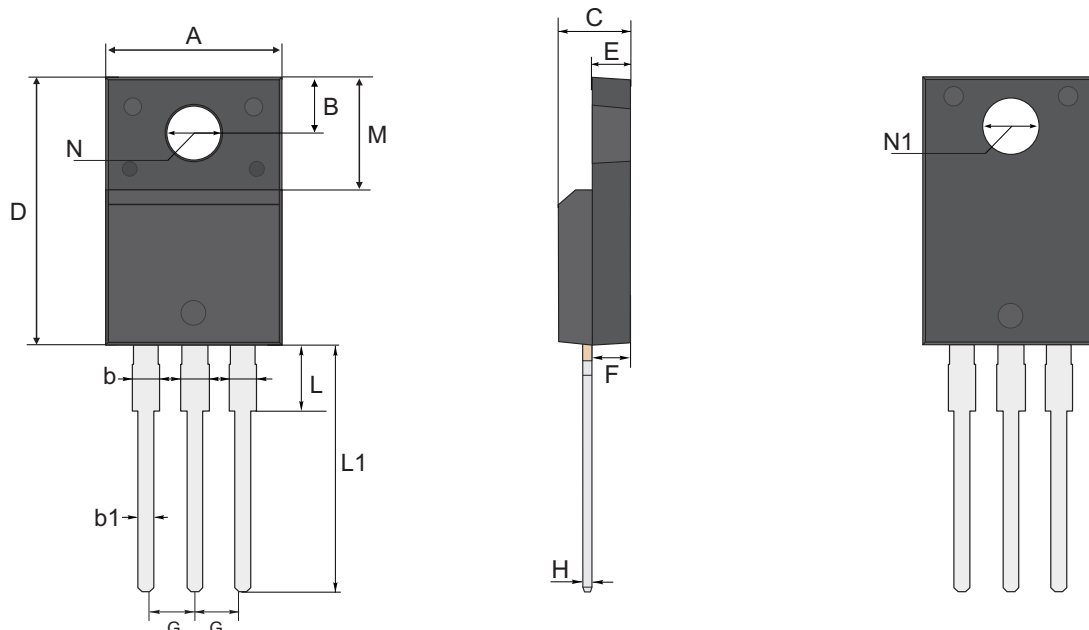
Fig.7 Typical Junction Capacitance





Package Outline
Through Hole Package ; 3 leads

TO-220F-3L



TO-220F-3L Mechanical data

UNIT		A	B	b	b1	C	D	E	F	G	H	L	L1	M	N	N1
mm	max	10.28	3.37	1.44	0.9	4.9	16.07	2.74	2.74	2.64	0.6	2.85	13.7	6.98	3.65	3.38
	typ	10.18	3.27	1.34	0.8	4.7	15.87	2.54	2.54	2.54	0.5	2.65	13.5	6.68	3.45	3.18
	min	10.08	3.17	1.24	0.7	4.5	15.67	2.34	2.34	2.44	0.4	2.45	13.3	6.38	3.25	2.98
mil	max	405	133	57	35	193	633	108	108	104	24	112	539	275	144	133
	typ	401	129	53	31	185	625	100	100	100	20	104	531	263	136	125
	min	397	125	49	28	177	617	92	92	96	16	96	524	251	128	117

Marking

Type number	Marking code
MUR2020FD MUR2040FD MUR2060FD	MUR2020FD MUR2040FD MUR2060FD



Important Notice and Disclaimer

Jingdao Microelectronics reserves the right to make changes to this document and its products and specifications at any without notice.

Customers should obtain and confirm the latest product information and specifications before final, purchase or use.

Jingdao Microelectronics makes no warranty, representation or guarantee regarding the suitability of its products for any particular purpose, nor does Jingdao Microelectronics assume any liability for application assistance or customer product design.

Jingdao Microelectronics 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 Jingdao Microelectronics.

Jingdao Microelectronics products are not authorized for use as critical components in life support devices or systems without express written approval of Jingdao Microelectronics.