



MUR1540/MUR1540F

Ultra-Fast Recovery Diodes 15A FRD Pt



Features

- Adopt FRD chip
- Low forward Voltage drop
- Fast reverse recovery time
- High frequency operation
- High purity, high temperature epoxy encapsulation for enhanced mechanical strength and moisture resistance
- Guard ring for enhanced ruggedness and long term reliability

Typical Applications

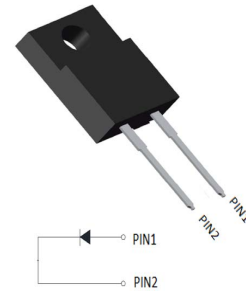
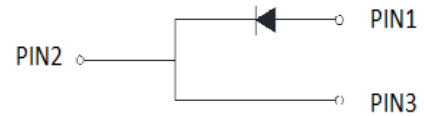
Typical applications are in switching power supplies, converters, freewheeling diodes, and reverse battery protection.

Mechanical Data

- **Package:** TO-220AC ITO-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 (Ta=25°C Unless otherwise specified)

TYPE	V _{RSM} V	V _{RRM} V
MUR1540	400	400
MUR1540F	400	400



PARAMETER	SYMBOL	UNIT	MUR1540
Device marking code			MUR1540
Repetitive Peak Reverse Voltage	V _{RRM}	V	400
Average Rectified Output Current @60Hz sine wave, R-load, Tc(FIG.1)	I _O	A	10
Surge(Non-repetitive)Forward Current @60Hz half sine-wave, 1 cycle, Tj=25°C	I _{FSM}	A	220
Current Squared Time @1ms≤t≤8.3ms Tj=25°C,	I ² t	A ² s	60
Storage Temperature	T _{stg}	°C	-55 ~ +175
Junction Temperature	T _j	°C	-55 ~ +175
Typical Junction capacitance @4V, 1MHz	C _j	pF	50

■Electrical Characteristics

PARAMETER	SYMBOL	UNIT	TEST CONDITIONS	Min	Typ	Max
Instantaneous forward voltage drop per diode	V_{FM}	V	$I_{FM}=15.0A$ @ $T_j=25^{\circ}C$	-	1.20	1.35
			$I_{FM}=15.0A$ @ $T_j=150^{\circ}C$	-	0.9	1.0
DC reverse current at rated DC blocking voltage per diode	I_{RRM1}	uA	$V_{RM}=V_{RRM}$ $T_j=25^{\circ}C$	-	-	5
	I_{RRM2}		$V_{RM}=V_{RRM}$ $T_j=150^{\circ}C$	-	40	100
Reverse Recovery Time	T_{RR}	ns	$I_F=0.5A$ $I_{RM}=1A$ $I_{RR}=0.25A$ $T_j=25^{\circ}C$	-	35	50
			$T_j=25^{\circ}C$	-	38	-
			$T_j=125^{\circ}C$	-	90	-
Peak recovery current	I_{RRM}	A	$T_j=25^{\circ}C$	-	3.3	-
			$T_j=125^{\circ}C$	-	6.8	-
Reverse recovery charge	Q_{rr}	nC	$T_j=25^{\circ}C$	-	50	-
			$T_j=125^{\circ}C$	-	170	-

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

PARAMETER		SYMBOL	UNIT	MUR1540
Thermal Resistance	Between junction and case	$R_{\theta J-C}$	$^{\circ}C/W$	2.0
	Between junction and Air	$R_{\theta J-A}$	$^{\circ}C/W$	50

■Ordering Information (Example)

PREFERRED P/N	UNIT WEIGHT(g)	MINIMUM PACKAGE(pcs)	INNER BOX QUANTITY(pcs)	OUTER CARTON QUANTITY(pcs)	DELIVERY MODE
MUR1540	Approximate 1.8	50	1000	5000	Tube



FIG1: I_o - T_c Curve

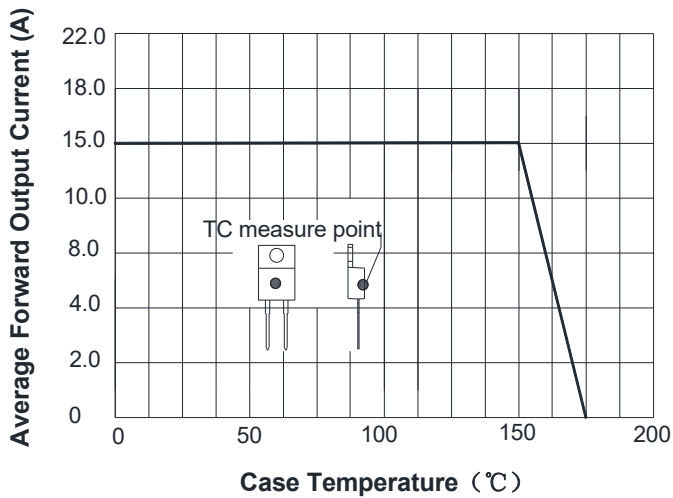


FIG2: Surge Forward Current Capability

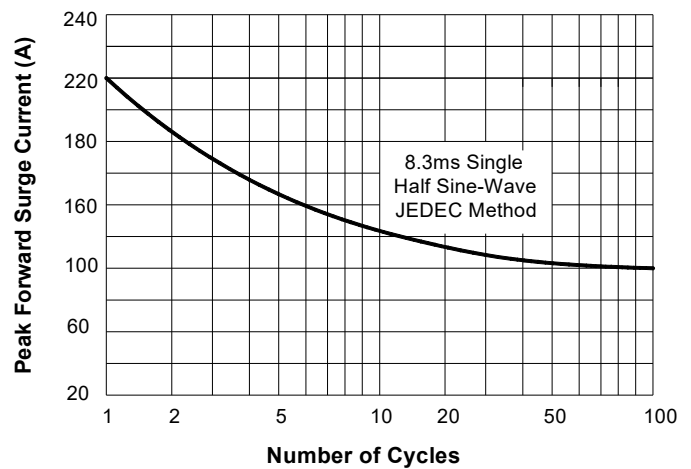


FIG3: Forward Voltage

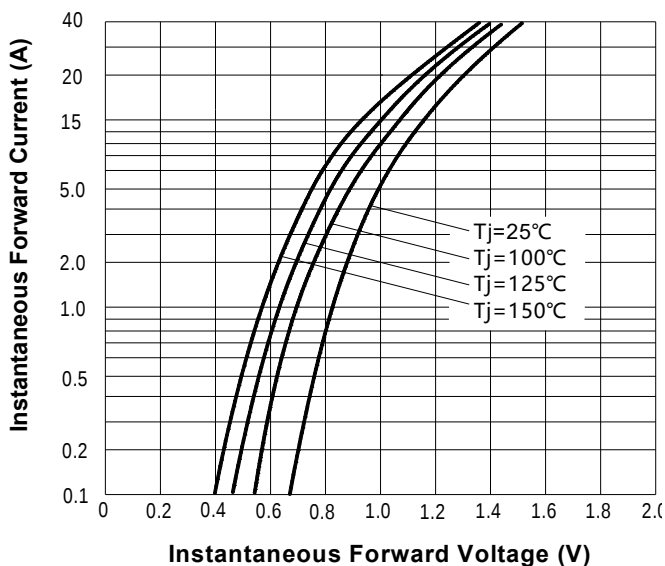


FIG4: Instantaneous Reverse Characteristics

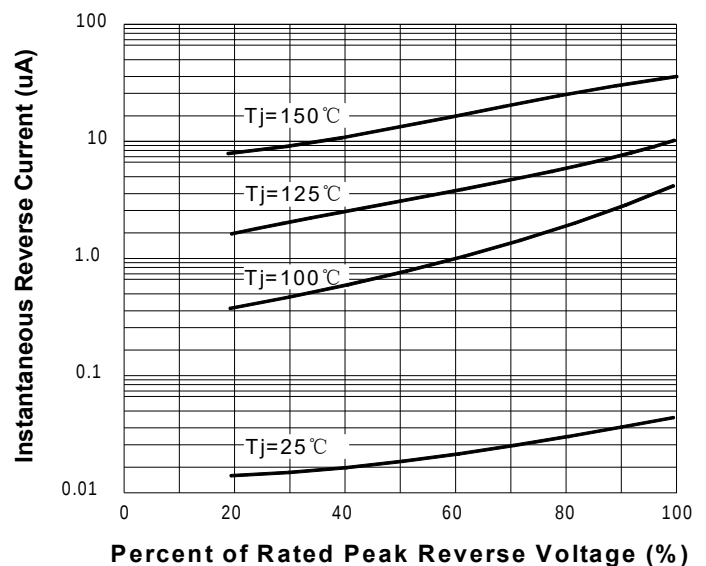
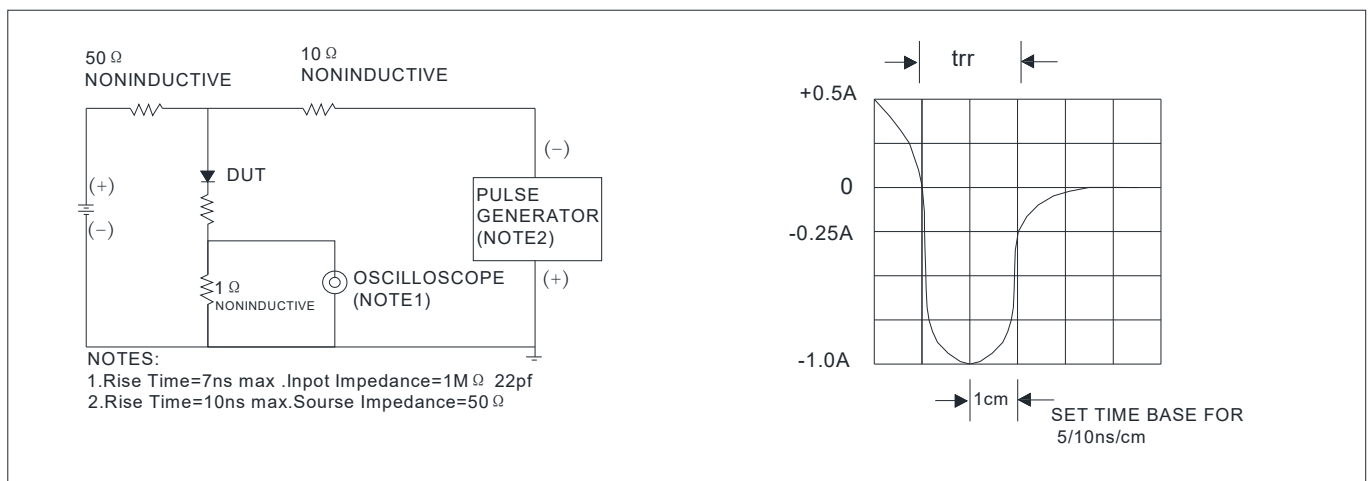
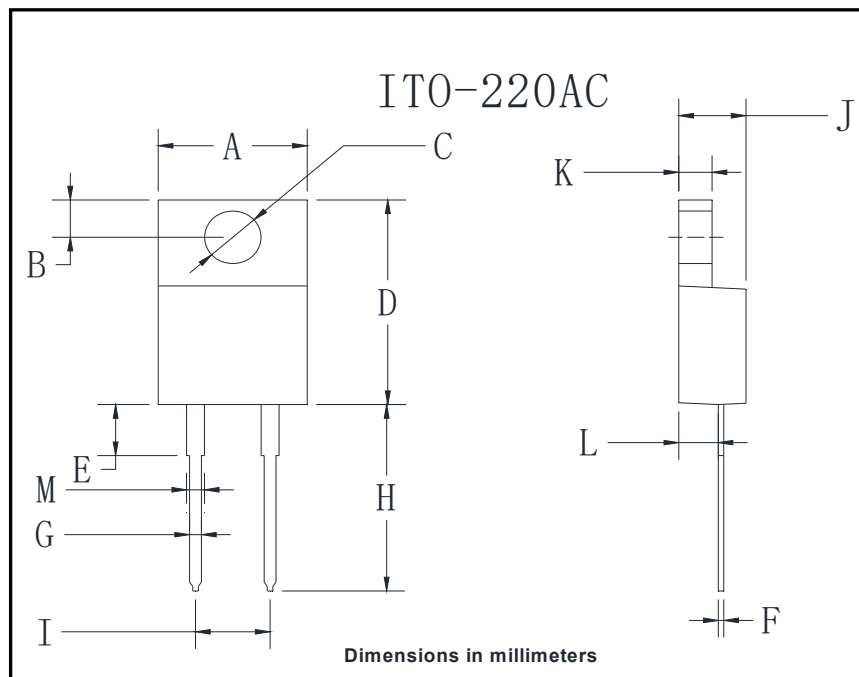


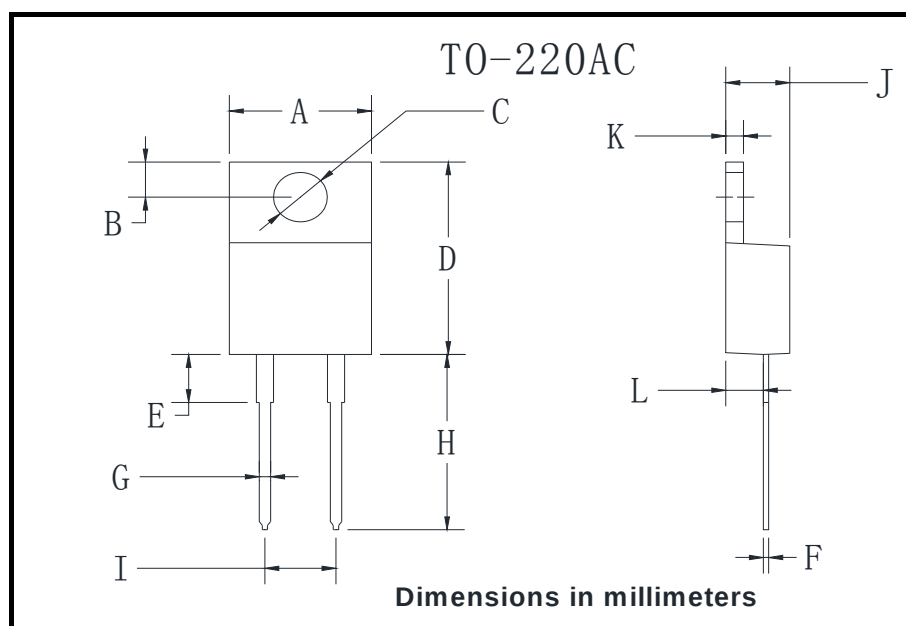
FIG5: Diagram of circuit and Testing wave form of reverse recovery time



■Outline Dimensions



ITO-220AC		
Dim	Min	Max
A	9.8	10.2
B	2.54	3.45
C	2.95	3.45
D	14.23	16.51
E	2.51	3.3
F	0.45	0.75
G	0.65	0.87
H	12.70	14.73
I	4.97	5.23
J	4.3	4.8
K	2.5	2.74
L	1.65	2.30
M	1.03	1.43



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

Packge	Packing	Box Size L×W×H(mm)	Quatity(pcs/box)	Carton Size L×W×H(mm)	Quatity(pcs/carton)
TO-220AB	50pcs/Tube	558×148×38	1000	565×225×175	5000