

MUR2040CT/MUR2040FCT

Ultrafast Recovery Rectifiers
Reverse Voltage 400V Forward Current 20 A

Features

- FRED (Planar) wafer construction
- Ultrafast recovery time
- Low forward voltage drop, low power loss
- High efficiency
- Plastic package has underwriters Laboratory
Flammability Classification 94V-0



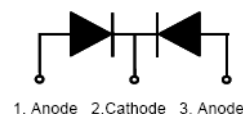
MUR2040CT
Package: TO-220-AB



MUR2040FCT
Package: ITO-220-AB

Mechanical Data

- Case: Epoxy, molded
- Weight: 1.9 grams (approximately)
- Finish: all external surfaces corrosion resistant and terminal leads readily solderable
- Lead temperature for soldering purposes: 260°C Max. for 10 sec
- 50 units per plastic tube



Schematic Diagram

Maximum Ratings & Electrical Characteristics

(T_A=25°C unless otherwise noted)

Parameter	Test Conditions		Symbol	Value	Unit	
Maximum Repetitive Peak Reverse Voltage			V _{RRM}	400	V	
Working Peak Reverse Voltage			V _{RWM}	400	V	
Maximum DC Blocking Voltage			V _{DC}	400	V	
Maximum Average Forward Rectified Current @ T _c =105°C	Total Device		I _F (AV)	20	A	
	Per Diode			10		
Peak Forward Surge Current 8.3ms Single Half Sine-wave Superimposed on Rated Load per Diode			I _{FSM}	125	A	
Voltage Rate of Change (rated V _R)			DV/dt	10000	V/μs	
Operating Junction Temperature Range			T _J	- 55 to+150	°C	
Storage Temperature Range			T _{STG}	- 55 to+150	°C	
Maximum Reverse Recover Time (I _F =0.5A, I _R =1.0A,I _{rec} =0.25A)			T _{rr}	50	ns	
Maximum Instantaneous Forward Voltage per Leg	I _F =10A	T _C =25°C	V _F	1.50	V	
	I _F =10A	T _C =125°C		1.40		
Maximum Reverse Current per Leg at Working Peak Reverse Voltage			I _R	10	μA	
				500	μA	
Thermal Characteristics T _A =25°C unless otherwise noted						
Symbol	Parameter		Typ.(MUR2040CT)		Typ.(MUR2040FCT)	Unit
R _{θJC}	Thermal Resistance, Junction to Case per Leg		2.0		4.0	°C/W
R _{θJA}	Thermal Resistance, Junction to Ambient per Leg		62.5		62.5	°C/W

Note: Pulse test:300us pulse width, duty cycle=2%

Ratings and Characteristics Curves ($T_A = 25^\circ\text{C}$ unless otherwise noted)

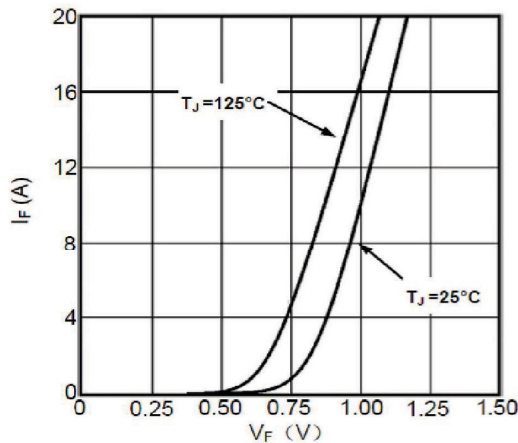


Fig1. Forward Voltage Drop vs Forward Current

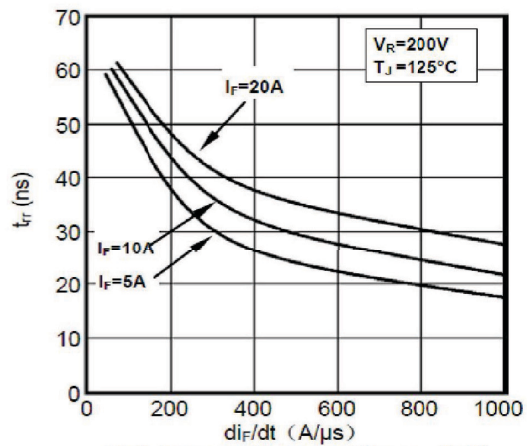


Fig2. Reverse Recovery Time vs di_F/dt

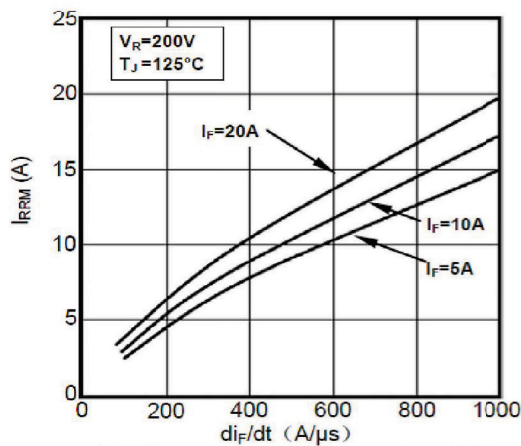


Fig3. Reverse Recovery Current vs di_F/dt

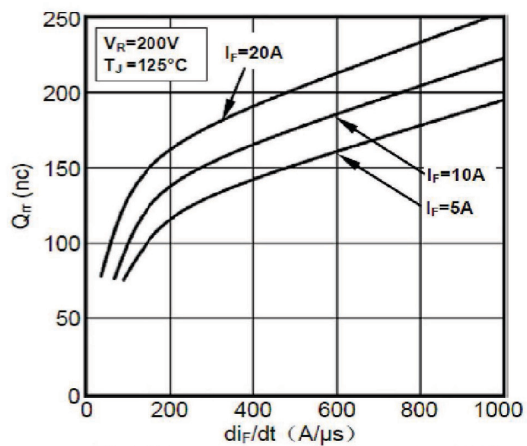


Fig4. Reverse Recovery Charge vs di_F/dt

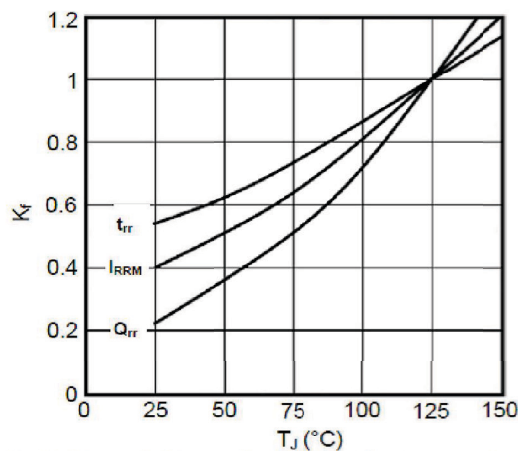


Fig5. Dynamic Parameters vs Junction Temperature

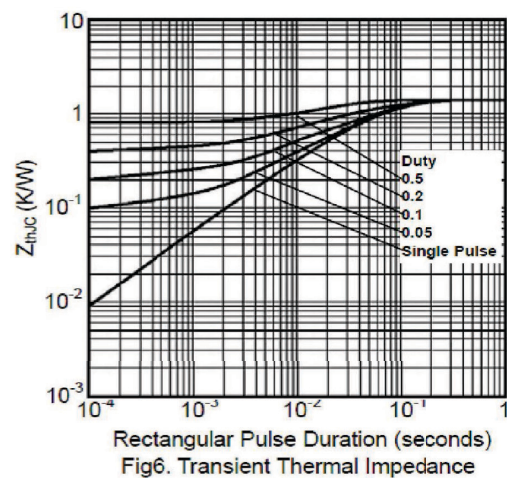
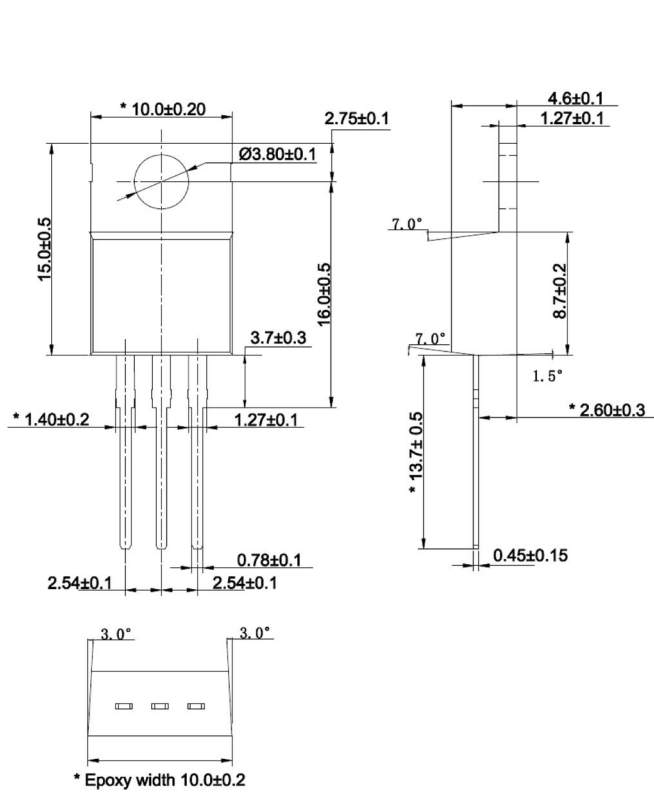


Fig6. Transient Thermal Impedance

Package Outline Dimensions

in millimeters

TO-220-AB



ITO-220-AB

