



# Frontier Electronics Corp.

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## 4A FAST EFFICIENT RECTIFIER

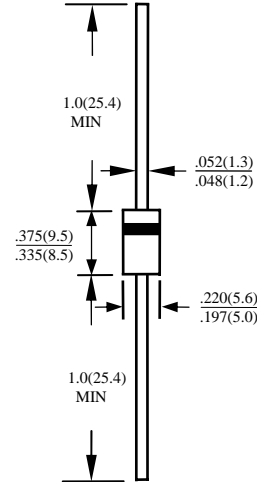
### MUR405 THRU MUR4100

#### FEATURES

- LOW POWER LOSS, HIGH EFFICIENCY
- LOW LEAKAGE
- LOW FORWARD VOLTAGE DROP
- HIGH CURRENT CAPABILITY
- HIGH SPEED SWITCHING
- HIGH RELIABILITY
- HIGH CURRENT SURGE
- GLASS PASSIVATED CHIP JUNCTION

#### MECHANICAL DATA

- CASE: MOLDED PLASTIC, DO201AD, DIMENSIONS IN INCHES AND (MILLIMETERS)
- EPOXY: UL 94V-0 RATE FLAME RETARDANT
- LEAD: MIL-STD-202E METHOD 208C GUARANTEED
- MOUNTING POSITION: ANY
- WEIGHT: 1.20 GRAMS



MAXIMUM RATINGS AND ELECTRICAL CHARACTERISTICS RATINGS AT 25°C AMBIENT TEMPERATURE UNLESS OTHERWISE SPECIFIED SINGLE PHASE, HALF WAVE, 60 HZ, RESISTIVE OR INDUCTIVE LOAD. FOR CAPACITIVE LOAD, DERATE CURRENT BY 20%

RATINGS	SYMBOL	MUR 405	MUR 410	MUR 415	MUR 420	MUR 440	MUR 460	MUR 480	MUR 4100	UNITS
MAXIMUM RECURRENT PEAK REVERSE VOLTAGE	$V_{RRM}$	50	100	150	200	400	600	800	1000	V
MAXIMUM RMS VOLTAGE	$V_{RMS}$	35	70	105	140	280	480	560	700	V
MAXIMUM DC BLOCKING VOLTAGE	$V_{DC}$	50	100	150	200	400	600	800	1000	V
MAXIMUM AVERAGE FORWARD RECTIFIED CURRENT 0.375"(9.5mm) LEAD LENGTH AT $T_A = -55^\circ\text{C}$	$I_O$	4.0								A
PEAK FORWARD SURGE CURRENT, 8.3ms SINGLE HALF SINE-WAVE SUPERIMPOSED ON RATED LOAD	$I_{FSM}$	125				70				A
TYPICAL JUNCTION CAPACITANCE (NOTE 1)	$C_j$	70								PF
TYPICAL THERMAL RESISTANCE (NOTE 2)	$R_{\theta ja}$	50								$^\circ\text{C/W}$
STORAGE TEMPERATURE RANGE	$T_{STG}$	- 55 TO + 150								$^\circ\text{C}$
OPERATING TEMPERATURE RANGE	$T_{OP}$	- 55 TO + 150								$^\circ\text{C}$

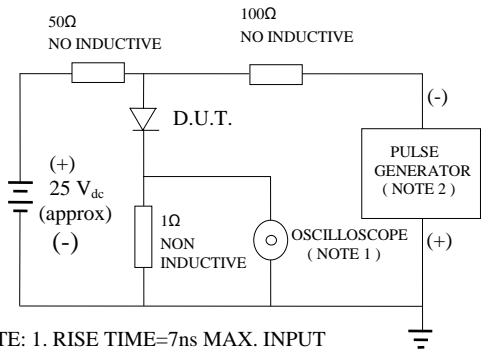
#### ELECTRICAL CHARACTERISTICS ( $A_T T_A = 25^\circ\text{C}$ UNLESS OTHERWISE NOTED)

CHARACTERISTICS	SYMBOL	MUR 405	MUR 410	MUR 415	MUR 420	MUR 440	MUR 460	MUR 480	MUR 4100	UNITS
MAXIMUM FORWARD VOLTAGE AT $I_O$ DC	$V_F$	0.92				1.25		1.85		V
MAXIMUM REVERSE CURRENT AT 25°C	$I_R$	5				10				$\mu\text{A}$
MAXIMUM REVERSE CURRENT AT 100°C	$I_R$	100								$\mu\text{A}$
MAXIMUM REVERSE RECOVERY TIME (NOTE 3)	$T_{RR}$	25			50		75		nS	

- NOTE:
1. MEASURED AT 1 MHZ AND APPLIED REVERSE VOLTAGE OF 4.0 VOLTS
  2. BOTH LEADS ATTACHED TO HEAT SINK 20x20x1t(mm) COPPER PLATE AT LEAD LENGTH 5mm
  3. REVERSE RECOVERY TEST CONDITIONS:  $I_F = 0.5\text{A}$ ,  $I_R = 1.0\text{A}$ ,  $I_{RR} = 0.25\text{A}$

# RATINGS AND CHARACTERISTIC CURVE MUR405 THRU MUR4100

FIG. 1-TEST CIRCUIT DIAGRAM AND REVERSE RECOVERY TIME CHARACTERISTIC



NOTE: 1. RISE TIME=7ns MAX. INPUT IMPEDANCE=1 MOhms 22PF  
2. RISE TIME =10ns MAX. SOURCE IMPEDANCE=50 OHMS

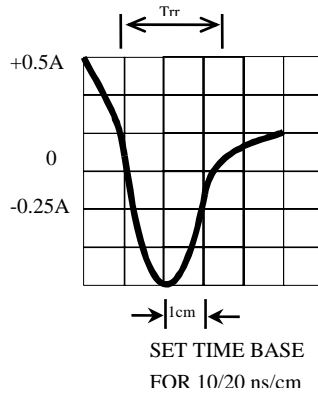


FIG. 2-TYPICAL FORWARD CURRENT DERATING CURVE

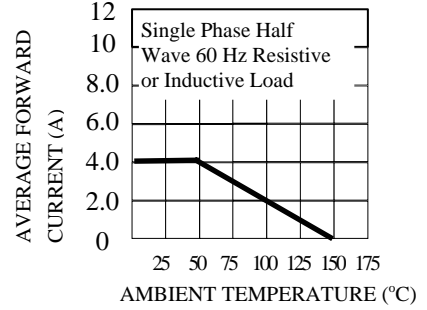


FIG. 3-TYPICAL REVERSE CHARACTERISTICS

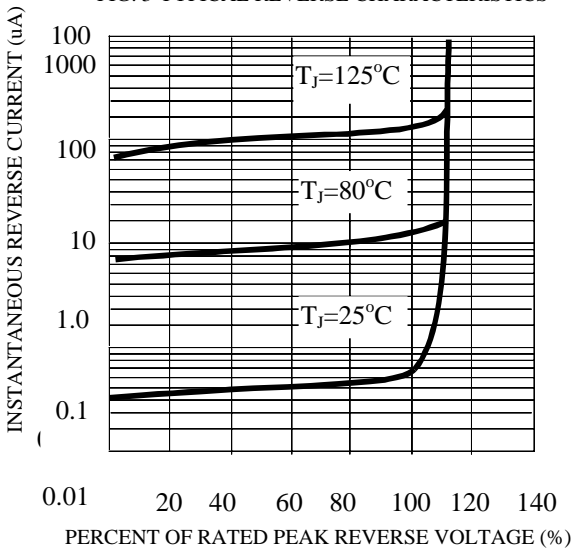


FIG. 4-TYPICAL INSTANTANEOUS FORWARD CHARACTERISTICS

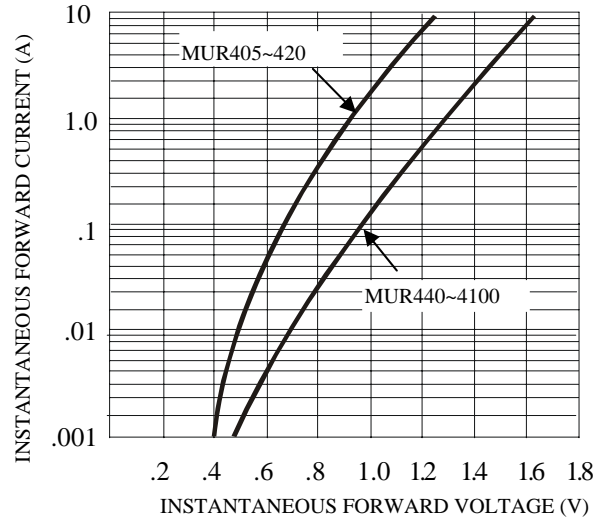


FIG. 5-MAXIMUM NON-REPETITIVE FORWARD SURGE CURRENT

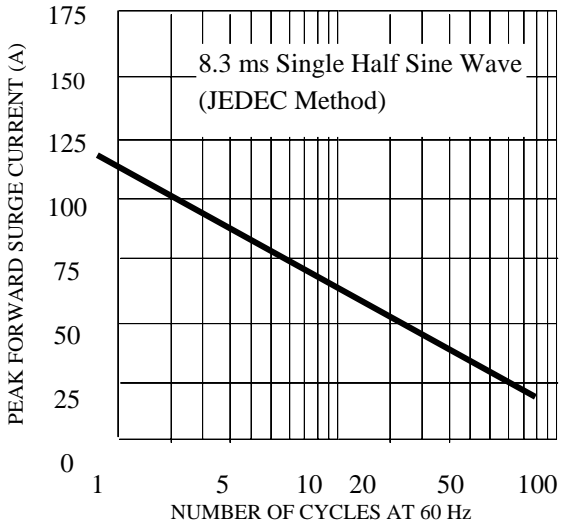


FIG. 6-TYPICAL JUNCTION CAPACITANCE

