



# Frontier Electronics Corp.

667 E. COCHRAN STREET, SIMI VALLEY, CA 93065

TEL: (805) 522-9998 FAX: (805) 522-9989

E-mail: [frontiersales@frontierusa.com](mailto:frontiersales@frontierusa.com)

Web: <http://www.frontierusa.com>

## FAST RECOVERY HIGH VOLTAGE PHOTO FLASH RECTIFIER

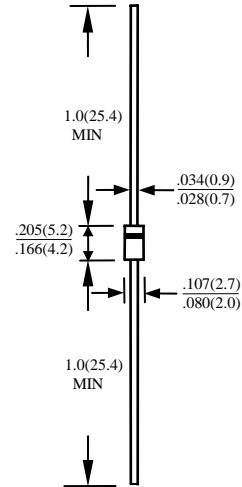
### FR05-10 THRU FR05-20

#### FEATURES

- FAST RECOVERY TIMES
- UL 94V0 FLAME RETARDANT EPOXY MOLDING COMPOUND
- LOW COST
- DESIGNED FOR PHOTO FLASH APPLICATION
- BEVELED ROUND CHIP

#### MECHANICAL DATA

- CASE: TRANSFER MOLDED, DO41, DIMENSIONS IN INCHES AND (MILLIMETERS)
- LEADS: SOLDERABLE PER MIL-STD-202, METHOD 208
- POLARITY: CATHODE INDICATED BY COLOR BAND
- WEIGHT: 0.34 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	FR05-10	FR05-15	FR05-16	FR05-18	FR05-20	UNITS	
MAXIMUM RECURRENT PEAK REVERSE VOLTAGE	$V_{RRM}$	1000	1500	1600	1800	2000	V	
MAXIMUM RMS VOLTAGE	$V_{RMS}$	700	1050	1120	1260	1400	V	
MAXIMUM DC BLOCKING VOLTAGE	$V_{DC}$	1000	1500	1600	1800	2000	V	
AVERAGE FORWARD RECTIFIED CURRENT AT $L=10\text{mm}$ $T_A=55^\circ\text{C}$	$I_O$	0.5						A
NOM-REPETITIVE PEAK FORWARD SURGE CURRENT, 8.3ms HALF SINE-WAVE	$I_{FSM}$	30						A
TYPICAL JUNCTION CAPACITANCE AT $V_R=4\text{V}$ , FREQUENCY=1MHZ (NOTE 1)	$C_J$	15						PF
TYPICAL THERMAL RESISTANCE	$R_{\theta ja}$	50						°C/W
STORAGE TEMPERATURE RANGE	$T_{STG}$	-55 TO + 150						°C
OPERATING TEMPERATURE RANGE	$T_{OP}$	-55 TO + 150						°C

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

CHARACTERISTICS	SYMBOL	FR05-10	FR05-15	FR05-16	FR05-18	FR05-20	UNITS
MAXIMUM FORWARD VOLTAGE AT $I_O$ DC	$V_F$	2.0				3.0	V
MAXIMUM REVERSE CURRENT AT 25°C	$I_R$	5					μA
MAXIMUM REVERSE CURRENT AT 100°C	$I_R$	50					μA
TYPICAL REVERSE RECOVERY TIME	$T_{RR}$	500					nS

- NOTE: 1. MEASURED AT 1MHZ AND APPLIED REVERSE VOLTAGE OF 4.0 VOLTS  
2. BOTH LEADS ATTACHED TO HEAT SINK 20×20×1t(mm) COPPER PLATE AT LEAD LENGTH 5mm

# RATINGS AND CHARACTERISTICS CURES FR05-10 THRU FR05-20

FIG. 1-MAXIMUM CURRENT RATING  
EFFECT OF COPPER AREA.  
RESISTIVE/INDUCTIVE LOAD

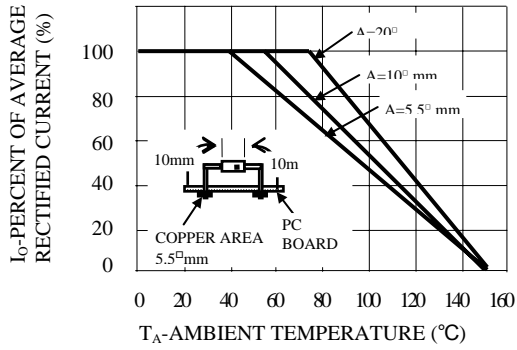


FIG. 2-MAXIMUM CURRENT RATING  
CAPACITIVE LOAD,  
10mm LEAD LENGTHS

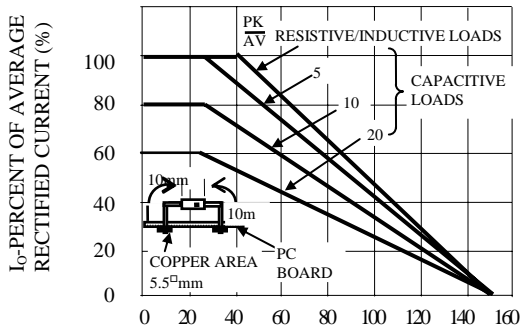


FIG. 3-MAXIMUM CURRENT RATING  
EFFECT OF COPPER AREA.  
RESISTIVE/INDUCTIVE LOAD

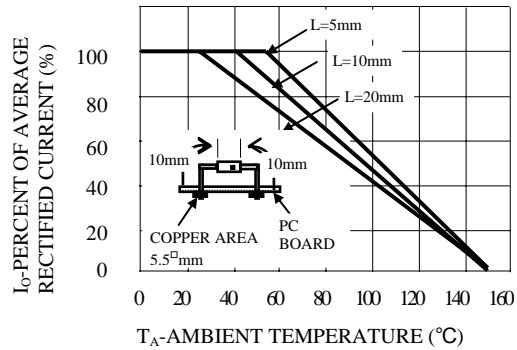


FIG. 4-TYPICAL REVERSE CHARACTERISTICS  
AT  $T_j=25^{\circ}C$

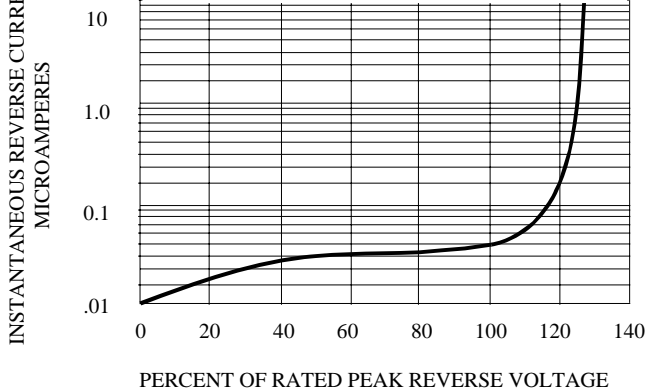


FIG. 5-MAXIMUM FORWARD SURGE  
VS NUMBER OF CYCLES

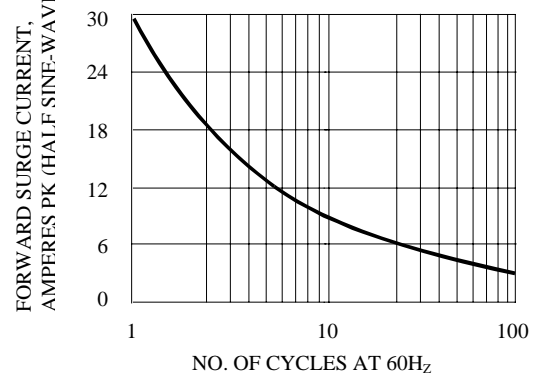


FIG. 6-TYPICAL JUNCTION CAPACITANCE

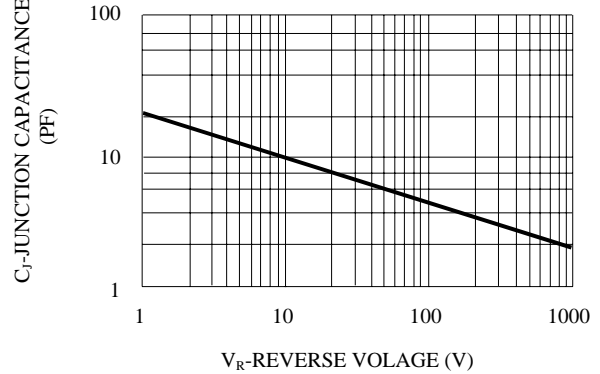


FIG. 7 TYPICAL FORWARD CHARACTERISTICS

