



# 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>

## MINI MELF SILICON EPITAXIAL PLANAR DIODE

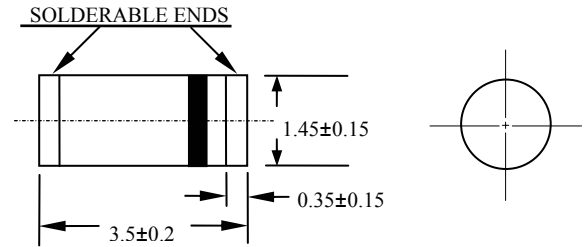
**MM4148**

### FEATURES

- FAST SWITCHING
- MINI MELF SIZE

### MECHANICAL DATA

- CASE: GLASS, DO-213AA (GL34), DIMENSIONS IN MILLIMETERS
- LEADS: SOLDERABLE PER MIL-STD-202, METHOD 208
- POLARITY: CATHODE INDICATED BY COLOR BAND
- WEIGHT: 0.036 GRAMS



RATINGS	SYMBOL	MM4148	UNITS
REVERSE VOLTAGE	$V_R$	75	V
PEAK REVERSE VOLTAGE	$V_{RM}$	100	V
RECTIFIED CURRENT ( AVERAGE ) HALF WAVE RECTIFICATION WITH RESIST LOAD AT $T_{amb} = 25^{\circ}C$ AND $f \geq 50HZ$ ( NOTE 1 )	$I_O$	150	mA
SURGE FORWARD CURRENT AT $T < 1 s$ AND $T_J = 25^{\circ}C$	$I_{FSM}$	500	mA
POWER DISSIPATION AT $T_{amb}=25^{\circ}C$	$P_{TOT}$	500	mW
JUNCTION TEMPERATURE	$T_J$	200	$^{\circ}C$
STORAGE TEMPERATURE RANGE	$T_s$	- 55 TO + 200	$^{\circ}C$

CHARACTERISTICS $T_J=25^{\circ}C$	SYMBOL	MIN	TYP	MAX	UNITS
FORWARD VOLTAGE AT $I_f=10mA$	$V_f$	-	-	1	V
LEAKAGE CURRENT AT $V_R=20V$	$I_R$	-	-	25	nA
AT $V_R=75V$	$I_R$	-	-	5	$\mu A$
AT $V_R=20V T_J=150^{\circ}C$	$I_R$	-	-	50	$\mu A$
REVERSE BREAKDOWN VOLTAGE TESTED WITH 100 $\mu A$ PULSES	$V_R$	100	-	-	V
CAPACITANCE AT $V_f=V_R=0$	$C_{TOT}$	-	-	4	PF
VOLTAGE RISE WHEN SWITCHING ON TESTED WITH 50mA FORWARD PULSES TP=0.1 $\mu s$ RISE TIME < 30ns $F_p=5$ TO 100 KHZ	$V_{FR}$	-	-	2.5	V
REVERSE RECOVERY TIME FROM $I_f=10mA$ TO $I_R=1mA V_R=6V R_L=100\Omega$	$T_{RR}$	-	-	4	nS
THERMAL RESISTANCE JUNCTION TO AMBIENT AIR ( NOTE 1 )	$R_{THA}$	-	-	0.35	K / mW
RECTIFICATION EFFICIENCY AT $f=100 MHz V_{RF}=2V$	$\eta_v$	0.45	-	-	-

NOTE: 1. LEADS KEPT AT AMBIENT TEMP.

# RATINGS AND CHARACTERISTIC CURVE MM4148

FIG. 1-FORWARD CHARACTERISTIC

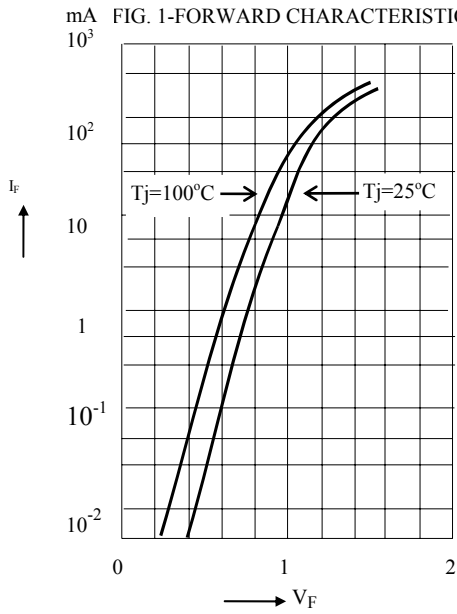


FIG. 2-DYNAMIC FORWARD RESISTANCE VERSUS FORWARD CURRENT

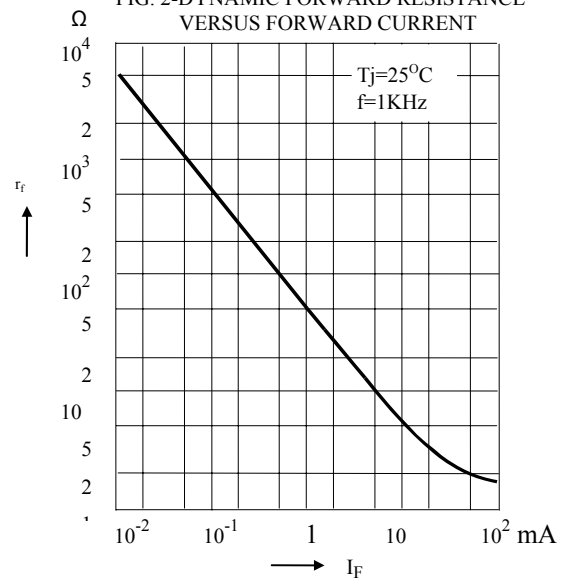


FIG. 3-ADMISSIBLE POWER DISSIPATION VERSUS AMBIENT TEMPERATURE  
Valid provided that leads at a distance of 8mm from case are kept at ambient temperature

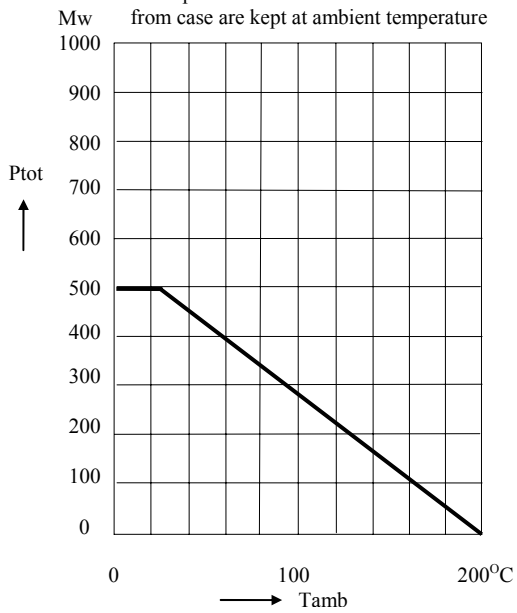
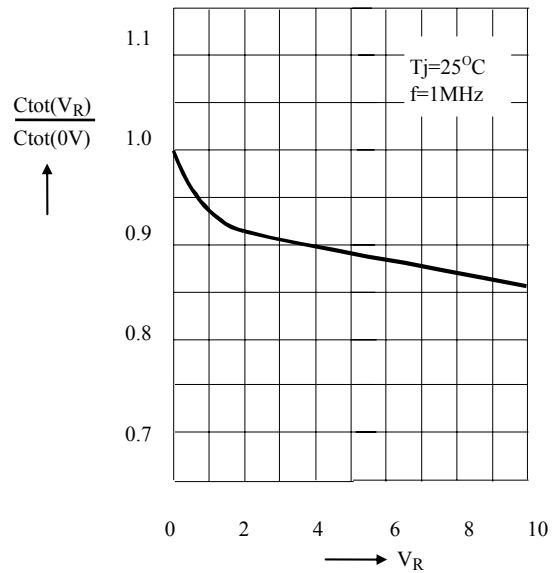


FIG. 4-RELATIVE CAPACITANCE VERSUS REVERSE VOLTAGE



# RATINGS AND CHARACTERISTIC CURVE MM4148

FIG. 5-LEAKAGE CURRENT VERSUS JUNCTION TEMPERATURE

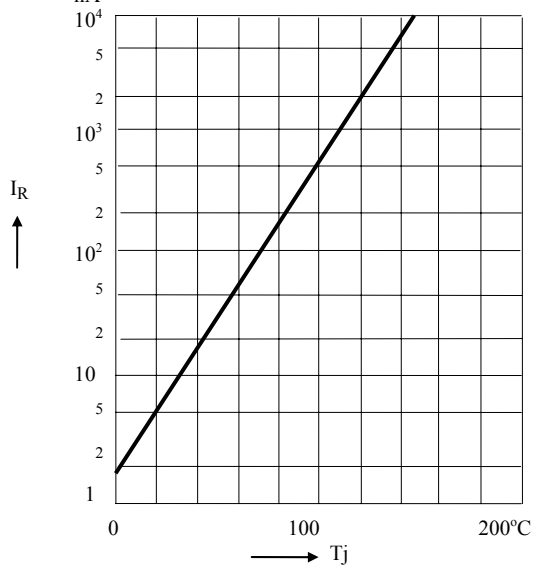


FIG. 6-ADMISSIBLE REPETITIVE PEAK FORWARD CURRENT VERSUS PULSE DURATION

Valid provided that leads at a distance of 8mm from case are kept at ambient temperature

