



# Frontier Electronics Corp.

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## 1A FAST RECOVERY PLASTIC RECTIFIER

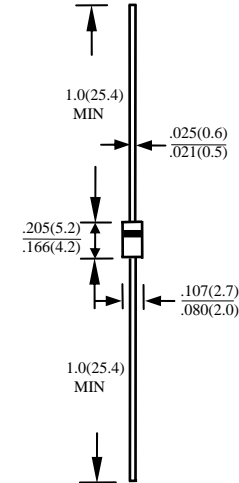
### 1N4933S THRU 1N4937S

#### FEATURES

- LOW COST
- PLASTIC PACKAGE HAS UNDERWRITERS LABORATORY FLAMMABILITY CLASSIFICATION 94V-0
- 1 AMPERE OPERATION AT TA=55°C WITH NO THERMAL RUNAWAY
- FAST SWITCHING FOR HIGH EFFICIENCY
- EXCEEDS ENVIRONMENTAL STANDARDS OF MIL-STD-19500
- HIGH TEMPERATURE SOLDERING GUARANTEED: 250°C/10S/0.375"(9.5mm) LEAD LENGTH /5 LBS (2.3KG) TENSION

#### MECHANICAL DATA

- CASE: JEDEC DO-41, MOLDED CASE, DIMENSIONS IN INCHES AND (MILLIMETERS)
- TERMINAL: AXIAL LEADS, SOLDERABLE PER MIL-STD-202, METHOD 208
- POLARITY: COLOR BAND DENOTES CATHODE
- MOUNTING POSITION: ANY
- WEIGHT: 0.20 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	1N4933S	1N4934S	1N4935S	1N4936S	1N4937S	UNITS
MAXIMUM RECURRENT PEAK REVERSE VOLTAGE	$V_{RRM}$	50	100	200	400	600	V
MAXIMUM RMS VOLTAGE	$V_{RMS}$	35	70	140	280	420	V
MAXIMUM DC BLOCKING VOLTAGE	$V_{DC}$	50	100	200	400	600	V
MAXIMUM AVERAGE FORWARD RECTIFIED CURRENT 0.375"(9.5mm) LEAD LENGTH AT TA=55°C	$I_O$	1.0					A
PEAK FORWARD SURGE CURRENT, 8.3ms SINGLE HALF SINE-WAVE SUPERIMPOSED ON RATED LOAD	$I_{FSM}$	30					A
TYPICAL JUNCTION CAPACITANCE (NOTE 1)	$C_J$	15					PF
TYPICAL THERMAL RESISTANCE (NOTE 2)	$R_{\theta ja}$	50					°C/W
STORAGE TEMPERATURE RANGE	$T_{STG}$	- 55 TO + 150					°C
OPERATING TEMPERATURE RANGE	$T_{OP}$	- 55 TO + 150					°C

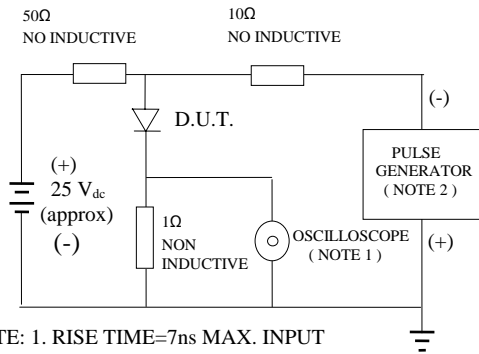
#### ELECTRICAL CHARACTERISTICS (AT TA =25°C UNLESS OTHERWISE NOTED)

CHARACTERISTICS	SYMBOL	1N4933S	1N4934S	1N4935S	1N4936S	1N4937S	UNITS
MAXIMUM FORWARD VOLTAGE AT $I_O$ DC	$V_F$	1.2					V
MAXIMUM REVERSE CURRENT AT 25°C	$I_R$	5					μA
MAXIMUM REVERSE CURRENT AT 100°C	$I_R$	50					μA
MAXIMUM REVERSE RECOVERY TIME (NOTE 2)	$T_{RR}$	120					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:  $I_F=0.5A$ ,  $I_R=1.0A$ ,  $I_{RR}=0.25A$

# RATINGS AND CHARACTERISTIC CURVE 1N4933S THRU 1N4937S

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

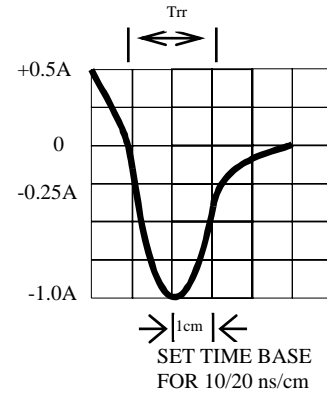


Fig. 2-MAXIMUM CURRENT DERATING CURVE

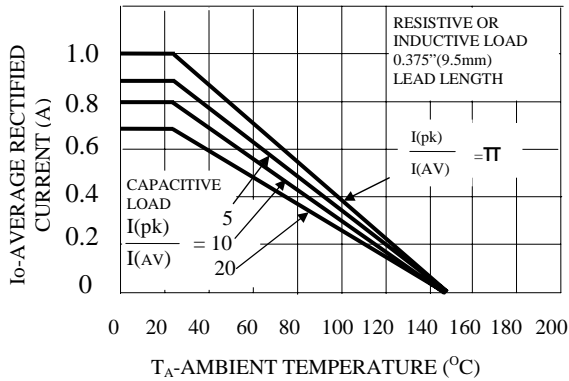


Fig. 5-MAXIMUM FORWARD SURGE NUMBER OF CYCLES

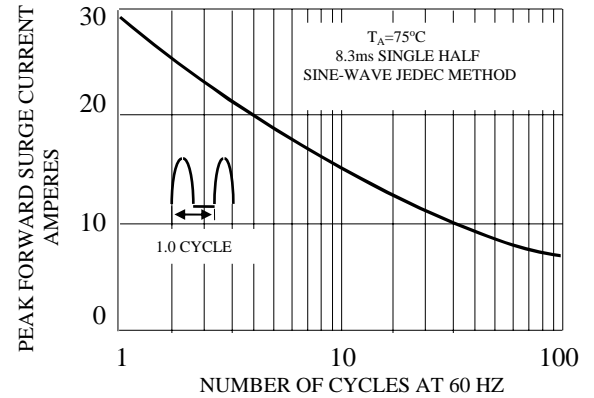


FIG. 3-TYPICAL JUNCTION CAPACITANCE

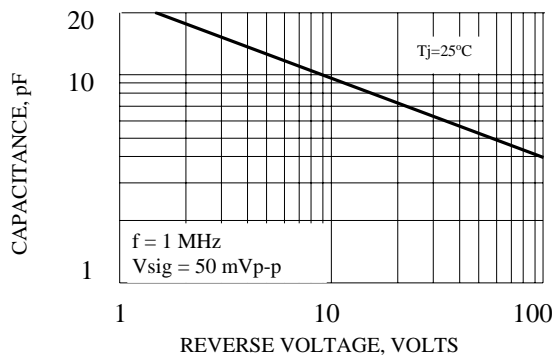


FIG. 4-TYPICAL REVERSE CHARACTERISTICS

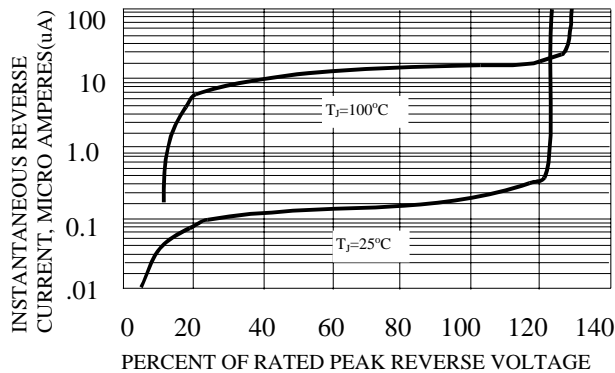


FIG. 6-T TYPICAL INSTANTANEOUS FORWARD CHARACTERISTICS

