

# FM4933 THRU FM4937

Fast recovery type

## Features

- Plastic package has Underwriters Laboratory Flammability Classification 94V-O Utilizing Flame Retardant Epoxy Molding Compound.
- For surface mounted applications.
- Exceeds environmental standards of MIL-S-19500 / 228
- Low leakage current

## Mechanical data

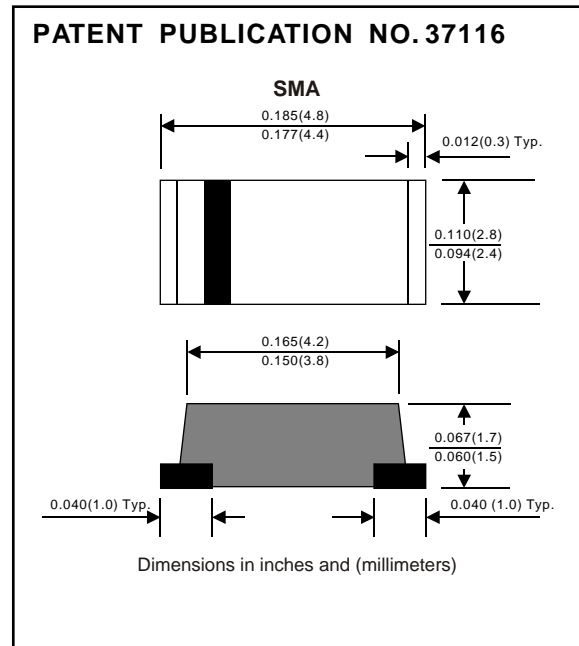
Case : Molded plastic, JEDEC DO-214AC

Terminals : Solder plated, solderable per MIL-STD-750, Method 2026

Polarity : Indicated by cathode band

Mounting Position : Any

Weight : 0.0015 ounce, 0.05 gram



## MAXIMUM RATINGS (AT $T_A=25^{\circ}\text{C}$ unless otherwise noted)

| PARAMETER                  | CONDITIONS   | Symbol    | MIN. | TYP. | MAX. | UNIT                          |
|----------------------------|--|-----------|------|------|------|-------------------------------|
| Forward rectified current  | Ambient temperature = $55^{\circ}\text{C}$                           | $I_O$     |      |      | 1.0  | A                             |
| Forward surge current      | 8.3ms single half sine-wave superimposed on rate load (JEDEC method) | $I_{FSM}$ |      |      | 30   | A                             |
| Reverse current            | $V_R = V_{RRM}$ $T_A = 25^{\circ}\text{C}$                           | $I_R$     |      |      | 5.0  | $\mu\text{A}$                 |
|                            | $V_R = V_{RRM}$ $T_A = 100^{\circ}\text{C}$                          |           |      |      | 100  | $\mu\text{A}$                 |
| Thermal resistance         | Junction to ambient  | $R_{qJA}$ |      | 75   |      | $^{\circ}\text{C} / \text{w}$ |
| Diode junction capacitance | $f=1\text{MHz}$ and applied 4vDC reverse voltage                     | $C_J$     |      | 15   |      | pF                            |
| Storage temperature        |  | $T_J$     | -55  |      | +150 | $^{\circ}\text{C}$            |

| SYMBOLS | MARKING CODE | $V_{RRM}^{*1}$<br>(V) | $V_{RMS}^{*2}$<br>(V) | $V_R^{*3}$<br>(V) | $V_F^{*4}$<br>(V) | $T_{RR}^{*5}$<br>(nS) | Operating temperature<br>( $^{\circ}\text{C}$ ) |
|---------|--------------|-----------------------|-----------------------|-------------------|-------------------|-----------------------|---|
| FM4933  | F93          | 50                    | 35                    | 50                | 1.2               | 200                   | -55 to +150                                     |
| FM4934  | F94          | 100                   | 70                    | 100               |                   |                       |   |
| FM4935  | F95          | 200                   | 140                   | 200               |                   |                       |   |
| FM4936  | F96          | 400                   | 280                   | 400               |                   |                       |   |
| FM4937  | F97          | 600                   | 420                   | 600               |                   |                       |   |

\*1 Repetitive peak reverse voltage

\*2 RMS voltage

\*3 Continuous reverse voltage

\*4 Maximum forward voltage

\*5 Reverse recovery time

Test condition :  $I_F=1.0\text{A}$ ,  $V_R=30\text{V}$

# RATING AND CHARACTERISTIC CURVES (FM4933 THRU FM4937)

FIG.1-TYPICAL FORWARD CHARACTERISTICS

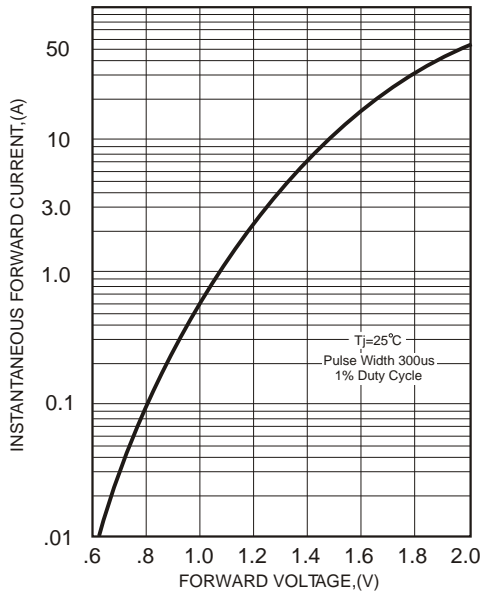


FIG.2-TYPICAL FORWARD CURRENT DERATING CURVE

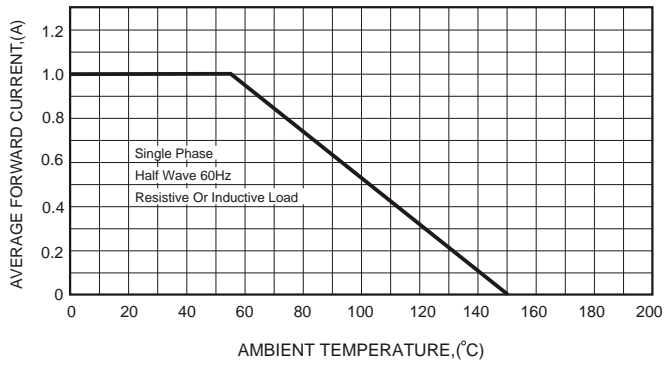
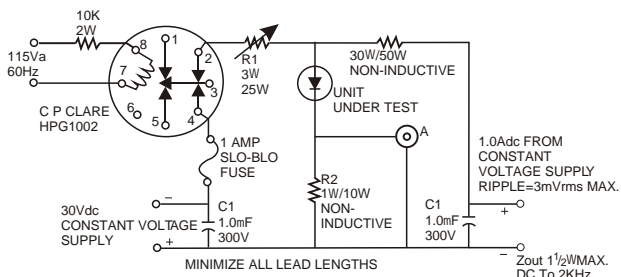


FIG.3- TEST CIRCUIT DIAGRAM AND REVERSE RECOVERY TIME CHARACTERISTICS



A-TEKTRONIX 545A, K PLUG IN  
 PRE AMP P6000 PROBE OR EQUIVALENT  
 R1- ADJUSTED FOR 14 BETWEEN POINT 2 OF RELAY AND RECTIFIER INDUCTIVE=3.8mH  
 R2- TEN 1W 10W1% CARBON CORE IN PARALLEL  
 $T_A = 25 \pm 10^{\circ}\text{C}$  FOR RECTIFIER

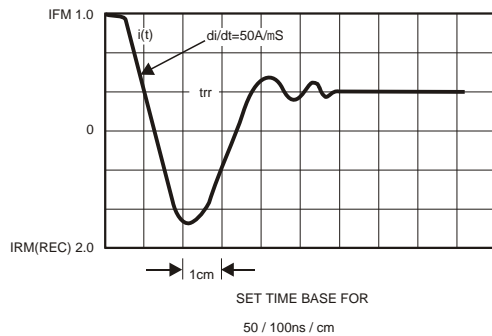


FIG.4-MAXIMUM NON-REPETITIVE FORWARD SURGE CURRENT

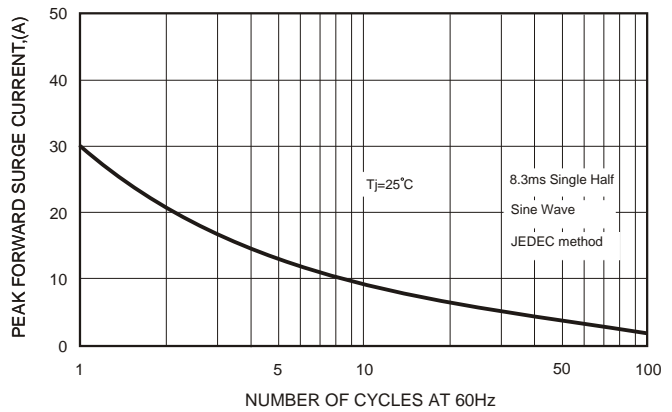


FIG.5-TYPICAL JUNCTION CAPACITANCE

