



# KVP RVP

## KILOVOLT RECTIFIER ASSEMBLIES

- MATCHED SILICON RECTIFIER ELEMENTS
- RATED CURRENT TO 1.0 AMPERES
- PRV 5,000 TO 50,000 VOLTS
- FAST RECOVERY (RVP SERIES)
- ALL APPLICABLE MIL-STD-750 TESTS
- HIGH THERMAL CONDUCTIVITY ENCAPSULATION



| EDI Type No.                    | Peak<br>Reverse Voltage<br>PRV ( Volts) | Avg. Fwd .Current<br>I <sub>o</sub> at 25 °C<br>(Amps) | Max. Fwd Voltage<br>Drop at 25°C<br>and 1A. V <sub>F</sub> (Volts) | Dim ensi on<br>“ L ”<br>Inches<br>Fig .3 | Dim ensi on<br>“ C ”<br>Inches<br>Fig .3 |
|---------------------------------|-----------------------------------------|--------------------------------------------------------|--------------------------------------------------------------------|------------------------------------------|------------------------------------------|
| STANDARDRECOVERY                |                                         |                                                        |                                                                    |                                          |                                          |
| KVP5                            | 5,000                                   | 1.00                                                   | 8                                                                  | 2.5                                      | 1/4                                      |
| KVP6                            | 6,000                                   | 1.00                                                   | 9                                                                  | 2.5                                      |                                          |
| KVP7                            | 7,000                                   | 1.00                                                   | 10                                                                 | 3.0                                      |                                          |
| KVP8                            | 8,000                                   | 1.00                                                   | 11                                                                 | 3.0                                      |                                          |
| KVP9                            | 9,000                                   | 1.00                                                   | 14                                                                 | 3.0                                      |                                          |
| KV P10                          | 10,000                                  | 1.00                                                   | 15                                                                 | 3.5                                      | 3/8                                      |
| KV P15                          | 15,000                                  | 1.00                                                   | 21                                                                 | 5.0                                      | 1/4                                      |
| KV P20                          | 20,000                                  | .75                                                    | 26                                                                 | 5.5                                      |                                          |
| KVP25                           | 25,000                                  | .75                                                    | 32                                                                 | 6.0                                      | 1/2                                      |
| KVP30                           | 30,000                                  | .75                                                    | 39                                                                 | 6.0                                      |                                          |
| KVP35                           | 35,000                                  | .75                                                    | 46                                                                 | 6.5                                      |                                          |
| KVP40                           | 40,000                                  | .75                                                    | 53                                                                 | 6.5                                      |                                          |
| KVP50                           | 50,000                                  | .75                                                    | 65                                                                 | 7.0                                      |                                          |
| 200 NANOSECOND RECOVERY (FIG.4) |                                         |                                                        |                                                                    |                                          |                                          |
| RVP5                            | 5,000                                   | .90                                                    | 10                                                                 | 2.5                                      | 1/4                                      |
| RVP6                            | 6,000                                   | .90                                                    | 11                                                                 | 2.5                                      |                                          |
| RVP7                            | 7,000                                   | .90                                                    | 12                                                                 | 3.0                                      |                                          |
| RVP8                            | 8,000                                   | .90                                                    | 13                                                                 | 3.0                                      |                                          |
| RVP9                            | 9,000                                   | .90                                                    | 16                                                                 | 3.0                                      |                                          |
| RV P10                          | 10,000                                  | .90                                                    | 17                                                                 | 3.5                                      | 3/8                                      |
| RV P15                          | 15,000                                  | .90                                                    | 25                                                                 | 5.0                                      | 1/4                                      |
| RV P20                          | 20,000                                  | .70                                                    | 30                                                                 | 5.5                                      |                                          |
| RVP25                           | 25,000                                  | .70                                                    | 36                                                                 | 6.0                                      | 1/2                                      |
| RVP30                           | 30,000                                  | .70                                                    | 43                                                                 | 6.0                                      |                                          |
| RVP35                           | 35,000                                  | .70                                                    | 50                                                                 | 6.5                                      |                                          |
| RVP40                           | 40,000                                  | .70                                                    | 58                                                                 | 6.5                                      |                                          |
| RVP50                           | 50,000                                  | .70                                                    | 72                                                                 | 7.0                                      |                                          |

| ELECTRICAL CHARACTERISTICS<br>(at $T_A=25^\circ\text{C}$ Unless Otherwise Specified) | KVP SERIES<br>STANDARD<br>RECOVERY |
|--------------------------------------------------------------------------------------|------------------------------------|
| Max. DC Reverse Current @ PRV and 25 °C, $I_R$                                       | 5 $\mu\text{A}$                    |
| Max. DC Reverse Current @ PRV and 100 °C, $I_R$                                      | 100 $\mu\text{A}$                  |
| Ambient Operating Temperature Range, $T_A$                                           | -55 °C to +150 °C                  |
| Storage Temperature Range, $T_{STG}$                                                 | -55 °C to +150 °C                  |
| Max. One-Half Cycle Surge Current, $I_{FM}$<br>(Surge )@ 60Hz                        | 50 Amps                            |
| Forward Current Repetitive Peak, $I_{FRM}$                                           | 10 Amps                            |

| ELECTRICAL CHARACTERISTICS<br>(at $T_A=25^\circ\text{C}$ Unless Otherwise Specified) | RVP SERIES<br>FAST<br>RECOVERY |
|--------------------------------------------------------------------------------------|--------------------------------|
| Max. DC Reverse Current @ PRV and 25 °C, $I_R$                                       | 5 $\mu\text{A}$                |
| Max. DC Reverse Current @ PRV and 100 °C, $I_R$                                      | 250 $\mu\text{A}$              |
| Max. Reverse Recovery Time , $T_{rr}$ (Fig.4)                                        | 300 nanosec                    |
| Ambient Operating Temperature Range, $T_A$                                           | -55 °C to +150 °C              |
| Storage Temperature Range, $T_{STG}$                                                 | -55 °C to +150 °C              |
| Max. One-Half Cycle Surge Current, $I_{FM}$<br>(Surge )@ 60Hz                        | 30 Amps                        |
| Forward Current Repetitive Peak, $I_{FRM}$                                           | 8 Amps                         |

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FIG.1  
OUTPUT CURRENT vs AMBIENT TEMPERATURE

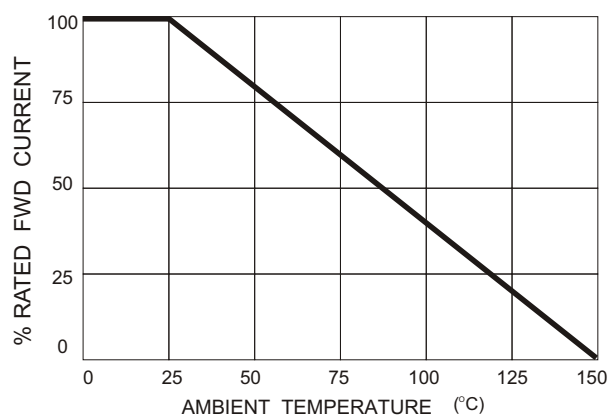


FIG.2  
NON-REPETITIVE SURGE CURRENT RATINGS

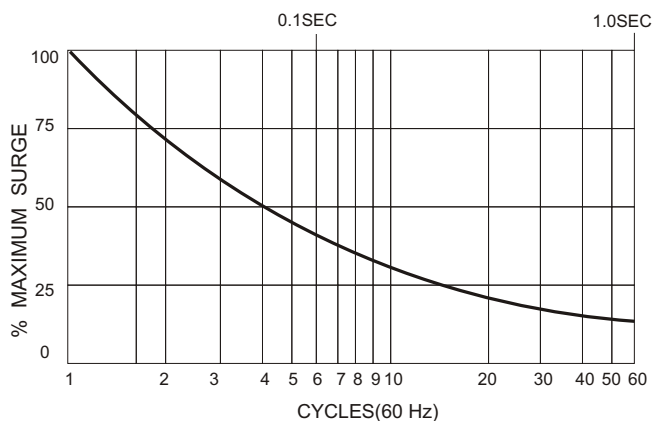
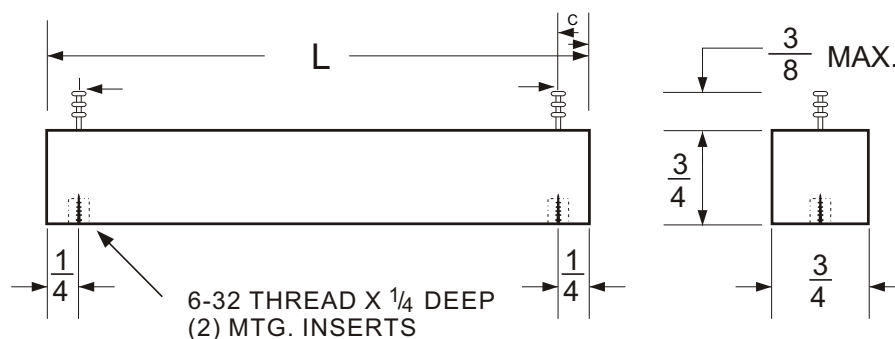


FIG.3  
CASE STYLE A

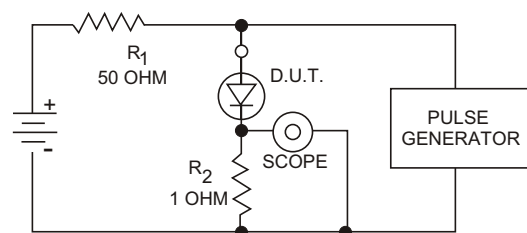
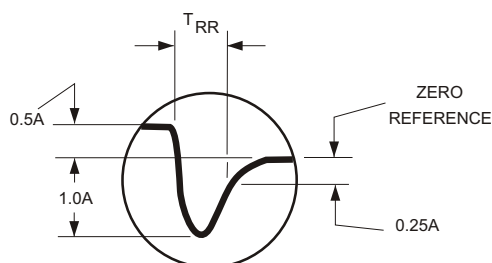


(ALL DIMENSIONS IN INCHES)

It is recommended that a proper heat sink be used on the terminals of this device between the body and the soldering point to prevent damage from excess heat.

TEST CIRCUIT  
FIG.4

TYPICAL REVERSE RECOVERY WAVEFORM



$R_1, R_2$  NON-INDUCTIVE RESISTORS  
PULSE GENERATOR - HEWLETT PACKARD 214A OR EQUIV.  
1KC REP.RATE, 10  $\mu$ SEC. PULSE WIDTH  
ADJUST PULSE AMPLITUDE FOR PEAK  $I_R$

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