



# KHP RHP

## KILOVOLT HIGH CURRENT RECTIFIER ASSEMBLIES

- MATCHED SILICON RECTIFIER ELEMENTS
- RATED CURRENT TO 3.0 AMPERES
- PRV 5,000 TO 50,000 VOLTS
- FAST RECOVERY (RHP SERIES)
- ALL APPLICABLE MIL-STD-750 TESTS
- HIGH THERMAL CONDUCTIVITY ENCAPSULATION



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EDI Type No.	Peak Reverse Voltage PRV (Volts)	Avg. Fwd. Current $I_o$ at 25 °C (Amps)	Max. Fwd Voltage Drop at 25 °C and 3 Amps $V_F$ (Volts)	Dimension "L" Inches Fig.3	Dimension "W" Inches Fig.3	Case Style Fig.3
<b>STANDARD RECOVERY</b>						
KHP5	5,000	3.00	8	4.00	1.0	A
KHP6	6,000	2.75	9	4.75	1.0	A
KHP7	7,000	2.75	10	5.50	1.0	A
KHP8	8,000	2.75	11	6.00	1.0	A
KHP9	9,000	2.50	14	6.50	1.0	A
KHP10	10,000	2.50	15	7.00	1.0	A
KHP15	15,000	2.50	21	4.00	2.0	B
KHP20	20,000	2.25	28	6.00	2.0	B
KHP25	25,000	2.25	36	8.00	2.0	B
KHP30	30,000	2.25	42	4.00	3.0	B
KHP35	35,000	2.25	49	6.00	3.0	B
KHP40	40,000	2.25	63	8.00	3.0	B
KHP50	50,000	2.25	70	6.00	4.0	B
<b>200 NANOSECOND RECOVERY (FIG.4)</b>						
RHP5	5,000	2.50	10	4.00	1.0	A
RHP6	6,000	2.50	11	4.75	1.0	A
RHP7	7,000	2.50	12	5.50	1.0	A
RHP8	8,000	2.50	13	6.00	1.0	A
RHP9	9,000	2.50	16	6.50	1.0	A
RHP10	10,000	2.50	17	7.00	1.0	A
RHP15	15,000	2.25	25	4.00	2.0	B
RHP20	20,000	2.25	33	6.00	2.0	B
RHP25	25,000	2.25	42	8.00	2.0	B
RHP30	30,000	2.25	50	4.00	3.0	B
RHP35	35,000	2.25	58	6.00	3.0	B
RHP40	40,000	2.25	65	8.00	3.0	B
RHP50	50,000	2.25	82	6.00	4.0	B

ELECTRICAL CHARACTERISTICS (at $T_A=25^\circ\text{C}$ Unless Otherwise Specified)	KHP SERIES STANDARD 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, $I_{FM}$ (Surge) @ 60Hz	400 Amps
Forward Current Repetitive Peak, $I_{FRM}$	40 Amps

ELECTRICAL CHARACTERISTICS (at $T_A=25^\circ\text{C}$ Unless Otherwise Specified)	RHP SERIES FAST 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)	200 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, $I_{FM}$ (Surge) @ 60Hz	240 Amps
Forward Current Repetitive Peak, $I_{FRM}$	25 Amps

EDI reserves the right to change these specifications at any time without notice.

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FIG.1  
OUTPUT CURRENT vs AMBIENT TEMPERATURE

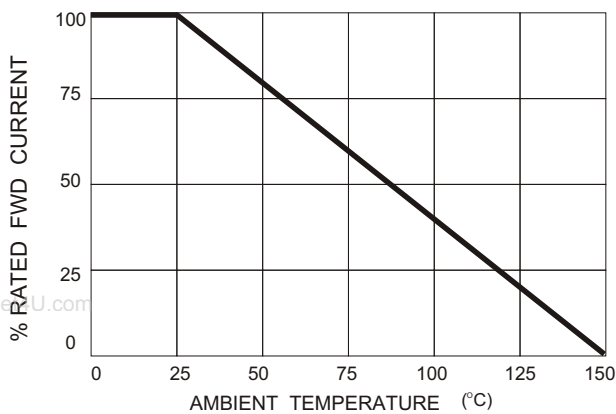


FIG.2  
NON-REPETITIVE SURGE CURRENT

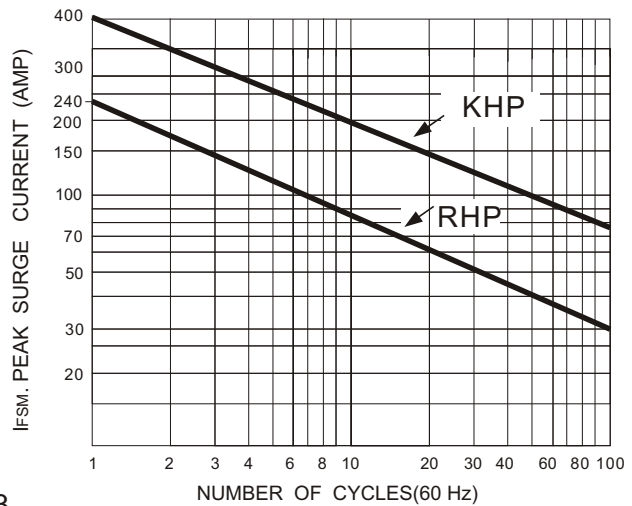
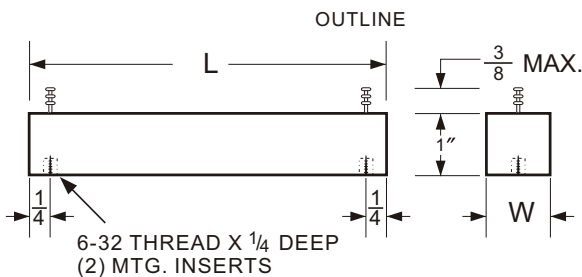
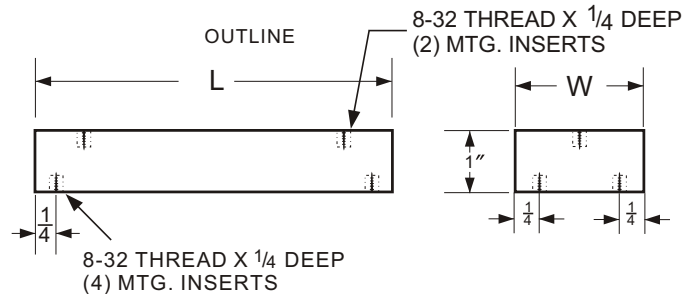


FIG.3  
PACKAGE STYLE

CASE STYLE A



CASE STYLE B

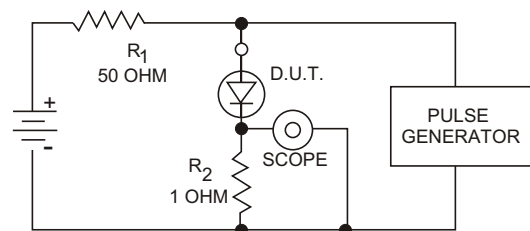
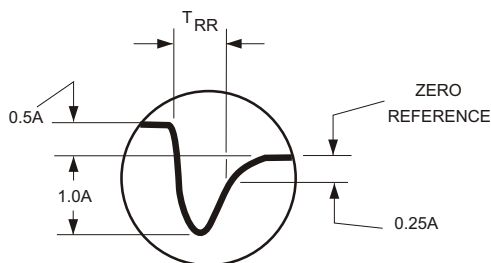


It is recommended that a proper heat sink be used on the terminals of this device between the body and the soldering point to prevent damage from excess heat.

## TEST CIRCUIT

FIG.4

TYPICAL REVERSE RECOVERY WAVEFORM



R<sub>1</sub>, R<sub>2</sub> NON-INDUCTIVE RESISTORS  
PULSE GENERATOR - HEWLETT PACKARD 214A OR EQUIV.  
1KC REP.RATE, 10 μSEC. PULSE WIDTH  
ADJUST PULSE AMPLITUDE FOR PEAK I<sub>R</sub>

Prior to the manufacture of these assemblies, the individual silicon junction is measured for maximum recovery time in the test circuit shown.

**ELECTRONIC DEVICES, INC.** DESIGNERS AND MANUFACTURERS OF SOLID STATE DEVICES SINCE 1951.

21 GRAY OAKS AVENUE \* YONKERS, NEW YORK 10710 914-965-4400 \* FAX 914-965-5531 \* 1-800-678-0828

e-mail:sales@ediodes.com\* website:http:// www.ediodes.com