



**International
Semiconductor, Inc.**

100 mA SILICON CARTRIDGE RECTIFIERS

- SMALL SIZE MOLDED PACKAGE
- PRV 8,000 TO 50,000 VOLTS
- FAST RECOVERY (HVCR SERIES)
- LOW LEAKAGE



| ISI Type No. | Peak Reverse Voltage, PRV (Volts) | Max. Fwd. Voltage Drop at 25°C and 100mA V _F (Volts) | Length "L" FIG. 3 |
|--------------------------------|--------------------------------------|---|----------------------|
| STANDARD RECOVERY | | | |
| HVC08 | 8,000 | 13 | 1.00 |
| HVC10 | 10,000 | 13 | 1.00 |
| HVC12 | 12,000 | 13 | 1.00 |
| HVC15 | 15,000 | 20 | 1.63 |
| HVC20 | 20,000 | 26 | 2.13 |
| HVC25 | 25,000 | 33 | 2.63 |
| HVC30 | 30,000 | 40 | 3.13 |
| HVC35 | 35,000 | 46 | 3.63 |
| HVC40 | 40,000 | 53 | 4.13 |
| HVC45 | 45,000 | 60 | 4.63 |
| HVC50 | 50,000 | 66 | 5.13 |
| 200 NANOSECOND RECOVERY FIG. 4 | | | |
| HVC08R | 8,000 | 20 | 1.00 |
| HVC10R | 10,000 | 20 | 1.00 |
| HVC12R | 12,000 | 20 | 1.00 |
| HVC15R | 15,000 | 30 | 1.63 |
| HVC20R | 20,000 | 40 | 2.13 |
| HVC25R | 25,000 | 50 | 2.63 |
| HVC30R | 30,000 | 60 | 3.13 |
| HVC35R | 35,000 | 70 | 3.63 |
| HVC40R | 40,000 | 80 | 4.13 |
| HVC45R | 45,000 | 90 | 4.63 |
| HVC50R | 50,000 | 100 | 5.13 |

| ELECTRICAL CHARACTERISTICS at T _A = 25°C Unless Otherwise Specified | HVC SERIES STANDARD RECOVERY |
|---|------------------------------------|
| Max. DC Reverse Current @ PRV and 25°C, I _R | 2 μA |
| Max. DC Reverse Current @ PRV and 100°C, I _R | 100 μA |
| Ambient Operating Temperature Range, T _A | -55°C to +125°C |
| Storage Temperature Range, T _{STG} | -55°C to +150°C |
| Max. One-Half Cycle Surge Current, I _{FSM} (Surge) @ 60 Hz | 10 Amps |
| Forward Current Repetitive Peak, I _{FRM} | 3 Amps |

| ELECTRICAL CHARACTERISTICS at T _A = 25°C Unless Otherwise Specified | HVC SERIES FAST RECOVERY |
|---|--------------------------------|
| Max. DC Reverse Current @ PRV and 25°C, I _R | 2 μA |
| Max. DC Reverse Current @ PRV and 100°C, I _R | 100 μA |
| Max. Reverse Recovery Time, t _{rr} (Fig. 4) | 200 nanosec |
| Ambient Operating Temperature Range, T _A | -55°C to +125°C |
| Storage Temperature Range, T _{STG} | -55°C to +150°C |
| Max. One-Half Cycle Surge Current, I _{FSM} (Surge) @ 60 Hz | 10 Amps |
| Forward Current Repetitive Peak, I _{FRM} | 3 Amps |

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

Corporate Offices:
727 Raritan Road, Suite 203
Clark, NJ 07066
Phone (908) 396-0322 FAX (908) 396-0410

Sales Office:
574 E. Alamo, #40
Chandler, AZ 85225
Phone (602) 497-8172 FAX (602) 497-8173



FIG. 1
OUTPUT CURRENT vs. AMBIENT TEMPERATURE

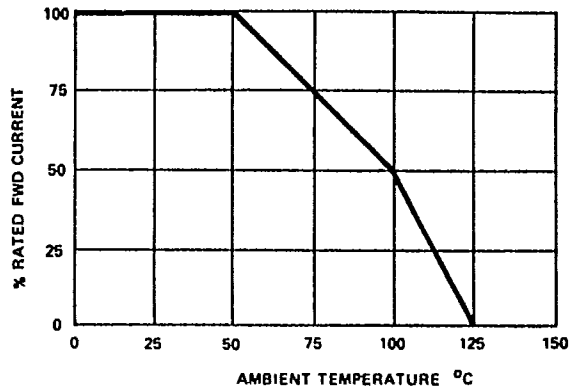


FIG. 2
NON-REPETITIVE SURGE CURRENT RATINGS

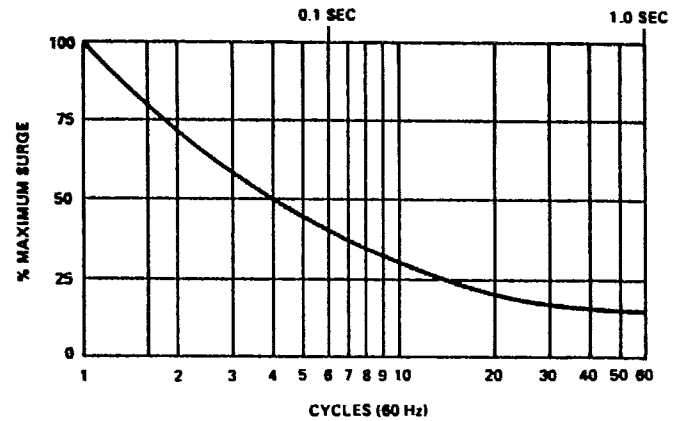
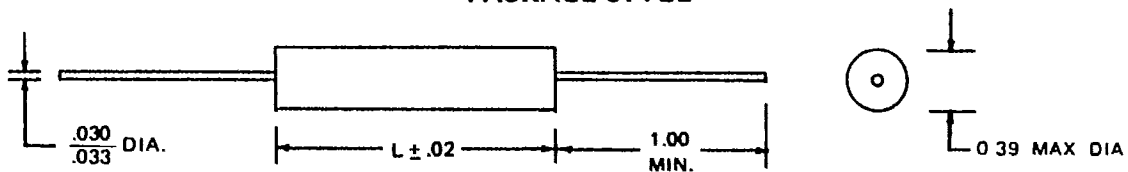


FIG. 3
PACKAGE STYLE



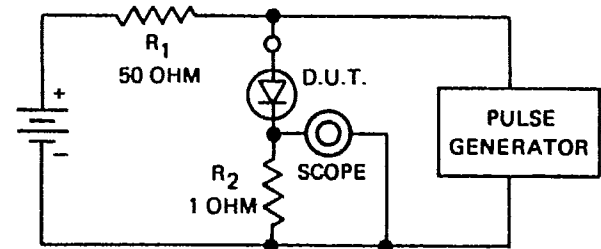
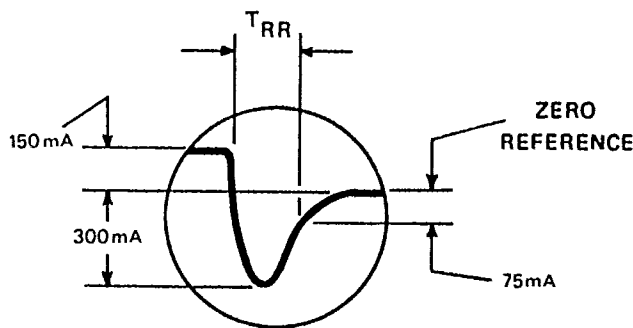
ALL DIMENSIONS IN INCHES

Maximum lead and terminal temperature for soldering, 3/8 inch from case, 5 seconds at 250°C.

TEST CIRCUIT

FIG. 4

TYPICAL REVERSE RECOVERY WAVEFORM



R₁, R₂ NON-INDUCTIVE RESISTORS
PULSE GENERATOR – HEWLETT PACKARD 214A OR EQUIV.
1KC REP. RATE, 10 μ SEC. PULSE WIDTH
ADJUST PULSE AMPLITUDE FOR PEAK I_R

Reverse recovery time measured on individual rectifiers prior to assembly.