# High Efficiency Rectifier

## Features

- Low power loss, high efficiency
- Low leakage
- High Surge Capacity
- High switching speed
- High temperature soldering guaranteed:
  260℃/10 seconds, 0.375" (9.5mm) lead length
- RoHS and REACH Compliance

## Mechanical Data

| | |
|---|---|
| **Case:** | Transfer molded plastic |
| **Polarity:** | Color band denots cathode end |
| **Epoxy:** | UL94V-0 rate flame retardant |
| **Lead:** | Plated axial lead, solderable per MIL-STD-202E Method 208C |
| **Mounting Position:** | Any |
| **Weight:** | 0.020 ounce, 0.56 gram |

## Maximum Ratings *($T_{Ambient}$=25ºC unless noted otherwise)*

| Symbol | Description | HER 251 | HER 252 | HER 253 | HER 254 | HER 255 | HER 256 | HER 257 | HER 258 | Unit | Conditions |
|---|---|---|---|---|---|---|---|---|---|---|---|
| **VRRM** | Max Recurrent Peak Reverse Voltage | 50 | 100 | 200 | 300 | 400 | 600 | 800 | 1000 | **V** | |
| **VRMS** | Max RMS Voltage | 35 | 70 | 140 | 210 | 280 | 420 | 560 | 700 | **V** | |
| **VDC** | Max DC Blocking Voltage | 50 | 100 | 200 | 300 | 400 | 600 | 800 | 1000 | **V** | |
| **I(AV)** | Max Average Forward Rectified Current 0.375" (9mm) lead length | 2.5 | | | | | | | | **A** | TA=50℃ |
| **IFSM** | Peak Forward Surge Current | 150 | | | | | | | | **A** | JEDEC method |
| **TJ,TSTG** | Operating and Storage Temperature Range | -55 to +150, -55 to +150 | | | | | | | | ℃ | |
| **RθJA** | Typical Thermal Resistance | 35 | | | | | | | | ℃/W | Note 2 |

## Electrical Characteristics *($T_{Ambient}$=25ºC unless noted otherwise)*

| Symbol | Description | HER 251 | HER 252 | HER 253 | HER 254 | HER 255 | HER 256 | HER 257 | HER 258 | Unit | Conditions |
|---|---|---|---|---|---|---|---|---|---|---|---|
| **VF** | Max Instantaneous Forward Voltage | 1.0 | | 1.3 | | 1.5 | | 1.7 | | **V** | 2.5A |
| **IR(AV)** | Maximum Full Load Reverse Current, Full Cycle average | 100 | | | | | | | | **μA** | 0.375" (9.5mm) lead length at TL= 55℃ |
| **IR** | Max DC Reverse Current at Rated DC Blocking Voltage | 5.0 | | | | | | | | **μA** | TA=25℃ |
| | | 250 | | | | | | | | | TA=125℃ |
| **TRR** | Maximum reverse recovery time | 50 | | | | 70 | | | | **nS** | Note 1 |
| **CJ** | Typical Junction capacitance | 30 | | | | 20 | | | | **pF** | Measured at 1.0MHz / 4.0V |

**Note:**

1. Reverse recovery test conditions: $I_F$= 0.5A, $I_R$=1.0A, $I_{RR}$ = 0.25A
2. Thermal resistance from junction to ambient with 0.375" (9.5mm) lead length, PCB mounted

# HER251 ~ HER258

## RATINGS AND CHARACTERISTIC CURVES HER251 THRU HER258

FIG.1—TYPICAL FORWARD CURRENT DERATING CURVE

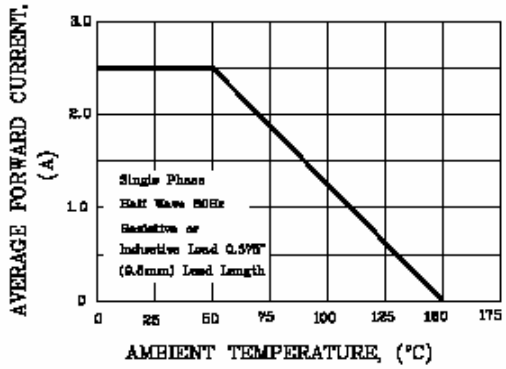



FIG.2—MAXIMUM NON—REPETITIVE PEAK FORWARD SURGE CURRENT

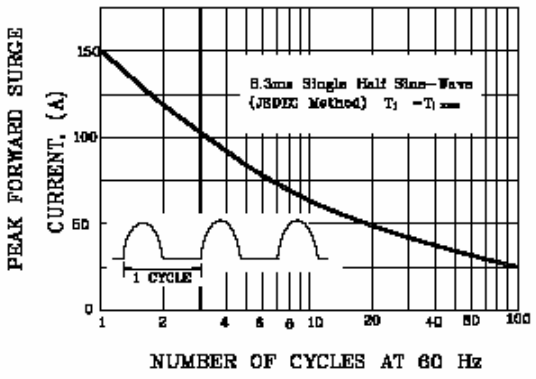



FIG.3—TYPICAL INSTANTANEOUS FORWARD CHARACTERISTICS

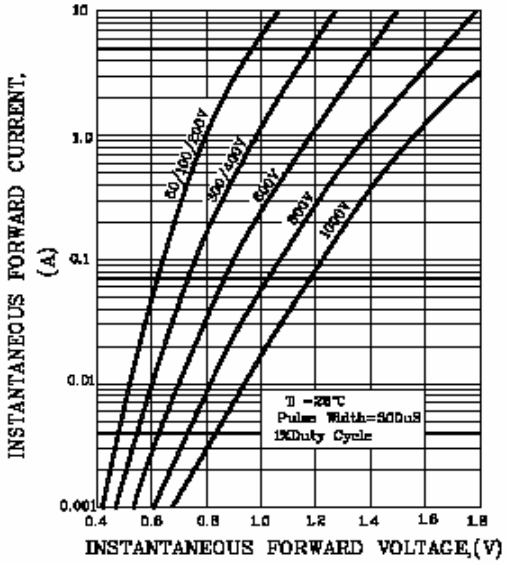



FIG.4—TYPICAL REVERSE CHARACTERISTICS

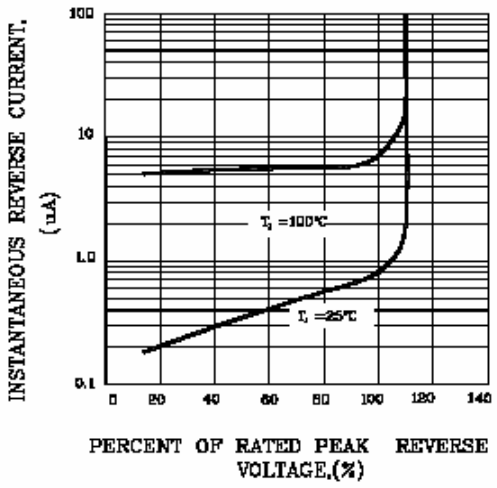



FIG.5—TYPICAL JUNCTION CAPACITANCE

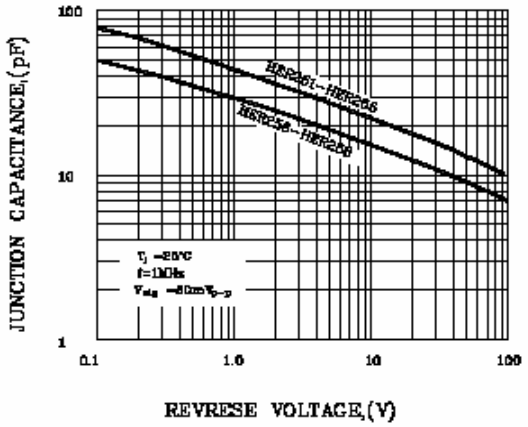
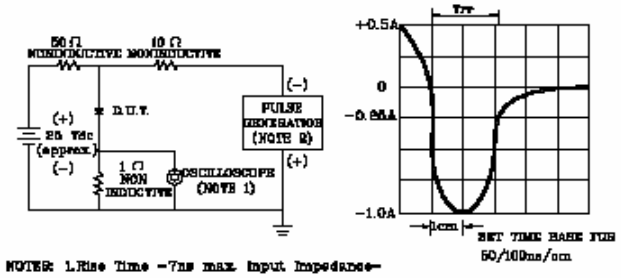



FIG.6—TEST CIRCUIT DIAGRAM AND REVERSE RECOVERY TIME CHARACTERISTIC

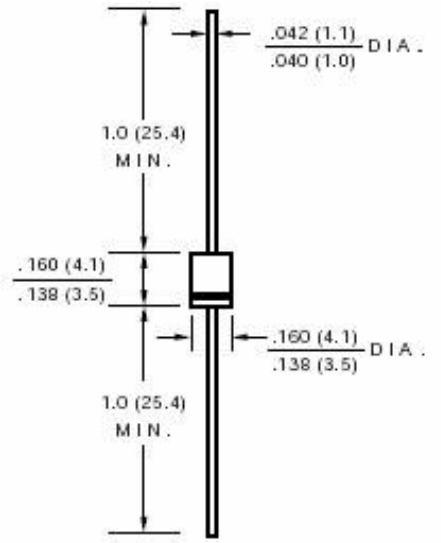



NOTES: 1.Rise Time =7ns max. Input Impedance= 1 megohm, 22pF

2.Rise time=10ns max. Source Impedance= 50 ohms

# HER251 ~ HER258

## Dimensions in inches (mm)

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