

MUR2505-MUR2560

25A ULTRAFAST RECTIFIER

FEATURES

- Available as "HR" (high reliability) screened per MIL-PRF-19500, JANTX level. Add "HR" suffix to base part number.
- Available as non-RoHS (Sn/Pb plating), standard, and as RoHS by adding "-PBF" suffix.

MAXIMUM RATINGS

| Rating | Symbol | MUR | | | | | Unit |
|--|----------------|----------------------------------|------|------|------|------|------------------|
| | | 2505 | 2510 | 2520 | 2540 | 2560 | |
| Peak repetitive reverse voltage | V_{RRM} | 50 | 100 | 200 | 400 | 600 | V |
| Maximum RMS voltage | V_{RMS} | 35 | 70 | 40 | 280 | 420 | |
| DC blocking voltage | V_R | 50 | 100 | 200 | 400 | 600 | |
| Average rectified forward current (Rated V_R) | $I_{F(AV)}$ | 25.0 @ $T_L = 145^\circ\text{C}$ | | | | | A |
| Peak forward surge current (8.3ms, half sine) | I_{FSM} | 500 | | | | | A |
| Operating and storage junction temperature range | T_J, T_{stg} | -65 to +175 | | | | | $^\circ\text{C}$ |

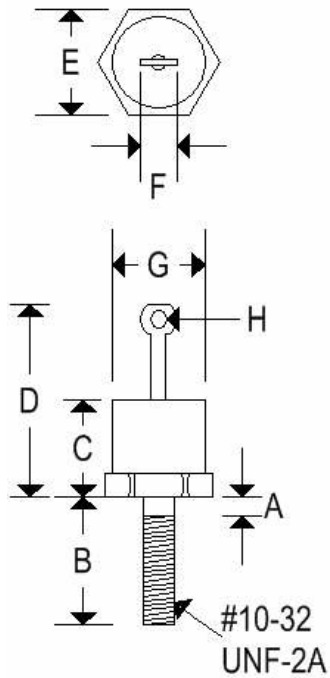
ELECTRICAL CHARACTERISTICS ($T_A = 25^\circ\text{C}$ unless otherwise specified)

| Parameter | Symbol | MUR | | | | | Unit |
|---|----------|-------|------|------|-------|------|---------------|
| | | 2505 | 2510 | 2520 | 2540 | 2560 | |
| Maximum instantaneous forward voltage ⁽¹⁾ ($I_F = 25.0\text{A}$, $T_A = 25^\circ\text{C}$) | V_F | 0.950 | | | 1.250 | | V |
| Maximum DC reverse current ⁽¹⁾ (Rated dc voltage, $T_A = 25^\circ\text{C}$) | I_R | 10 | | | | | μA |
| Maximum reverse recovery time ($I_F = 0.5\text{A}$, $I_R = 1.0\text{A}$, $I_{REC} = 0.25\text{A}$) | t_{rr} | 50 | | | 75 | | ns |
| Typical junction capacitance @ 1.0MHz, $V_R = 4.0\text{V}$ | C_J | 100 | | | | | pF |

Pulse Test: Pulse Width 300 μsec , Duty Cycle 1%

MECHANICAL CHARACTERISTICS

| | |
|-------------------------|--------------------------------|
| Case | DO-4(R) |
| Marking | Alpha-numeric |
| Normal polarity | Cathode is stud |
| Reverse polarity | Anode is stud (add "R" suffix) |

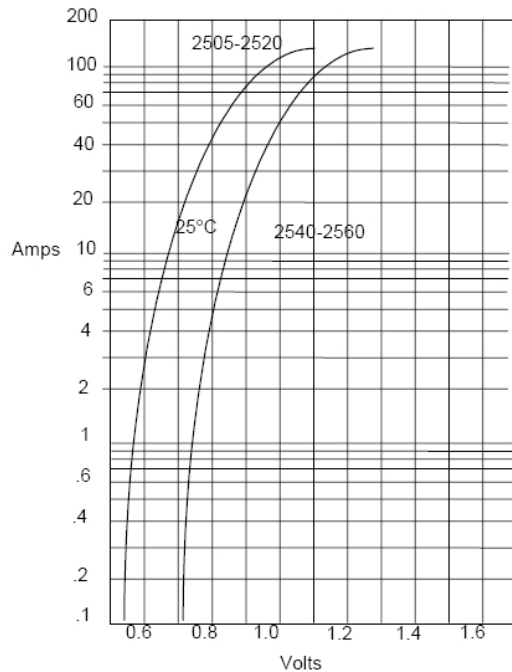


| | DO-4(R) | | | |
|---|---------|-------|-------------|--------|
| | Inches | | Millimeters | |
| | Min | Max | Min | Max |
| A | - | 0.078 | - | 1.981 |
| B | 0.422 | 0.453 | 10.719 | 11.506 |
| C | - | 0.405 | - | 10.287 |
| D | - | 0.800 | - | 20.320 |
| E | 0.420 | 0.440 | 10.668 | 11.176 |
| F | - | 0.250 | - | 6.350 |
| G | - | 0.424 | - | 10.770 |
| H | 0.066 | - | 1.676 | - |

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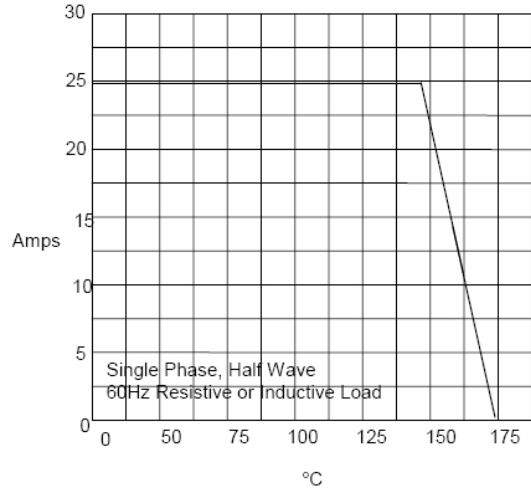
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Figure 1
Typical Forward Characteristics



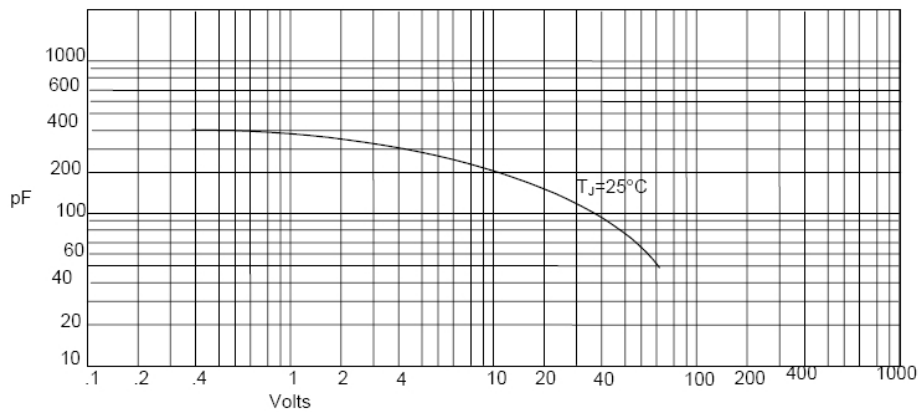
Instantaneous Forward Current - Amperes versus
Instantaneous Forward Voltage - Volts

Figure 2
Forward Derating Curve



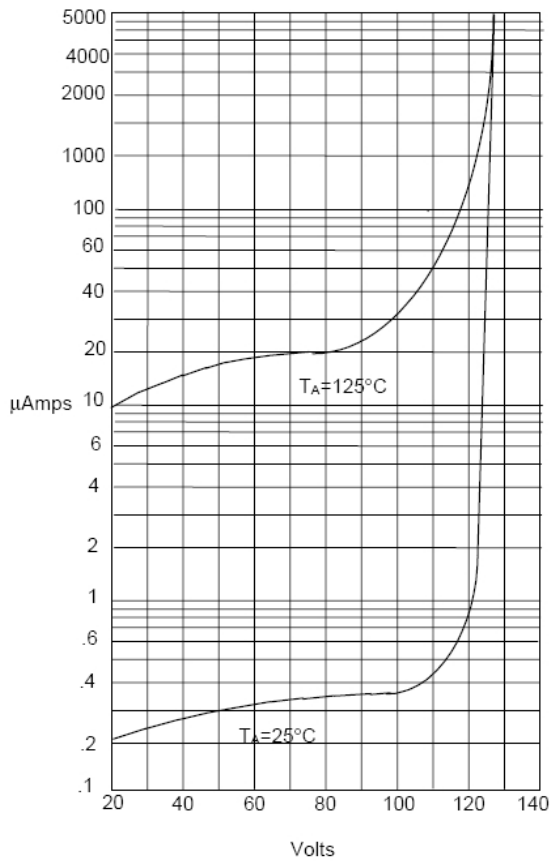
Average Forward Rectified Current - Amperes versus
Ambient Temperature - °C

Figure 3
Junction Capacitance



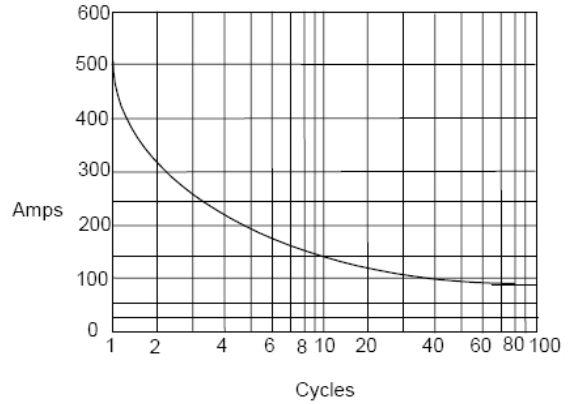
Junction Capacitance - pF versus
Reverse Voltage - Volts

Figure 4
Typical Reverse Characteristics



Instantaneous Reverse Leakage Current - MicroAmperes *versus*
Percent Of Rated Peak Reverse Voltage - Volts

Figure 5
Peak Forward Surge Current



Peak Forward Surge Current - Amperes *versus*
Number Of Cycles At 60Hz - Cycles