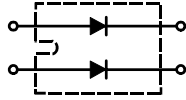
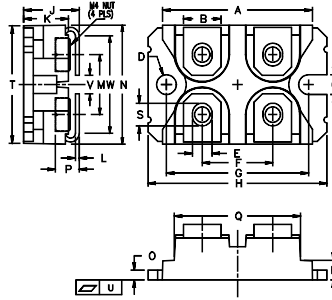


HUR2x30-60

Soft Recovery Behaviour High-Performance Wide Temperature Range Ultra Fast Recovery Epitaxial Diodes



Dimensions SOT-227(ISOTOP)



| Dim. | Millimeter | | Inches | |
|------|------------|-------|--------|-------|
| | Min. | Max. | Min. | Max. |
| A | 31.50 | 31.88 | 1.240 | 1.255 |
| B | 7.80 | 8.20 | 0.307 | 0.323 |
| C | 4.09 | 4.29 | 0.161 | 0.169 |
| D | 4.09 | 4.29 | 0.161 | 0.169 |
| E | 4.09 | 4.29 | 0.161 | 0.169 |
| F | 14.91 | 15.11 | 0.587 | 0.595 |
| G | 30.12 | 30.30 | 1.186 | 1.193 |
| H | 37.80 | 38.20 | 1.489 | 1.505 |
| J | 11.68 | 12.22 | 0.460 | 0.481 |
| K | 8.92 | 9.60 | 0.351 | 0.378 |
| L | 0.76 | 0.84 | 0.030 | 0.033 |
| M | 12.60 | 12.85 | 0.496 | 0.506 |
| N | 25.15 | 25.42 | 0.990 | 1.001 |
| O | 1.98 | 2.13 | 0.078 | 0.084 |
| P | 4.95 | 5.97 | 0.195 | 0.235 |
| Q | 26.54 | 26.90 | 1.045 | 1.059 |
| R | 3.94 | 4.42 | 0.155 | 0.174 |
| S | 4.72 | 4.85 | 0.186 | 0.191 |
| T | 24.59 | 25.07 | 0.968 | 0.987 |
| U | -0.05 | 0.1 | -0.002 | 0.004 |
| V | 3.30 | 4.57 | 0.130 | 0.180 |
| W | 0.780 | 0.830 | 0.031 | 0.033 |

| | V_{RSM} | V_{RRM} |
|-------------------|-----------|-----------|
| | V | V |
| HUR2x30-60 | 600 | 600 |

| Symbol | Test Conditions | Maximum Ratings | Unit |
|------------------------------------|---|---------------------------------|-------------|
| I_{FRMS} I_{FAVM} | $T_C=95^{\circ}C$; rectangular, $d=0.5$ | 70 30 | A |
| I_{FSM} | $T_{VJ}=45^{\circ}C$; $t_p=10ms$ (50Hz), sine | 250 | A |
| E_{AS} | $T_{VJ}=25^{\circ}C$; non-repetitive; $I_{AS}=1A$; $L=180\mu H$ | 0.2 | mJ |
| I_{AR} | $V_A=1.5 \cdot V_R$ typ.; $f=10kHz$; repetitive | 0.1 | A |
| T_{VJ} T_{VJM} T_{stg} | | -40...+150 150 -40...+150 | $^{\circ}C$ |
| P_{tot} | $T_C=25^{\circ}C$ | 100 | W |
| V_{ISOL} | 50/60Hz, RMS $I_{ISOL} \leq 1mA$ | 2500 | V~ |
| M_d | mounting torque (M4) terminal connection torque (M4) | 1.1-1.5/9-13 1.1-1.5/9-13 | Nm/lb.in. |
| Weight | typical | 30 | g |

Sirectifier®

HUR2x30-60

Soft Recovery Behaviour High-Performance Wide Temperature Range Ultra Fast Recovery Epitaxial Diodes

| Symbol | Test Conditions | Characteristic Values | | Unit |
|--------------------------|---|-----------------------|--------------|------|
| | | typ. | max. | |
| I_R | $T_{VJ}=25^{\circ}\text{C}; V_R=V_{RRM}$ $T_{VJ}=150^{\circ}\text{C}; V_R=V_{RRM}$ | | 0.25 1 | mA |
| V_F | $I_F=30\text{A}; T_{VJ}=125^{\circ}\text{C}$ $T_{VJ}=25^{\circ}\text{C}$ | | 1.30 1.58 | V |
| R_{thJC} R_{thCH} | | 0.1 | 1.15 | K/W |
| t_{rr} | $I_F=1\text{A}; -di/dt=200\text{A}/\mu\text{s}; V_R=30\text{V}; T_{VJ}=25^{\circ}\text{C}$ | 35 | | ns |
| I_{RM} | $V_R=100\text{V}; I_F=50\text{A}; -di_F/dt=100\text{A}/\mu\text{s}; T_{VJ}=100^{\circ}\text{C}$ | 6 | | A |

FEATURES

- * International standard package miniBLOC
- * Isolation voltage 2500 V~
- * 2 independent FRED in 1 package
- * Glass passivated chips
- * Very short recovery time
- * Extremely low switching losses
- * Low I_{RM} -values
- * Soft recovery behaviour
- * RoHS compliant

APPLICATIONS

- * Antiparallel diode for high frequency switching devices
- * Antisaturation diode
- * Snubber diode
- * Free wheeling diode in converters and motor control circuits
- * Rectifiers in switch mode power supplies (SMPS)
- * Inductive heating
- * Uninterruptible power supplies (UPS)
- * Ultrasonic cleaners and welders

ADVANTAGES

- * Avalanche voltage rated for reliable operation
- * Soft reverse recovery for low EMI/RFI
- * Low I_{RM} reduces:
 - Power dissipation within the diode
 - Turn-on loss in the commutating switch

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HUR2x30-60

Soft Recovery Behaviour High-Performance Wide Temperature Range Ultra Fast Recovery Epitaxial Diodes

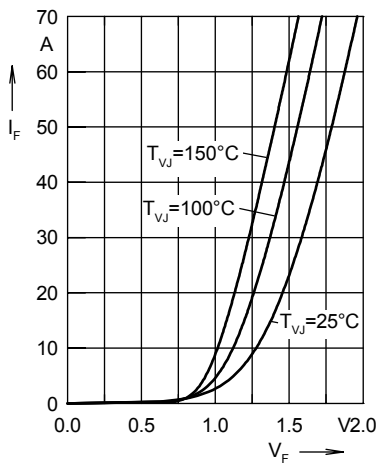


Fig. 1 Forward current I_F versus V_F

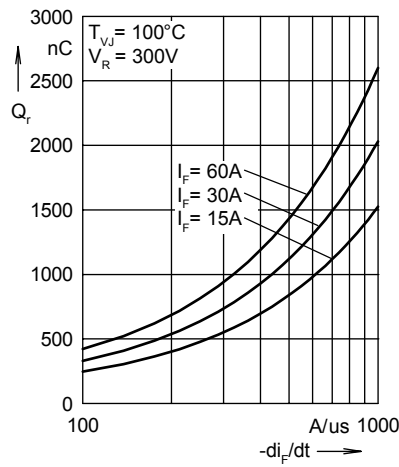


Fig. 2 Reverse recovery charge Q_r versus $-di_F/dt$

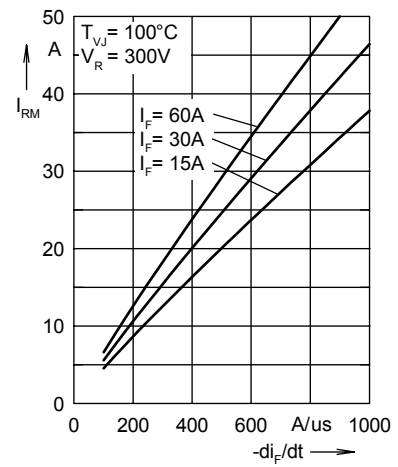


Fig. 3 Peak reverse current I_{RM} versus $-di_F/dt$

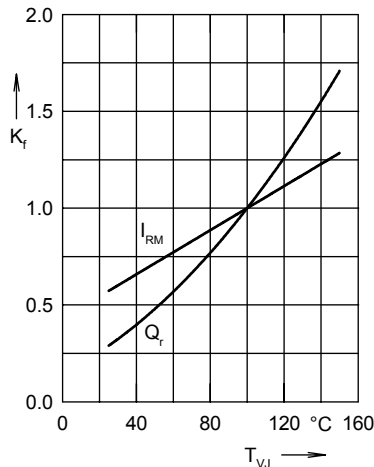


Fig. 4 Dynamic parameters Q_r , I_{RM} versus T_{VJ}

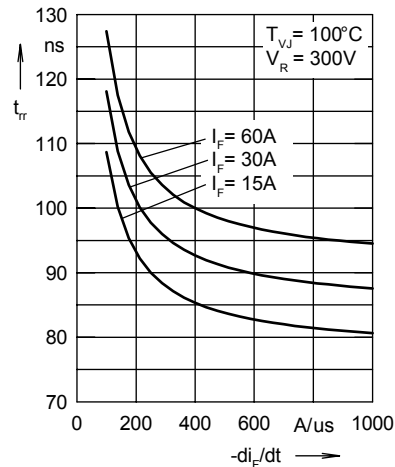


Fig. 5 Recovery time t_{tr} versus $-di_F/dt$

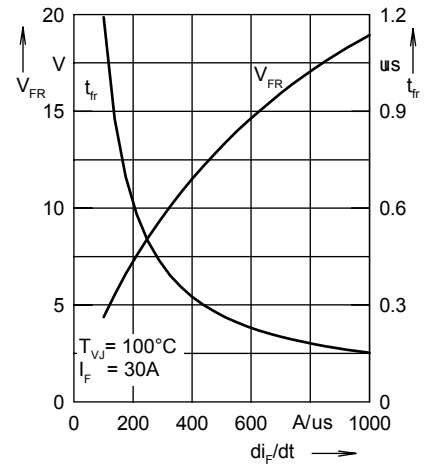


Fig. 6 Peak forward voltage V_{FR} and t_{tr} versus di_F/dt

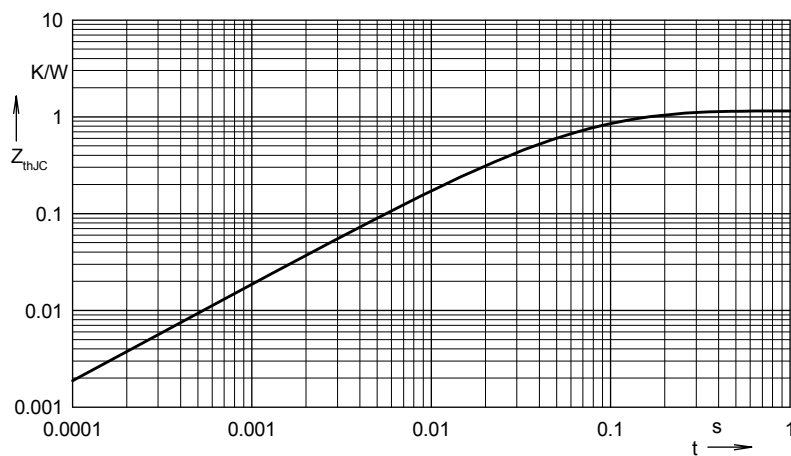


Fig. 7 Transient thermal resistance junction to case

Constants for Z_{thJC} calculation:

| i | R_{thi} (K/W) | t_i (s) |
|---|-----------------|-----------|
| 1 | 0.436 | 0.0055 |
| 2 | 0.482 | 0.0092 |
| 3 | 0.117 | 0.0007 |
| 4 | 0.115 | 0.0418 |