# HIGH CURRENT ISOLATED RECTIFIER ASSEMBLY ISOPAC ®

**ISOPAC01****
**ISOPAC02****
**ISOPAC04****
**ISOPAC06****



## HIGH CURRENT, HIGH DENSITY, ISOLATED, SILICON POWER RECTIFIERS

- Low thermal impedance
- Small size and low weight
- High current applications
- Isolated for direct heatsink mounting
- High surge ratings

## QUICK REFERENCE DATA

- $V_R$ = 150V - 1000V
- $I_F$ = 15A
- $t_{rr}$ = 10nS - 2µS
- $I_{FSM}$ ≥ 150A

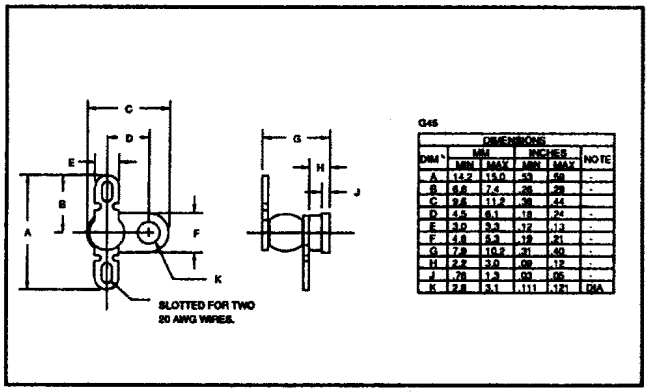
## ABSOLUTE MAXIMUM RATINGS

| Device Type | Working Reverse Voltage ($V_{RWM}$) | Average Rectified Current ($I_{F(AV)}$) @ $T_{mb}$ | | | 1 Cycle Surge $I_{FSM}$ $t_P$ = 8.3mS | | Repetitive Surge ($I_{FRM}$) | Operating & Storage Temperature Range |
|---|---|---|---|---|---|---|---|---|
| | | @ 55°C | 100°C | 125°C | @ 25 °C | @ 100°C | @ 25 °C | ($T_{OP}$) ($T_{STG}$) |
| | Volts | Amps | Amps | Amps | Amps | Amps | Amps | °C |
| ISOPAC0103 | 1000 | 15 | 11 | 8 | 150 | 100 | 25 | -55 to +175 |
| ISOPAC0119 | 1000 | 10 | 8 | 6 | 150 | 80 | 15 | -55 to +175 |
| ISOPAC0112 | 600 | 15 | 11 | 8 | 150 | 100 | 25 | -55 to +175 |
| ISOPAC0104 | 400 | 15 | 11 | 8 | 150 | 80 | 25 | -55 to +175 |
| ISOPAC0111 | 150 | 15 | 10 | 7 | 175 | 175 | 24 | -55 to +150 |
| ISOPAC0203 | 1000 | 15 | 11 | 8 | 150 | 100 | 25 | -55 to +175 |
| ISOPAC0219 | 1000 | 10 | 8 | 6 | 150 | 80 | 15 | -55 to +175 |
| ISOPAC0212 | 600 | 15 | 11 | 8 | 150 | 100 | 25 | -55 to +175 |
| ISOPAC0204 | 400 | 15 | 11 | 8 | 150 | 80 | 25 | -55 to +175 |
| ISOPAC0211 | 150 | 15 | 10 | 7 | 175 | 175 | 24 | -55 to +150 |
| ISOPAC0403 | 1000 | 15 | 11 | 8 | 150 | 100 | 25 | -55 to +175 |
| ISOPAC0419 | 1000 | 10 | 8 | 6 | 150 | 80 | 15 | -55 to +175 |
| ISOPAC0412 | 600 | 15 | 11 | 8 | 150 | 100 | 25 | -55 to +175 |
| ISOPAC0404 | 400 | 15 | 11 | 8 | 150 | 80 | 25 | -55 to +175 |
| ISOPAC0411 | 150 | 15 | 10 | 7 | 175 | 175 | 24 | -55 to +150 |
| ISOPAC0603 | 1000 | 15 | 11 | 8 | 150 | 100 | 25 | -55 to +175 |
| ISOPAC0619 | 1000 | 10 | 8 | 6 | 150 | 80 | 15 | -55 to +175 |
| ISOPAC0612 | 600 | 15 | 11 | 8 | 150 | 100 | 25 | -55 to +175 |
| ISOPAC0604 | 400 | 15 | 11 | 8 | 150 | 80 | 25 | -55 to +175 |
| ISOPAC0611 | 150 | 15 | 10 | 7 | 175 | 175 | 24 | -55 to +150 |
| ISOPAC1203 | 1000 | 15 | 11 | 8 | 150 | 100 | 25 | -55 to +175 |
| ISOPAC1219 | 1000 | 10 | 8 | 6 | 150 | 80 | 15 | -55 to +175 |
| ISOPAC1212 | 600 | 15 | 11 | 8 | 150 | 100 | 25 | -55 to +175 |
| ISOPAC1204 | 400 | 15 | 11 | 8 | 150 | 80 | 25 | -55 to +175 |
| ISOPAC1211 | 150 | 15 | 10 | 7 | 175 | 175 | 24 | -55 to +150 |

## ELECTRICAL CHARACTERISTICS (apply per junction)

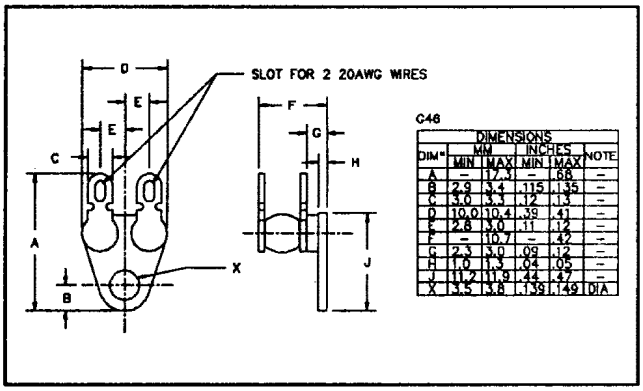
| Device Type | Maximum Leakage Current @ $V_{RWM}$ | | Maximum Forward Voltage @ 9.0 A | Maximum Reverse Recovery Time |
|---|---|---|---|---|
| | $T_j$ = 25 °C | $T_j$ = 100 °C | | |
| | µA | µA | Volts | nS |
| ISOPAC0103 | 1.0 | 20 | 1.2 | 2000 |
| ISOPAC0119 | 1.0 | 25 | 2.2 | 150 |
| ISOPAC0112 | 1.0 | 20 | 1.2 | 2000 |
| ISOPAC0104 | 1.0 | 20 | 1.5 | 150 |
| ISOPAC0111 | 10.0 | 500 | 1.1 | 30 |
| ISOPAC0203 | 1.0 | 20 | 1.2 | 2000 |
| ISOPAC0219 | 1.0 | 25 | 2.2 | 150 |
| ISOPAC0212 | 1.0 | 20 | 1.2 | 2000 |
| ISOPAC0204 | 1.0 | 20 | 1.5 | 150 |
| ISOPAC0211 | 10.0 | 500 | 1.1 | 30 |
| ISOPAC0403 | 1.0 | 20 | 1.2 | 2000 |
| ISOPAC0419 | 1.0 | 25 | 2.2 | 150 |
| ISOPAC0412 | 1.0 | 20 | 1.2 | 2000 |
| ISOPAC0404 | 1.0 | 20 | 1.5 | 150 |
| ISOPAC0411 | 10.0 | 500 | 1.1 | 30 |
| ISOPAC0603 | 1.0 | 20 | 1.2 | 2000 |
| ISOPAC0619 | 1.0 | 25 | 2.2 | 150 |
| ISOPAC0612 | 1.0 | 20 | 1.2 | 2000 |
| ISOPAC0604 | 1.0 | 20 | 1.5 | 150 |
| ISOPAC0611 | 10.0 | 500 | 1.1 | 30 |
| ISOPAC1203 | 1.0 | 20 | 1.2 | 2000 |
| ISOPAC1219 | 1.0 | 25 | 2.2 | 150 |
| ISOPAC1212 | 1.0 | 20 | 1.2 | 2000 |
| ISOPAC1204 | 1.0 | 20 | 1.5 | 150 |
| ISOPAC1211 | 10.0 | 500 | 1.1 | 30 |

$R_{\theta JMB}$ = 3°C/W per junction.
Non-isolated forms are available, consult factory for details.



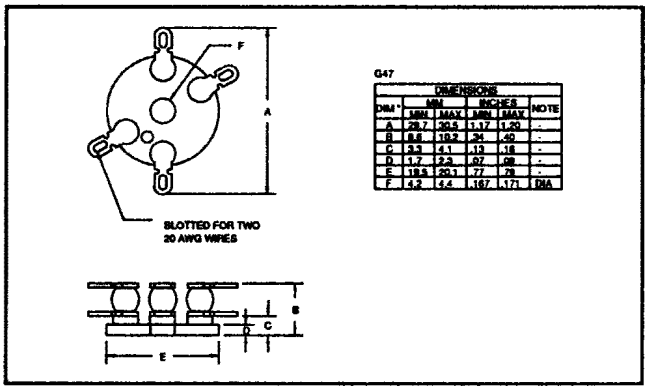

G45

| DIM" | MM MIN | MM MAX | INCHES MIN | INCHES MAX | NOTE |
|---|---|---|---|---|---|
| A | 14.2 | 15.0 | .53 | .58 | - |
| B | 6.8 | 7.4 | .26 | .29 | - |
| C | 9.8 | 11.2 | .38 | .44 | - |
| D | 4.5 | 6.1 | .18 | .24 | - |
| E | 3.0 | 3.3 | .12 | .13 | - |
| F | 4.8 | 5.3 | .19 | .21 | - |
| G | 7.9 | 10.2 | .31 | .40 | - |
| H | 2.2 | 3.0 | .09 | .12 | - |
| J | .76 | 1.3 | .03 | .05 | - |
| K | 2.8 | 3.1 | .111 | .121 | DIA |



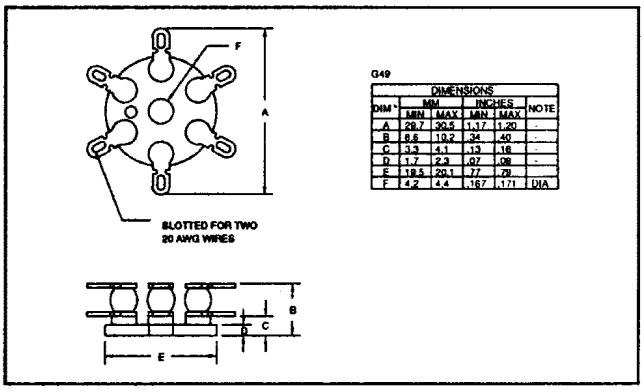

G46

| DIM" | MM MIN | MM MAX | INCHES MIN | INCHES MAX | NOTE |
|---|---|---|---|---|---|
| A | — | 17.3 | — | .68 | — |
| B | 2.9 | 3.4 | .115 | .135 | — |
| C | 3.0 | 3.3 | .12 | .13 | — |
| D | 10.0 | 10.4 | .39 | .41 | — |
| E | 2.8 | 3.0 | .11 | .12 | — |
| F | — | 10.7 | — | .42 | — |
| G | 2.3 | 3.0 | .09 | .12 | — |
| H | 1.0 | 1.3 | .04 | .05 | — |
| J | 11.2 | 11.9 | .44 | .47 | — |
| X | 3.5 | 3.8 | .139 | .149 | DIA |



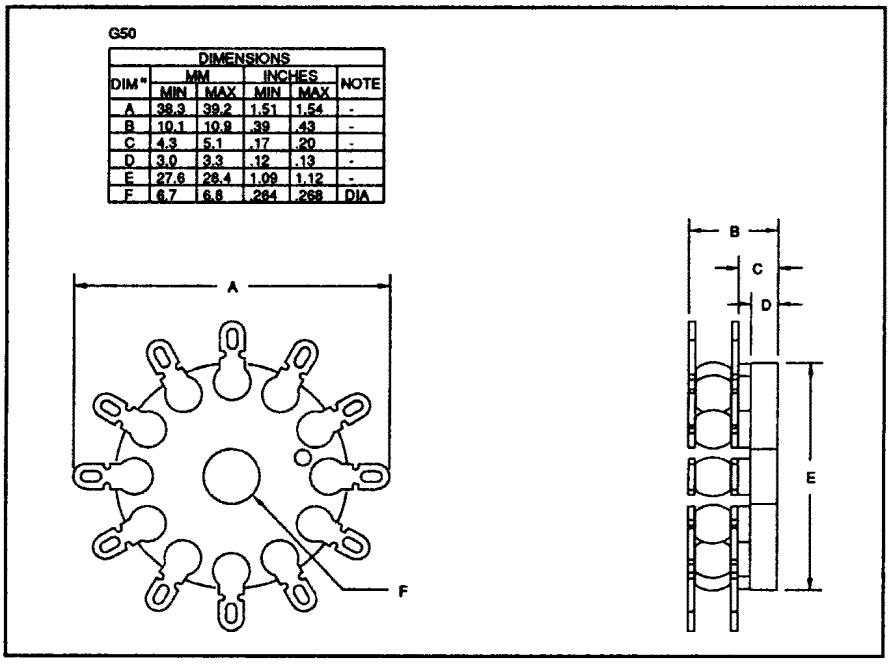

G47

| DIM" | MM MIN | MM MAX | INCHES MIN | INCHES MAX | NOTE |
|---|---|---|---|---|---|
| A | 28.7 | 30.5 | 1.17 | 1.20 | - |
| B | 8.6 | 10.2 | .34 | .40 | - |
| C | 3.3 | 4.1 | .13 | .16 | - |
| D | 1.7 | 2.3 | .07 | .09 | - |
| E | 19.5 | 20.1 | .77 | .79 | - |
| F | 4.2 | 4.4 | .167 | .171 | DIA |




G49

| DIM" | MM MIN | MM MAX | INCHES MIN | INCHES MAX | NOTE |
|---|---|---|---|---|---|
| A | 28.7 | 30.5 | 1.17 | 1.20 | - |
| B | 8.6 | 10.2 | .34 | .40 | - |
| C | 3.3 | 4.1 | .13 | .16 | - |
| D | 1.7 | 2.3 | .07 | .09 | - |
| E | 19.5 | 20.1 | .77 | .79 | - |
| F | 4.2 | 4.4 | .167 | .171 | DIA |




G50

| DIM" | MM MIN | MM MAX | INCHES MIN | INCHES MAX | NOTE |
|---|---|---|---|---|---|
| A | 38.3 | 39.2 | 1.51 | 1.54 | - |
| B | 10.1 | 10.9 | .39 | .43 | - |
| C | 4.3 | 5.1 | .17 | .20 | - |
| D | 3.0 | 3.3 | .12 | .13 | - |
| E | 27.6 | 28.4 | 1.09 | 1.12 | - |
| F | 6.7 | 6.8 | .264 | .268 | DIA |

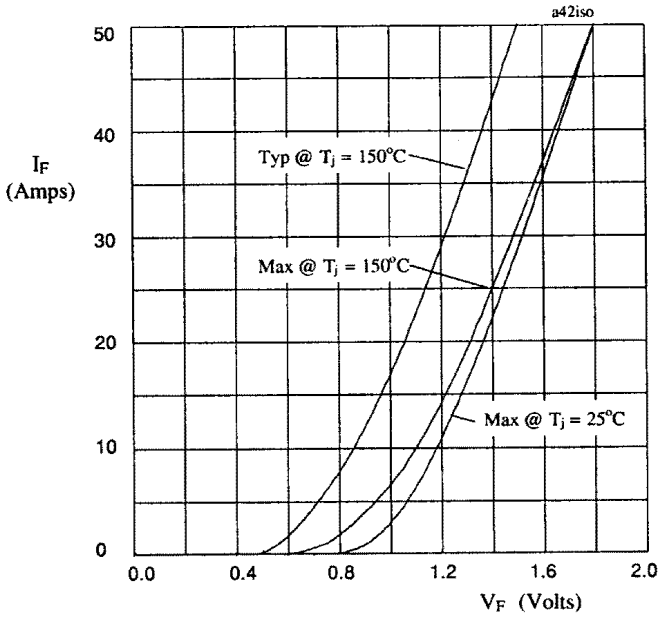



Figure 1. Forward voltage drop as a function of forward current for ISOPAC**03 & ISOPAC**12.

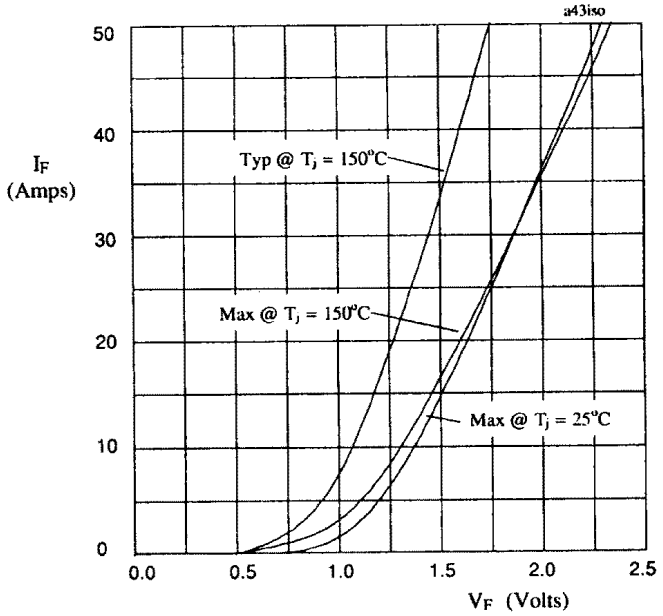



Figure 2. Forward voltage drop as a function of forward current for ISOPAC**04.

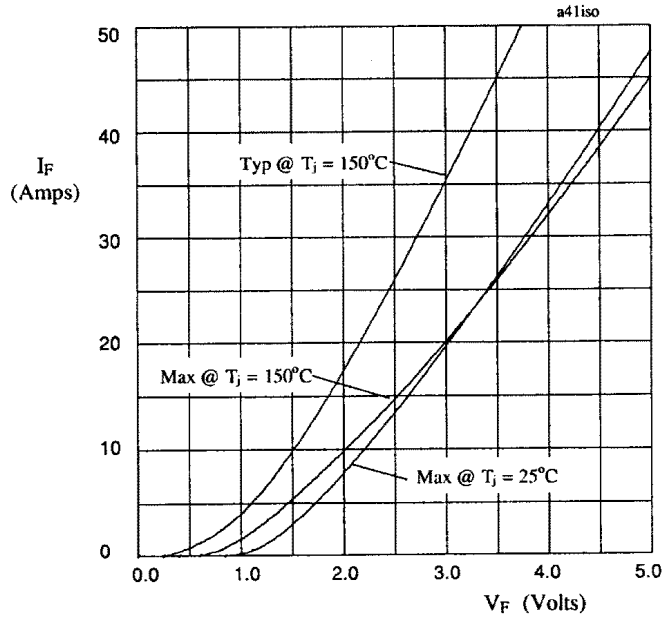



Figure 3. Forward voltage drop as a function of forward current for ISOPAC**19.

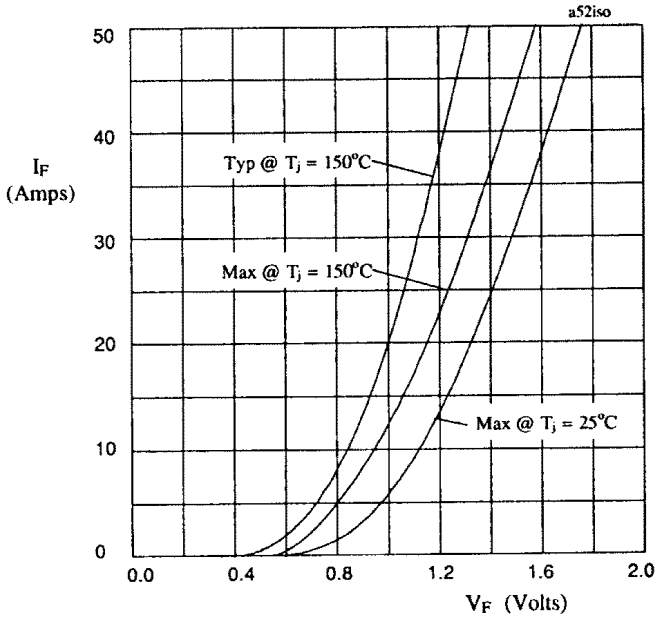



Figure 4. Forward voltage drop as a function of forward current for ISOPAC**11.

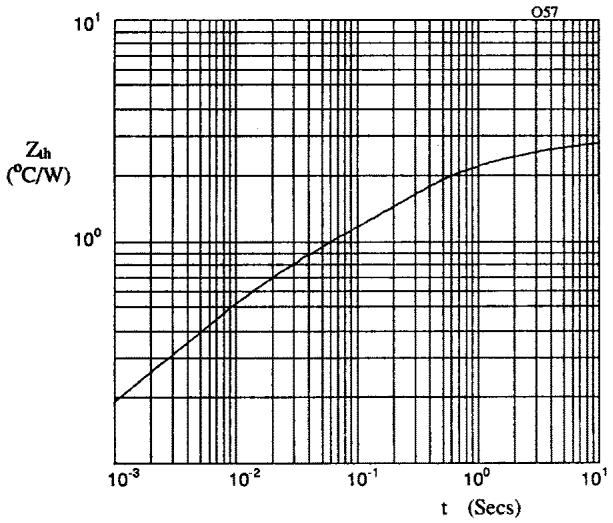



Figure 5. Typical transient thermal impedance characteristic.

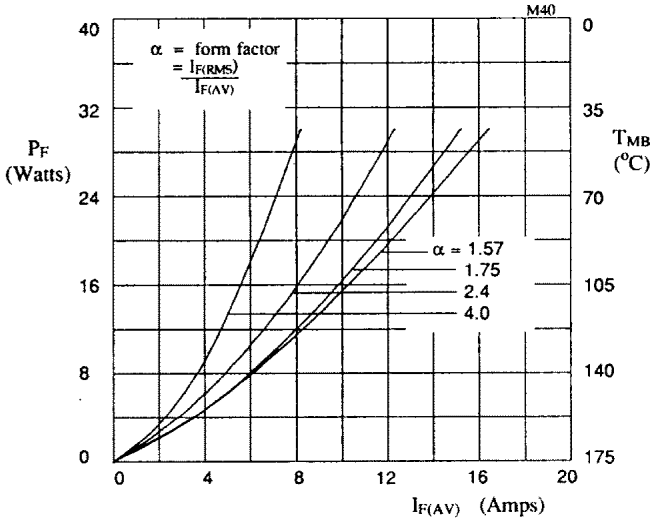



Figure 6. Forward power dissipation and maximum allowable mounting base temperature as a function of forward current for sinusoidal operation, for ISOPAC**03 and ISOPAC**12.

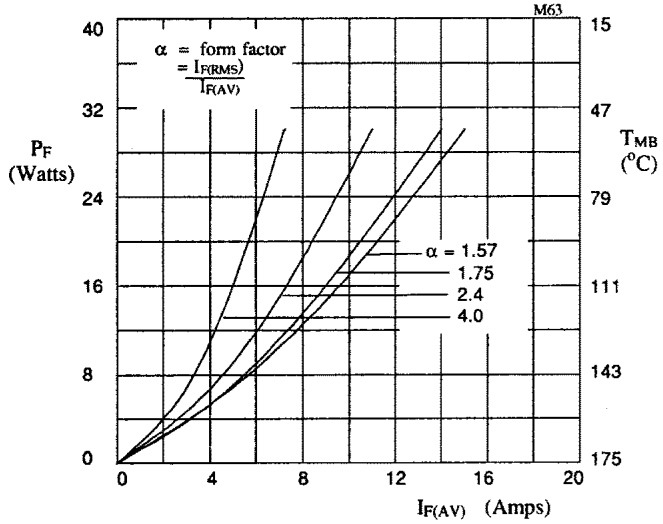



Figure 7. Forward power dissipation and maximum allowable mounting base temperature as a function of forward current for sinusoidal operation, for ISOPAC**04.

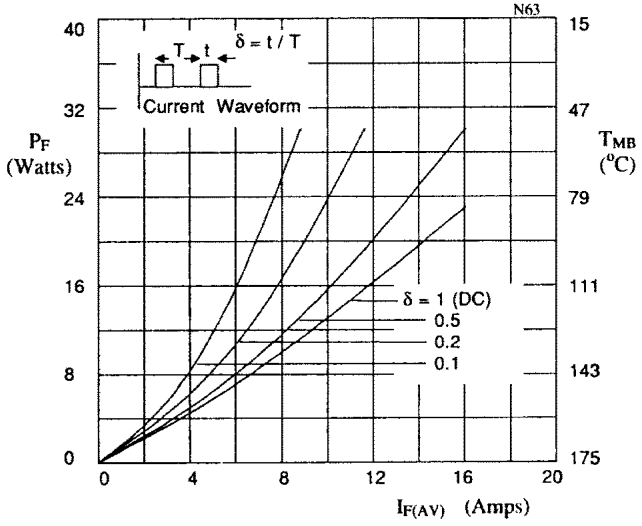



Figure 8. Forward power dissipation and maximum allowable mounting base temperature as a function of forward current for square wave operation, for ISOPAC**04

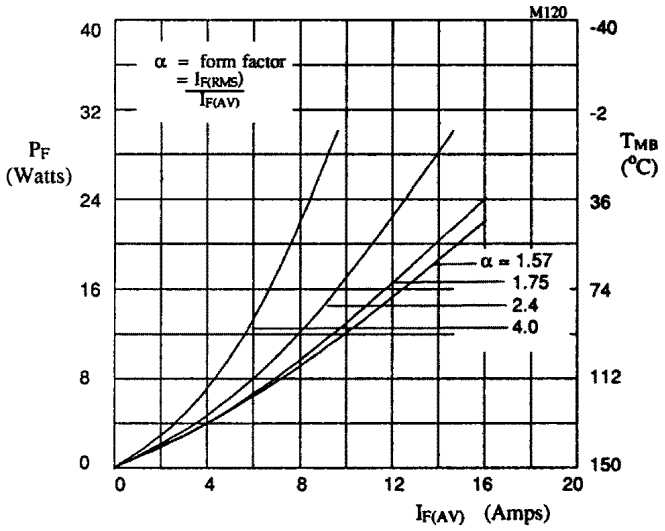



Figure 9. Forward power dissipation and maximum allowable mounting base temperature as a function of forward current for sinusoidal operation, for ISOPAC**11.

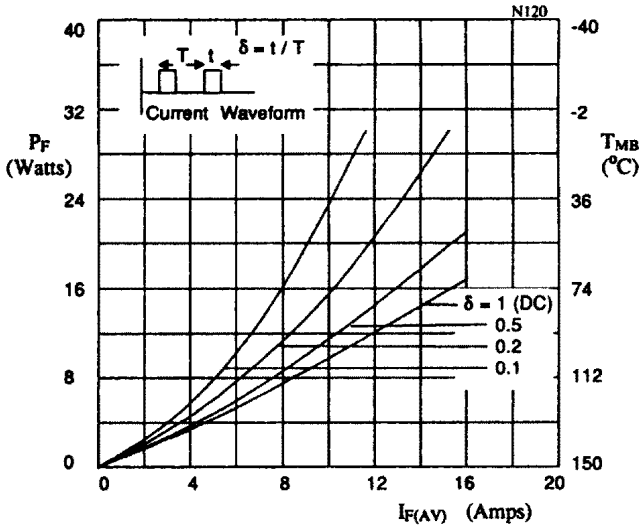



Figure 10. Forward power dissipation and maximum allowable mounting base temperature as a function of forward current for square wave operation, for ISOPAC**11.