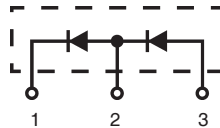


Phase-leg Rectifier Diode ISOPLUS220™ Electrically Isolated Back Surface

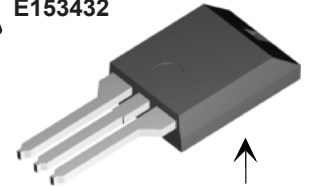
$$V_{RRM} = 800/1200 \text{ V}$$

$$I_{F(AV)M} = 2 \times 11 \text{ A}$$

| V_{RSM} V | V_{RRM} V | Type |
|----------------|----------------|------------|
| 900 | 800 | DSP 8-08AC |
| 1300 | 1200 | DSP 8-12AC |



ISOPLUS 220™
E153432



Isolated back surface*

Preliminary Data Sheet

| Symbol | Test Conditions | Maximum Ratings |
|--------------|---|------------------------|
| I_{FRMS} | $T_{VJ} = T_{VJM}$ | 30 A |
| $I_{F(AV)M}$ | $T_{case} = 100^\circ\text{C}; 180^\circ \text{ sine}$ | 2 x 11 A |
| I_{FSM} | $T_{VJ} = 45^\circ\text{C}; t = 10 \text{ ms}$ (50 Hz), sine | 100 A |
| | $t = 8.3 \text{ ms}$ (60 Hz), sine | 105 A |
| | $T_{VJ} = 150^\circ\text{C}; t = 10 \text{ ms}$ (50 Hz), sine | 85 A |
| | $t = 8.3 \text{ ms}$ (60 Hz), sine | 90 A |
| I^2t | $T_{VJ} = 45^\circ\text{C}; t = 10 \text{ ms}$ (50 Hz), sine | 50 A ² s |
| | $t = 8.3 \text{ ms}$ (60 Hz), sine | 45 A ² s |
| | $T_{VJ} = 150^\circ\text{C}; t = 10 \text{ ms}$ (50 Hz), sine | 35 A ² s |
| | $t = 8.3 \text{ ms}$ (60 Hz), sine | 30 A ² s |
| T_{VJ} | | -40...+150 °C |
| T_{VJM} | | 150 °C |
| T_{stg} | | -55...+150 °C |
| T_L | 1.6 mm (0.063 in) from case for 10 s | 260 °C |
| V_{ISOL} | 50/60 Hz RMS; $I_{ISOL} \leq 1 \text{ mA}$ | 2500 V~ |
| F_c | Mounting Force | 11...65 / 2.5..15 N/lb |
| Weight | | 2 g |

Features

- Silicon chip on Direct-Copper-Bond substrate
- High power dissipation
- Isolated mounting surface
- 2500V electrical isolation
- For single and three phase bridge configuration
- Low cathode to tab capacitance (<15pF)
- Planar passivated chips
- Epoxy meets UL 94V-0

| Symbol | Test Conditions | Characteristic Values |
|------------|---|-----------------------|
| I_R ① | $V_R = V_{RRM}; T_{VJ} = 25^\circ\text{C}$ | $\leq 10 \mu\text{A}$ |
| | $T_{VJ} = 150^\circ\text{C}$ | $\leq 0.7 \text{ mA}$ |
| V_F ② | $I_F = 10 \text{ A}; T_{VJ} = 25^\circ\text{C}$ | $\leq 1.22 \text{ V}$ |
| | $T_{VJ} = 125^\circ\text{C}$ | $\leq 1.26 \text{ V}$ |
| V_{T0} | For power-loss calculations only | 0.8 V |
| r_T | $T_{VJ} = T_{VJM}$ | 41 mΩ |
| R_{thJC} | DC current | 1.8 K/W |
| R_{thCK} | DC current (with heatsink compound) | typ. 0.6 K/W |
| a | Maximum allowable acceleration | 100 m/s ² |

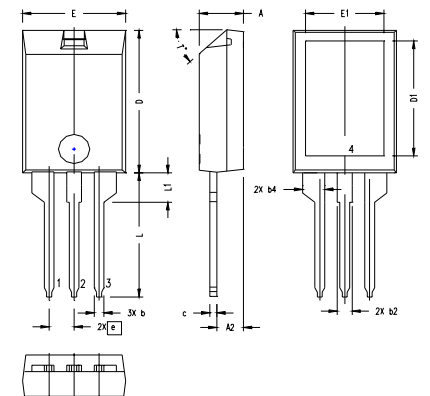
Notes: Data given for $T_{VJ} = 25^\circ\text{C}$ and per diode unless otherwise specified

① Pulse test: pulse Width = 5 ms, Duty Cycle < 2.0 %

② Pulse test: pulse Width = 300 μs, Duty Cycle < 2.0 %

IXYS reserves the right to change limits, test conditions and dimensions.

ISOPLUS220 Outline



| SYM | INCHES | | MILLIMETERS | |
|-----|-----------------------|------|-------------|-------|
| | MIN | MAX | MIN | MAX |
| A | .157 | .197 | 4.00 | 5.00 |
| A2 | .098 | .118 | 2.50 | 3.00 |
| b | .035 | .051 | 0.90 | 1.30 |
| b2 | .049 | .065 | 1.25 | 1.65 |
| b4 | .093 | .100 | 2.35 | 2.55 |
| c | .028 | .039 | 0.70 | 1.00 |
| D | .591 | .630 | 15.00 | 16.00 |
| D1 | .472 | .512 | 12.00 | 13.00 |
| E | .394 | .433 | 10.00 | 11.00 |
| E1 | .295 | .335 | 7.50 | 8.50 |
| e | .100 BASIC 2.55 BASIC | | | |
| L | .512 | .571 | 13.00 | 14.50 |
| L1 | .118 | .138 | 3.00 | 3.50 |
| T* | | | 42.5° | 47.5° |

NOTE:

1. Bottom heatsink (Pin 4) is electrically isolated from Pin 1, 2, or 3.

2. This drawing will meet dimensional requirement of JEDEC SS Product Outline TO-273 except D and D1 dimension.