

### Rectifier Diode ISOPLUS220™

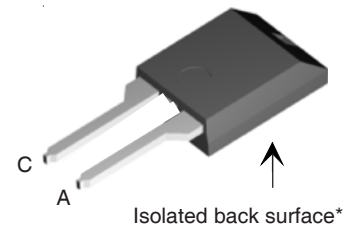
$V_{RRM} = 800 - 1200 \text{ V}$   
 $I_{F(AV)M} = 30 \text{ A}$

#### Electrically Isolated Back Surface

| $V_{RSM}$<br>V | $V_{RRM}$<br>V | Type        |
|----------------|----------------|-------------|
| 900            | 800            | DSI 30-08AC |
| 1300           | 1200           | DSI 30-12AC |



ISOPLUS 220™



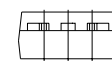
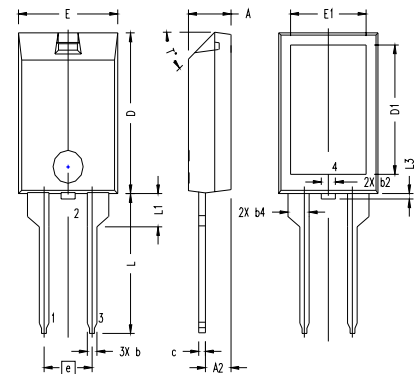
#### Preliminary Data Sheet

| Symbol     | Conditions   | Maximum Ratings    |                  |
|------------|--|--------------------|------------------|
| $I_{FRMS}$ | $T_C = 95^\circ\text{C}; 180^\circ$ sine (RMS current limited) | 60                 | A                |
| $I_{FAV}$  |  | 30                 | A                |
| $I_{FSM}$  | $T_{VJ} = 45^\circ\text{C}; t = 10 \text{ ms}$ (50 Hz), sine   | 200                | A                |
|            | $V_R = 0 \text{ V}; t = 8.3 \text{ ms}$ (60 Hz), sine          | 210                | A                |
| $I^2t$     | $T_{VJ} = 150^\circ\text{C}; t = 10 \text{ ms}$ (50 Hz), sine  | 175                | A                |
|            | $V_R = 0 \text{ V}; t = 8.3 \text{ ms}$ (60 Hz), sine          | 185                | A                |
| $I^2t$     | $T_{VJ} = 45^\circ\text{C}; t = 10 \text{ ms}$ (50 Hz), sine   | 200                | A <sup>2</sup> s |
|            | $V_R = 0 \text{ V}; t = 8.3 \text{ ms}$ (60 Hz), sine          | 185                | A <sup>2</sup> s |
| $I^2t$     | $T_{VJ} = 150^\circ\text{C}; t = 10 \text{ ms}$ (50 Hz), sine  | 155                | A <sup>2</sup> s |
|            | $V_R = 0 \text{ V}; t = 8.3 \text{ ms}$ (60 Hz), sine          | 145                | A <sup>2</sup> s |
| $T_{VJ}$   |  | -55...+150         | °C               |
| $T_{VJM}$  |  | 150                | °C               |
| $T_{stg}$  |  | -55...+150         | °C               |
| $T_L$      | 1.6 mm (0.062 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 / 2.4...11 | N / lb           |
| Weight     | typical  | 2                  | g                |

#### Features

- Silicon chip on Direct-Copper-Bond substrate
- High power dissipation
- Isolated mounting surface
- 2500V electrical isolation
- Low cathode to tab capacitance(15pF typical)
- International standard package
- Epoxy meets UL 94V-0

#### ISOPLUS220 Outline (2 leads)



| 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   | .200 BASIC |      | 5.08 BASIC  |       |
| L   | .512       | .571 | 13.00       | 14.50 |
| L1  | .118       | .138 | 3.00        | 3.50  |
| L3  | .000       | .059 | 0.00        | 1.50  |
| T*  |            |      | 42.5°       | 47.5° |

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

| Symbol     | Conditions  | Characteristic Values |      |
|------------|---|-----------------------|------|
|            |   | typ.                  | max. |
| $I_R$      | $T_{VJ} = 25^\circ\text{C}; V_R = V_{RRM}$<br>$T_{VJ} = T_{VJM}; V_R = V_{RRM}$ | 0.05                  | mA   |
|            |   | 1.5                   | mA   |
| $V_F$      | $I_F = 45 \text{ A}; T_{VJ} = 25^\circ\text{C}$                                 | 1.45                  | V    |
| $V_{TO}$   | For power loss calculations only  | 0.80                  | V    |
| $r_T$      | $T_{VJ} = T_{VJM}$  | 15                    | mΩ   |
| $R_{thJC}$ | 0.6   | 1.1                   | K/W  |
| $R_{thCH}$ |   | K/W                   |      |

Note: See DSI 30..A data sheet for electrical characteristic curves.

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