

Stud-Base Silicon Rectifier Diodes Type PCN/PCRO40

70 amperes average: up to 1600 volts V_{RRM}

RATINGS Maximum values at 175°C T_j unless stated otherwise

| RATING | CONDITIONS | SYMBOL | |
|---------------------------------------|--|------------------|--|
| Average forward current | Half sine wave 100°C case temperature | $I_{F(AV)}$ | 70A |
| RMS current | | $I_{F(RMS)}$ | 118A |
| DC forward current | | I_F' | 118A |
| Peak one-cycle surge (non repetitive) | 8.3ms duration $\left\{ \begin{array}{l} 60\% V_{RRM} \text{ re-applied} \\ V_R \leq 10 \text{ volts} \end{array} \right.$ | $I_{FSM(1)}$ | 689A |
| | | $I_{FSM(2)}$ | 795A |
| Maximum permissible surge energy | 8.3ms duration $\left\{ \begin{array}{l} 60\% V_{RRM} \text{ re-applied} \\ V_R \leq 10 \text{ volts} \end{array} \right.$ | $I^2 t (1)$ | 2049A ² s |
| | 3ms duration $V_R \leq 10 \text{ volts}$ | $I^2 t (2)$ | 2716A ² s 2072A ² s |
| Case operating temperature | | T _C | -55, +175°C |
| Storage temperature | | T _{stg} | -55, +175°C |

CHARACTERISTICS Maximum values at 175°C T_j unless stated otherwise

| CHARACTERISTIC | CONDITIONS | SYMBOL | |
|--|--|----------------|----------------------|
| Peak forward voltage drop | At 250A, I_{FM} | V_{FM} | 1.5V |
| Forward conduction threshold voltage | | V_0 | 1V |
| Forward conduction slope resistance | | r | 2mΩ |
| Peak reverse current | At V_{RRM} | I_{RRM} | 8mA |
| Thermal resistance junction to case for a diode with a maximum forward voltage drop characteristic | DC and 180° sine wave 120° rectangular wave | $R_{th(j-c)}$ | 0.68°C/W 0.90°C/W |
| Thermal resistance case to heatsink | | $R_{th(c-hs)}$ | 0.1°C/W |

| VOLTAGE CODE → | 02 | 04 | 06 | 08 | 10 | 12 | 14 | 15 | 16 |
|----------------------------------|-----|-----|-----|-----|------|------|------|------|------|
| Repetitive voltage V_{RRM} | 200 | 400 | 600 | 800 | 1000 | 1200 | 1400 | 1500 | 1600 |
| Non-repetitive voltage V_{RSM} | 300 | 500 | 700 | 900 | 1100 | 1300 | 1500 | 1600 | 1700 |

ORDERING INFORMATION (Please quote device code as explained below — 10 digits)

| S | W | P | C | ● | 0 | 4 | 0 |
|------------------|--------------------------|------------------------|---|---|-----------------|---|---|
| FIXED BASIC CODE | VOLTAGE CODE (see above) | FIXED OUTLINE CODE DO5 | STUD POLARITY N = cathode R = anode | | FIXED TYPE CODE | | |

 Typical code SW06PCRO40 = 600V_{RRM} diode with stud anode

In the interest of product improvement, Westcode reserves the right to change specifications at any time without notice.

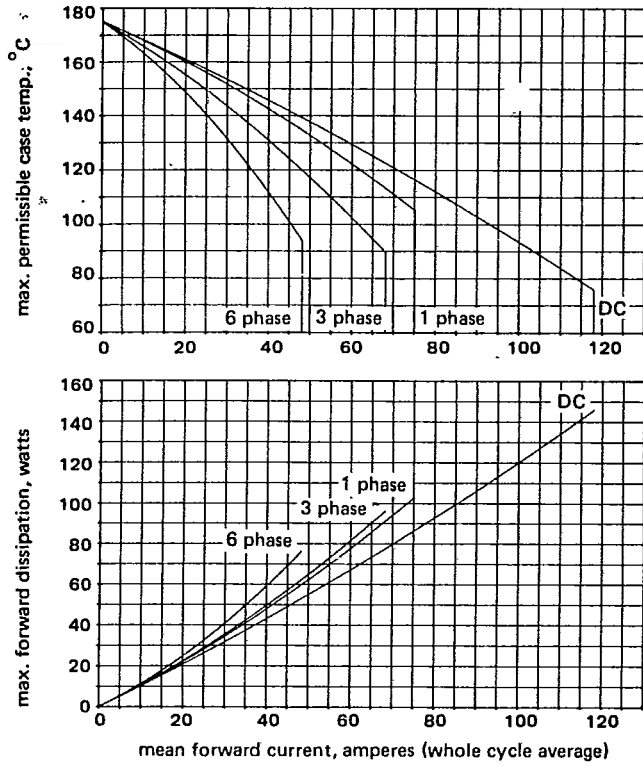


Figure 1 Dissipation and stud temperature v. mean forward current

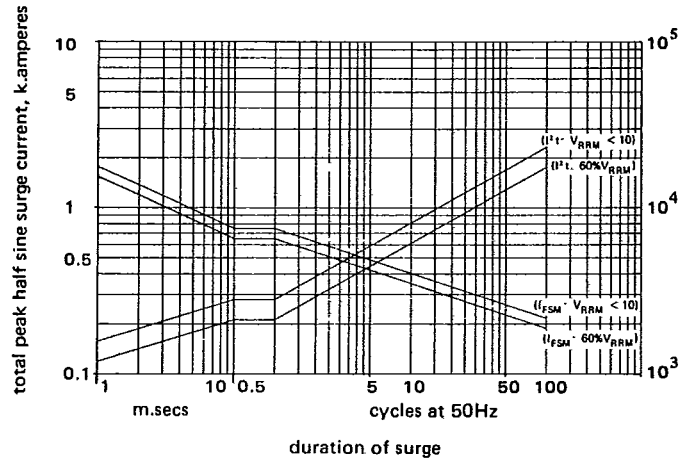


Figure 2 Max. non repetitive surge current at initial junction temperature 175°C

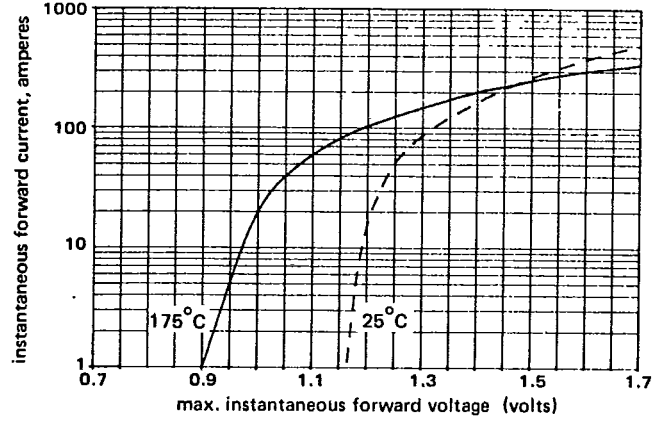


Figure 3 Forward voltage characteristic

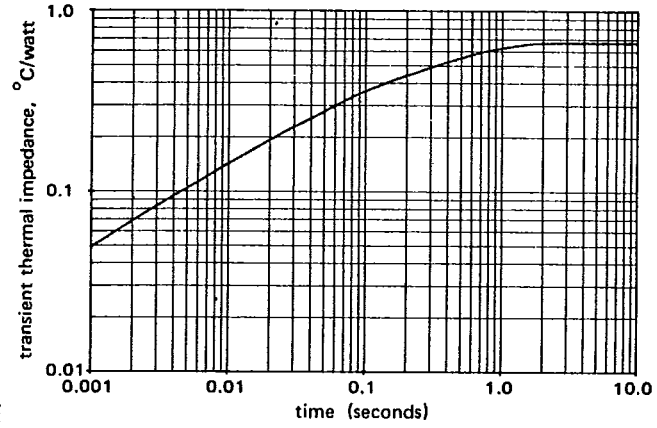
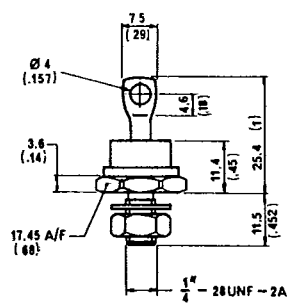


Figure 4 Transient thermal impedance, junction to case



Mounting Torque
 0.41 - 0.48 KgM
 threads not to be lubricated
 Weight: 17 grams
 dimensions
 in mm (inches)

Conforms to DO - 5

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