

SanRex®

Soft Recovery Diode

DCA100AA50/60

**$I_{F(AV)} = 100A$, $V_{RRM} = 600V$
 $t_{rr} = 220ns$, Softness=0.8**

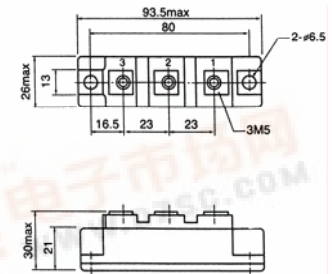
SanRex Soft Recovery Diode Module **DCA100AA** series is designed for applications requiring fast switching and soft recovery wave shape to reduce or eliminate the need for snubber components in the circuit. The modules are isolated for easy mounting with other components or a common heatsink.

Features

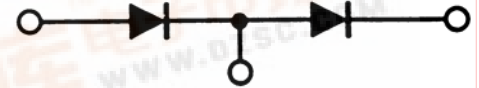
- * Very Fast Reverse Recovery Time
- * Soft Recovery Characteristics
- * Low Forward Voltage Drop
- * UL registered E76102

Typical Applications

- * Welding and Plasma Cutting Machines
- * DC chopper
- * Rectifier in Switch Mode Power Supplies (SMPS)
- * Uninterruptible Power Supplies (UPS)
- * Free Wheeling Diode in converters and motor control circuits



Isolated TO-240 Package



Internal schematic diagram

< Maximum Ratings >

$T_j = 25^\circ C$ (unless otherwise noted) per diode

| Symbol | Item | Ratings | | Unit |
|-------------|---------------------------------|------------|------------|------|
| | | DCA100AA50 | DCA100AA60 | |
| V_{RRM} | Repetitive Peak Reverse Voltage | 500 | 600 | V |
| $V_{R(DC)}$ | Reverse D.C. Voltage | 400 | 480 | V |

| | | | | |
|-------------|----------------------------|---|---------------------|------------|
| $I_{F(AV)}$ | Average Forward Current | D.C., $T_c = 85^\circ C$ | 100 | A |
| I_{FSM} | Surge Forward Current | $\frac{1}{2}$ cycle, 60Hz, Peak value, non-repetitive | 2000 | A |
| $I^2 t$ | $I^2 t$ (for fusing) | Value for one cycle surge current | 16700 | $A^2 s$ |
| T_j | Junction Temperature | | -40 to +150 | $^\circ C$ |
| T_{stg} | Storage Temperature | | -40 to +125 | $^\circ C$ |
| V_{ISO} | Isolation Voltage (R.M.S.) | A.C. 1 minute | 2500 | V |
| | Mounting Torque | Mounting M6 | Recommended 2.5-3.9 | N·m |
| | | Terminal M5 | Recommended 1.5-2.5 | |
| | Mass | Typical Value | 170 | g |



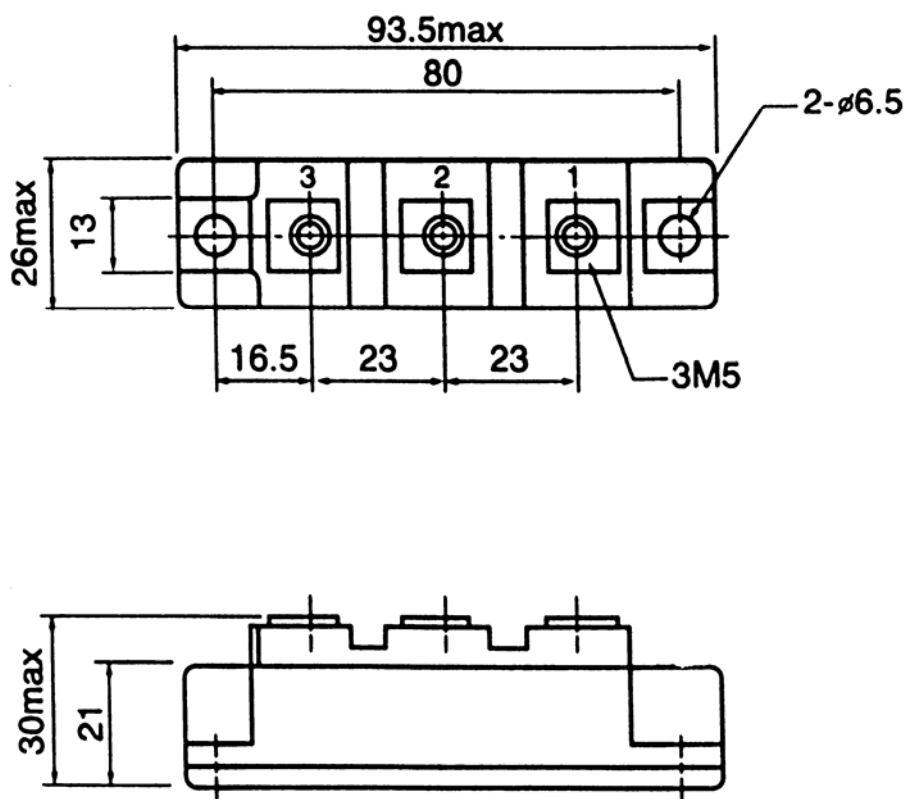
Soft Recovery Diode

DCA100AA50/60

< Electrical Characteristics >

$T_j = 25^\circ\text{C}$ (unless otherwise noted) per diode

| Symbol | Item | Conditions | Ratings | | | Unit |
|---------------|---------------------------------|--|---------|------|------|---------------------------|
| | | | Min. | Typ. | Max. | |
| I_{RRM} | Repetitive Peak Reverse Current | $V_R = V_{RRM}, T_j = 125^\circ\text{C}$ | | | 100 | mA |
| V_{FM} | Forward Voltage Drop | $I_F = 100\text{A}$, Inst. measurement | | 1.18 | 1.30 | V |
| t_{rr} | Reverse Recovery Time | $I_F = 100\text{A}$, $V_R = 300\text{V}$, $-di/dt = 100\text{A}/\mu\text{s}$ | | 220 | 300 | ns |
| t_b/t_a | Softness | $I_F = 100\text{A}$, $V_R = 300\text{V}$, $-di/dt = 100\text{A}/\mu\text{s}$ | 0.80 | | | |
| $R_{th(j-c)}$ | Thermal Resistance | Junction to case | | | 0.5 | $^\circ\text{C}/\text{W}$ |



* Dimensions in millimeters