

# SanRex

## ISOLATED DIODE MODULE (SOFT RECOVERY DIODE)

**DKA200AA50/60**  $V_{RRM}=500/600V$ ,  $I_{FAV}=100A$ ,  $t_{rr}=220ns$ , Softness=0.8

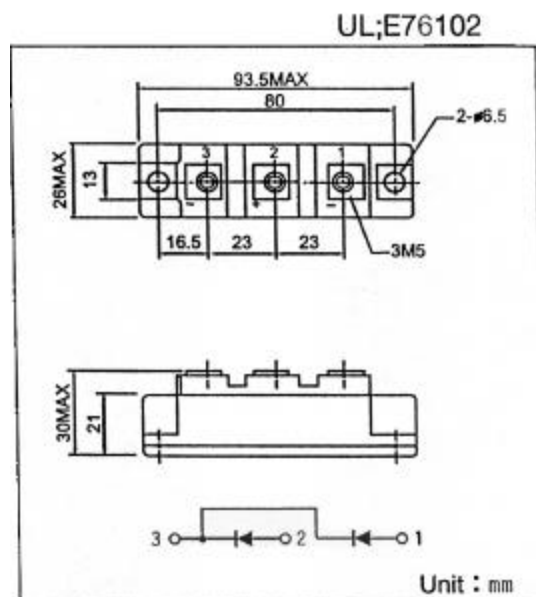
SanRex Soft Recovery Diode Module **DKA200AA** is designed for applications requiring fast switching and soft recovery wave shape to reduce or eliminate the need for snubber components in the circuit. The modules are isolated for easy mounting with other components or a common heatsink.

### 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



### < Maximum Ratings >

( $T_j = 25^\circ C$  unless otherwise specified)

| Symbol      | Item                            | Ratings    |            | Unit |
|-------------|---------------------------------|------------|------------|------|
|             |                                 | DKA200AA50 | DKA200AA60 |      |
| $V_{RRM}$   | Repetitive Peak Reverse Voltage | 500        | 600        | V    |
| $V_{R(DC)}$ | Reverse D.C. Voltage            | 400        | 480        | V    |

| Symbol      | Item                       |             | Conditions                                            | Ratings     | Unit             |
|-------------|----------------------------|-------------|-------------------------------------------------------|-------------|------------------|
| $I_{F(AV)}$ | 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 <sup>2</sup> 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 (25-40)                           | 4.7(48)     | N·m<br>(kgf·cm)  |
|             |                            | Terminal M5 | Recommended 1.5-2.5 (15-25)                           | 2.7(28)     |                  |
|             | Mass                       |             | Typical Value                                         | 170         | g                |

### < Electrical Characteristics >

( $T_j = 25^\circ C$  unless otherwise specified)

| Symbol        | Item                            | Conditions                                       | Ratings |      |      | Unit         |
|---------------|---------------------------------|--------------------------------------------------|---------|------|------|--------------|
|               |                                 |                                                  | Min.    | Typ. | Max. |              |
| $I_{RRM}$     | Repetitive Peak Reverse Current | $V_R = V_{RRM}$ , $T_j = 125^\circ C$            |         |      | 100  | mA           |
| $V_{FM}$      | Forward Voltage Drop            | $I_F = 100A$ , Inst. Measurement                 |         | 1.18 | 1.30 | V            |
| $t_{rr}$      | Reverse Recovery Time           | $I_F = 100A$ , $V_R = 300V$ , $-di/dt = 100A/FS$ |         | 220  | 300  | N s          |
| $t_b/t_a$     | Softness                        | $I_F = 100A$ , $V_R = 300V$ , $-di/dt = 100A/FS$ | 0.80    |      |      |              |
| $R_{th(j-c)}$ | Thermal Resistance              | Junction to case, $\frac{1}{2}$ module           |         |      | 0.50 | $^\circ C/W$ |