

# Silicon Fast Recovery Diode

 $V_{RRM} = 100\text{ V} - 600\text{ V}$ 
 $I_F = 70\text{ A}$ 

## Features

- High Surge Capability
- Types up to 600 V  $V_{RRM}$

**DO-5 Package**

**Maximum ratings, at  $T_j = 25\text{ °C}$ , unless otherwise specified ("R" devices have leads reversed)**

| Parameter                                            | Symbol     | Conditions                                   | FR70B(R)02 | FR70D(R)02 | FR70G(R)02 | FR70J(R)02 | Unit |
|------------------------------------------------------|------------|----------------------------------------------|------------|------------|------------|------------|------|
| Repetitive peak reverse voltage                      | $V_{RRM}$  |                                              | 100        | 200        | 400        | 600        | V    |
| RMS reverse voltage                                  | $V_{RMS}$  |                                              | 70         | 140        | 280        | 420        | V    |
| DC blocking voltage                                  | $V_{DC}$   |                                              | 100        | 200        | 400        | 600        | V    |
| Continuous forward current                           | $I_F$      | $T_C \leq 100\text{ °C}$                     | 70         | 70         | 70         | 70         | A    |
| Surge non-repetitive forward current, Half Sine Wave | $I_{F,SM}$ | $T_C = 25\text{ °C}$ , $t_p = 8.3\text{ ms}$ | 870        | 870        | 870        | 870        | A    |
| Operating temperature                                | $T_j$      |                                              | -40 to 125 | -40 to 125 | -40 to 125 | -40 to 125 | °C   |
| Storage temperature                                  | $T_{stg}$  |                                              | -40 to 150 | -40 to 150 | -40 to 150 | -40 to 150 | °C   |

**Electrical characteristics, at  $T_j = 25\text{ °C}$ , unless otherwise specified**

| Parameter             | Symbol | Conditions                                   | FR70B(R)02 | FR70D(R)02 | FR70G(R)02 | FR70J(R)02 | Unit |
|-----------------------|--------|----------------------------------------------|------------|------------|------------|------------|------|
| Diode forward voltage | $V_F$  | $I_F = 70\text{ A}$ , $T_j = 25\text{ °C}$   | 1.5        | 1.5        | 1.5        | 1.5        | V    |
| Reverse current       | $I_R$  | $V_R = 100\text{ V}$ , $T_j = 25\text{ °C}$  | 25         | 25         | 25         | 25         | μA   |
|                       |        | $V_R = 100\text{ V}$ , $T_j = 125\text{ °C}$ | 15         | 15         | 15         | 15         | mA   |

## Recovery Time

|                               |          |                                                                           |     |     |     |     |    |
|-------------------------------|----------|---------------------------------------------------------------------------|-----|-----|-----|-----|----|
| Maximum reverse recovery time | $T_{RR}$ | $I_F = 0.5\text{ A}$ , $I_R = 1.0\text{ A}$ ,<br>$I_{RR} = 0.25\text{ A}$ | 200 | 200 | 200 | 250 | nS |
|-------------------------------|----------|---------------------------------------------------------------------------|-----|-----|-----|-----|----|

## Thermal characteristics

|                                     |            |  |     |     |     |     |      |
|-------------------------------------|------------|--|-----|-----|-----|-----|------|
| Thermal resistance, junction - case | $R_{thJC}$ |  | 0.8 | 0.8 | 0.8 | 0.8 | °C/W |
|-------------------------------------|------------|--|-----|-----|-----|-----|------|

