

## Silicon Fast Recovery Diode

 $V_{RRM} = 100\text{ V} - 1000\text{ V}$ 
 $I_F = 16\text{ A}$ 

### Features

- High Surge Capability
- Types up to 1000 V  $V_{RRM}$

**DO-4 Package**


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

| Parameter  | Symbol     | Conditions                                   | FR16K(R)05 | FR16M(R)05 | Unit |
|--|------------|--|------------|------------|------|
| Repetitive peak reverse voltage                      | $V_{RRM}$  |  | 800        | 1000       | V    |
| RMS reverse voltage                                  | $V_{RMS}$  |  | 560        | 700        | V    |
| DC blocking voltage                                  | $V_{DC}$   |  | 800        | 1000       | V    |
| Continuous forward current                           | $I_F$      | $T_C \leq 100\text{ °C}$                     | 16         | 16         | A    |
| Surge non-repetitive forward current, Half Sine Wave | $I_{F,SM}$ | $T_C = 25\text{ °C}$ , $t_p = 8.3\text{ ms}$ | 225        | 225        | A    |
| Operating temperature                                | $T_j$      |  | -65 to 150 | -65 to 150 | °C   |
| Storage temperature                                  | $T_{stg}$  |  | -65 to 175 | -65 to 175 | °C   |

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

| Parameter             | Symbol | Conditions                                   | FR16K(R)05 | FR16M(R)05 | Unit          |
|-----------------------|--------|--|------------|------------|---------------|
| Diode forward voltage | $V_F$  | $I_F = 16\text{ A}$ , $T_j = 25\text{ °C}$   | 1.4        | 1.4        | V             |
| Reverse current       | $I_R$  | $V_R = 100\text{ V}$ , $T_j = 25\text{ °C}$  | 25         | 25         | $\mu\text{A}$ |
|                       |        | $V_R = 100\text{ V}$ , $T_j = 150\text{ °C}$ | 6          | 6          | mA            |

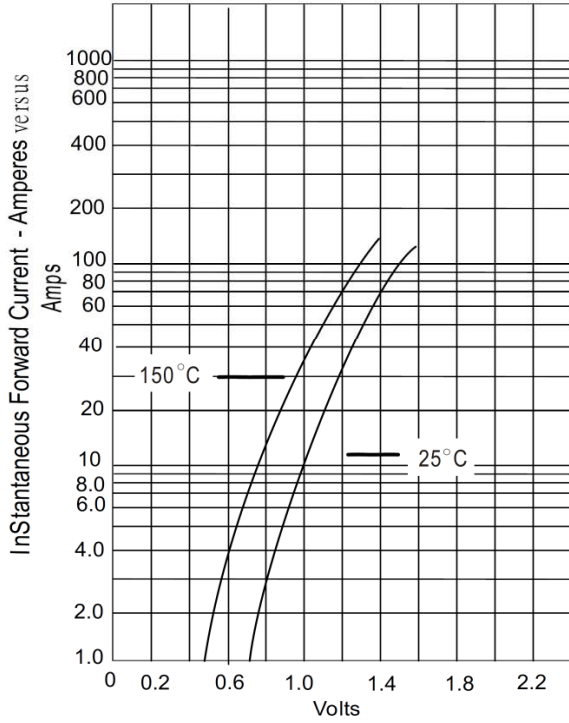
### Recovery Time

|                               |          |   |     |     |    |
|-------------------------------|----------|---|-----|-----|----|
| Maximum reverse recovery time | $T_{RR}$ | $I_F = 0.5\text{ A}$ , $I_R = 1.0\text{ A}$ ,<br>$I_{RR} = 0.25\text{ A}$ | 500 | 500 | nS |
|-------------------------------|----------|---|-----|-----|----|

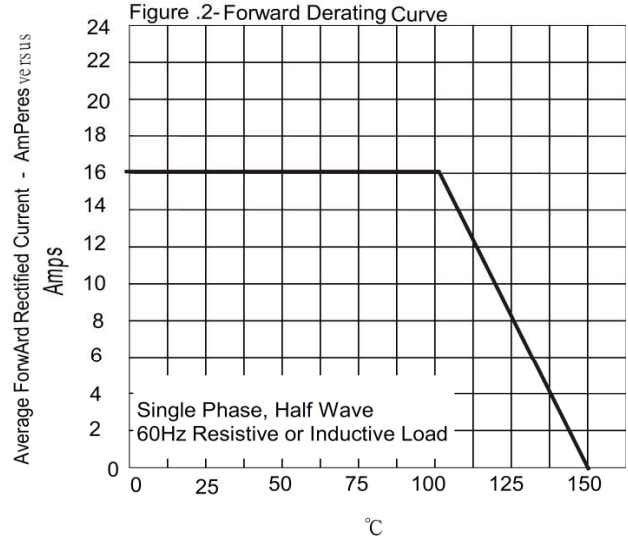
### Thermal characteristics

|                                     |            |  |     |     |      |
|-------------------------------------|------------|--|-----|-----|------|
| Thermal resistance, junction - case | $R_{thJC}$ |  | 1.5 | 1.5 | °C/W |
|-------------------------------------|------------|--|-----|-----|------|

Figure .1-Typical Forward Characteristics

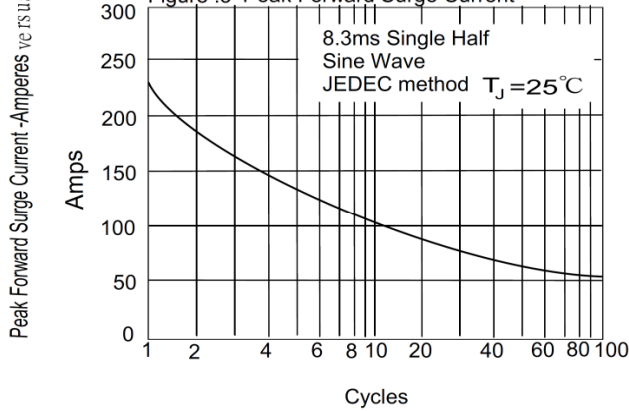


Instantaneous Forward Voltage - Volts



Case Temperature - °C

Figure .3-Peak Forward Surge Current



Number Of Cycles At 60Hz - Cycles

Figure .4- Typical Reverse Characteristics

