



# 1.0 Amp FAST RECOVERY RECTIFIERS

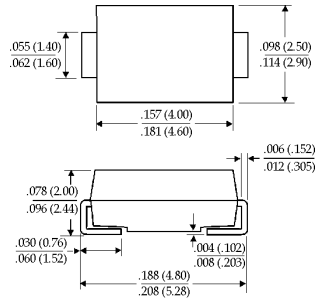
## Description

## Mechanical Dimensions

**FRS10...110 Series**



**DO-214AC  
(SMA)**



### Features

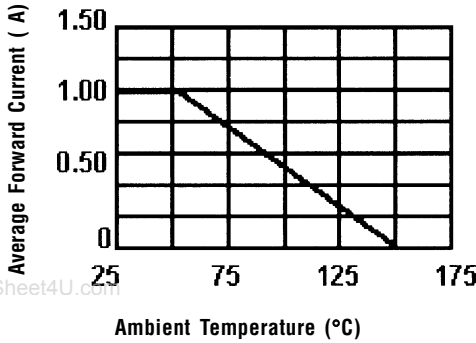
- FAST SWITCHING FOR HIGH EFFICIENCY
- HIGH SURGE CAPABILITY
- 1.0 AMP OPERATION @  $T_A = 55^\circ\text{C}$ , WITH NO THERMAL RUNAWAY
- MEETS UL SPECIFICATION 94V-0

| <b>FRS10 . . . 110 Series</b>   |              |              |              |                                  |              |              |               | <b>Units</b>     |
|---|--------------|--------------|--------------|----------------------------------|--------------|--------------|---------------|------------------|
| <b>Maximum Ratings</b>  | <b>FRS10</b> | <b>FRS11</b> | <b>FRS13</b> | <b>FRS14</b>                     | <b>FRS16</b> | <b>FRS18</b> | <b>FRS110</b> |                  |
| Peak Repetitive Reverse Voltage... $V_{RRM}$  | 50           | 100          | 200          | 400                              | 600          | 800          | 1000          | Volts            |
| RMS Reverse Voltage... $V_{R(rms)}$   | 35           | 70           | 140          | 280                              | 420          | 560          | 700           | Volts            |
| DC Blocking Voltage... $V_{DC}$   | 50           | 100          | 200          | 400                              | 600          | 800          | 1000          | Volts            |
| Average Forward Rectified Current... $I_{F(av)}$<br>$T_A = 55^\circ\text{C}$ (Note 3) |              |              |              | 1.0                              |              |              |               | Amps             |
| Non-Repetitive Peak Forward Surge Current... $I_{FSM}$<br>@ Rated Current & Temp      |              |              |              | 50                               |              |              |               | Amps             |
| Operating & Storage Temperature Range... $T_J, T_{STRG}$                              |              |              |              | -65 to 150                       |              |              |               | $^\circ\text{C}$ |
| <b>Electrical Characteristics</b>   |              |              |              |                                  |              |              |               |                  |
| Maximum Forward Voltage @ 1.0A... $V_F$   |              |              |              | 1.3                              |              |              |               | Volts            |
| Maximum DC Reverse Current... $I_R$<br>@ Rated DC Blocking Voltage                    |              |              |              | $T_A = 25^\circ\text{C}$<br>5.0  |              |              |               | $\mu\text{Amps}$ |
|   |              |              |              | $T_A = 100^\circ\text{C}$<br>100 |              |              |               | $\mu\text{Amps}$ |
| Typical Junction Capacitance... $C_j$ (Note 1)  |              |              |              | 15                               |              |              |               | pF               |
| Maximum Reverse Recovery Time... $t_{RR}$   | 150          | 150          | 150          | 150                              | 250          | 500          | 500           | ns               |

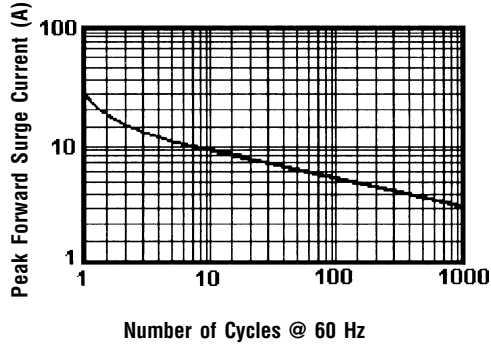
# 1.0 Amp FAST RECOVERY RECTIFIERS

**FRS10...110 Series**

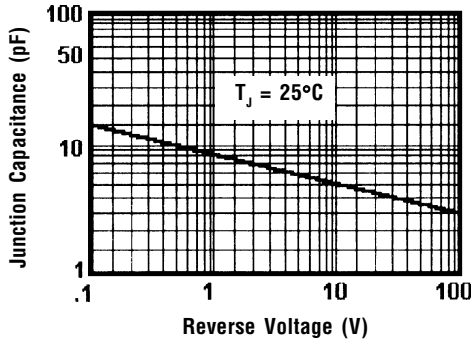
**Forward Current Derating Curve**



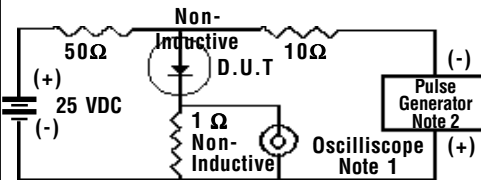
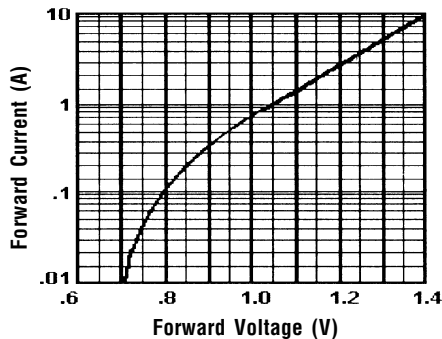
**Non-Repetitive Peak Forward Surge Current**



**Typical Junction Capacitance**

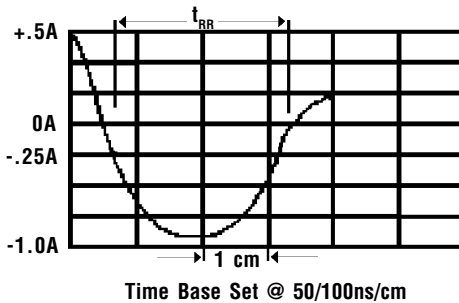


**Typical Instantaneous Forward Characteristics**



- Notes:**
1. Rise Time = 7 ns Max.  
Impedance = 1 megohm, 22 pF
  2. Rise Time = 10 ns Max.  
Source Impedance = 50 Ohms

**Reverse Recovery Characteristics**



Ratings at 25 Deg. C ambient temperature unless otherwise specified.

Single Phase Half Wave, 60 Hz Resistive or Inductive Load.

For Capacitive Load, Derate Current by 20%.

- NOTES:**
1. Measured @ 1 MHz and applied reverse voltage of 4.0V.
  2. Thermal Resistance Junction to Ambient, Jedec Method.
  3. PCB mounted on 5.0mm<sup>2</sup> (.013mm thick) copper pads.