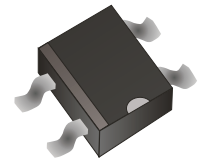


## DF2005S-G Thru. DF210S-G

Reverse Voltage: 50 to 1000V

Forward Current: 2.0A

RoHS Device

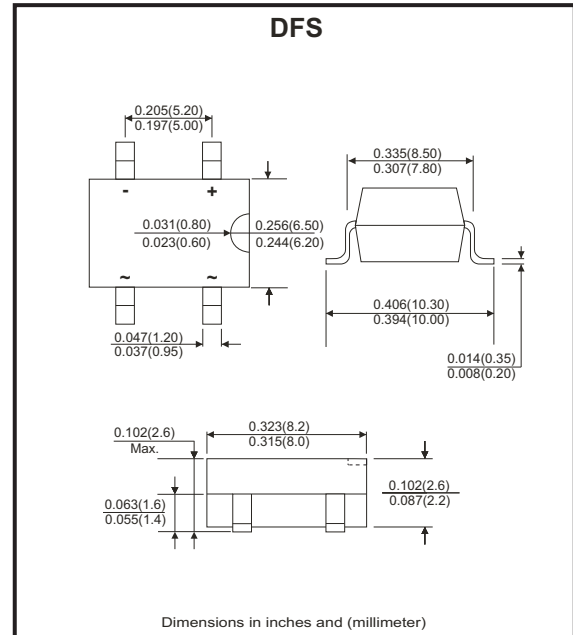


### Features

- Rating to 1000V PRV
- Ideal for printed circuit board.
- Low forward voltage drop.
- High current capability.
- The plastic material has UL flammability classification 94V-0
- UL recognized file # E217139 

### Mechanical Data

- Polarit: As marked on Body
- Weight: 0.02 ounces, 0.38 grams
- Mounting position: Any



### Maximum ratings and electrical characteristics

Rating at 25°C ambient temperature unless otherwise specified.  
Single phase, half wave ,60Hz, resistive or inductive load.  
For capacitive load, derate current by 20%

| Parameter                                                                                          | Symbol          | DF 2005S-G  | DF 201S-G | DF 202S-G | DF 204S-G | DF 206S-G | DF 208S-G | DF 210S-G | Unit          |
|----------------------------------------------------------------------------------------------------|-----------------|-------------|-----------|-----------|-----------|-----------|-----------|-----------|---------------|
| Maximum Recurrent Peak Reverse Voltage                                                             | $V_{RRM}$       | 50          | 100       | 200       | 400       | 600       | 800       | 1000      | V             |
| Maximum RMS Voltage                                                                                | $V_{RMS}$       | 35          | 70        | 140       | 280       | 420       | 560       | 700       | V             |
| Maximum DC Blocking Voltage                                                                        | $V_{DC}$        | 50          | 100       | 200       | 400       | 600       | 800       | 1000      | V             |
| Maximum Average Forward Rectified Current @ $T_A=40^{\circ}C$                                      | $I_{(AV)}$      | 2.0         |           |           |           |           |           |           | A             |
| Peak Forward Surge Current, 8.3ms Single Half Sine-Wave Super Imposed On Rated Load (JEDEC Method) | $I_{FSM}$       | 60          |           |           |           |           |           |           | A             |
| Maximum Forward Voltage at 2.0A DC                                                                 | $V_F$           | 1.1         |           |           |           |           |           |           | V             |
| Maximum DC Reverse Current @ $T_J=25^{\circ}C$<br>At Rate DC Blocking Voltage @ $T_J=125^{\circ}C$ | $I_R$           | 10<br>500   |           |           |           |           |           |           | $\mu A$       |
| $I^2T$ Rating for Fusing ( $t<8.3ms$ )                                                             | $I^2t$          | 10.4        |           |           |           |           |           |           | $A^2s$        |
| Typical Junction Capacitance Per Element (Note 1)                                                  | $C_J$           | 25          |           |           |           |           |           |           | pF            |
| Typical Thermal Resistance (Note 2)                                                                | $R_{\theta JA}$ | 40          |           |           |           |           |           |           | $^{\circ}C/W$ |
| Operating Temperature Range                                                                        | $T_J$           | -55 to +150 |           |           |           |           |           |           | $^{\circ}C$   |
| Storage Temperature Range                                                                          | $T_{STG}$       | -55 to +150 |           |           |           |           |           |           | $^{\circ}C$   |

Notes:

1. Measured at 1.0MHz and applied reverse voltage of 4.0V DC.
2. Thermal resistance from junction to ambient mounted on P.C.B with 0.5\*0.5"(13\*13mm) copper pads.

Company reserves the right to improve product design , functions and reliability without notice.

REV: F

## Rating and Characteristics Curves (DF2005S-G Thru. DF210S-G)

Fig.1 - Derating Curve For Output Rectified Current

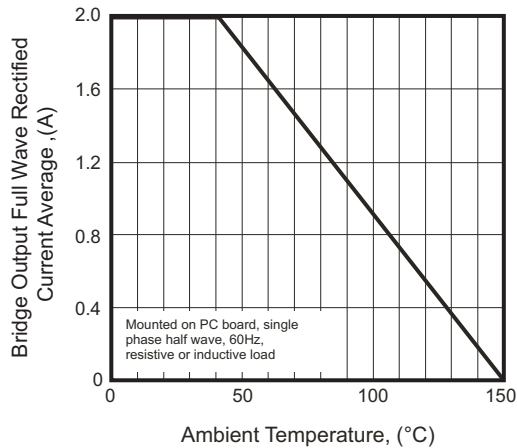


Fig.2 - Maximum Non-Repetitive Peak Forward Surge Current

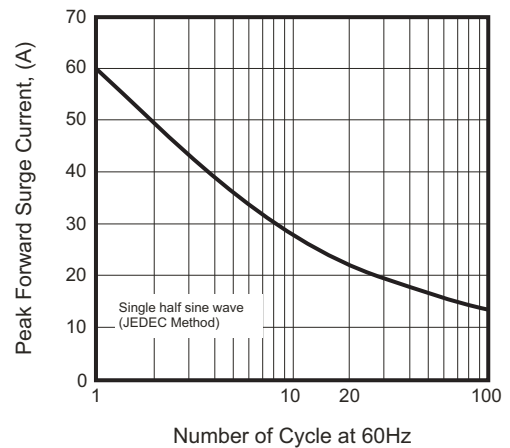


Fig.3 - Typical Junction Capacitance

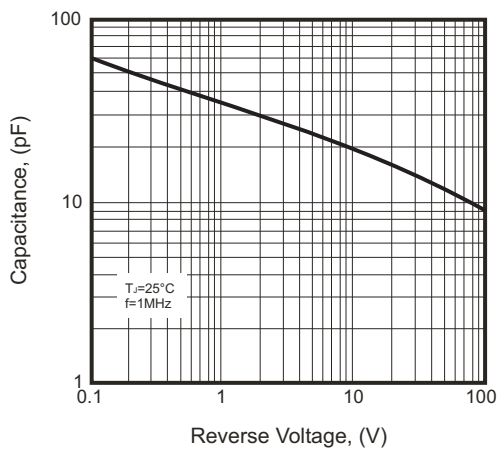


Fig.4 - Typical Forward Characteristics

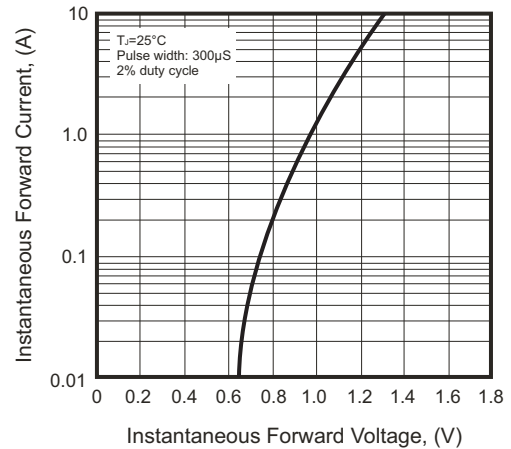
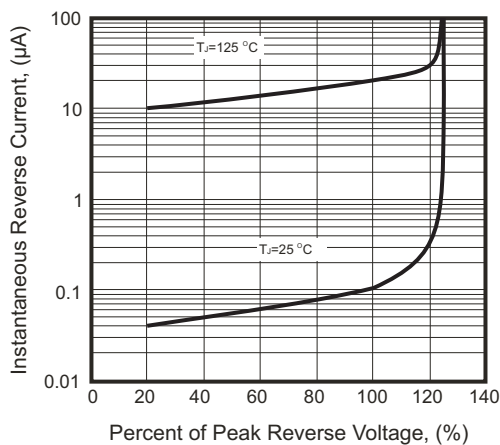
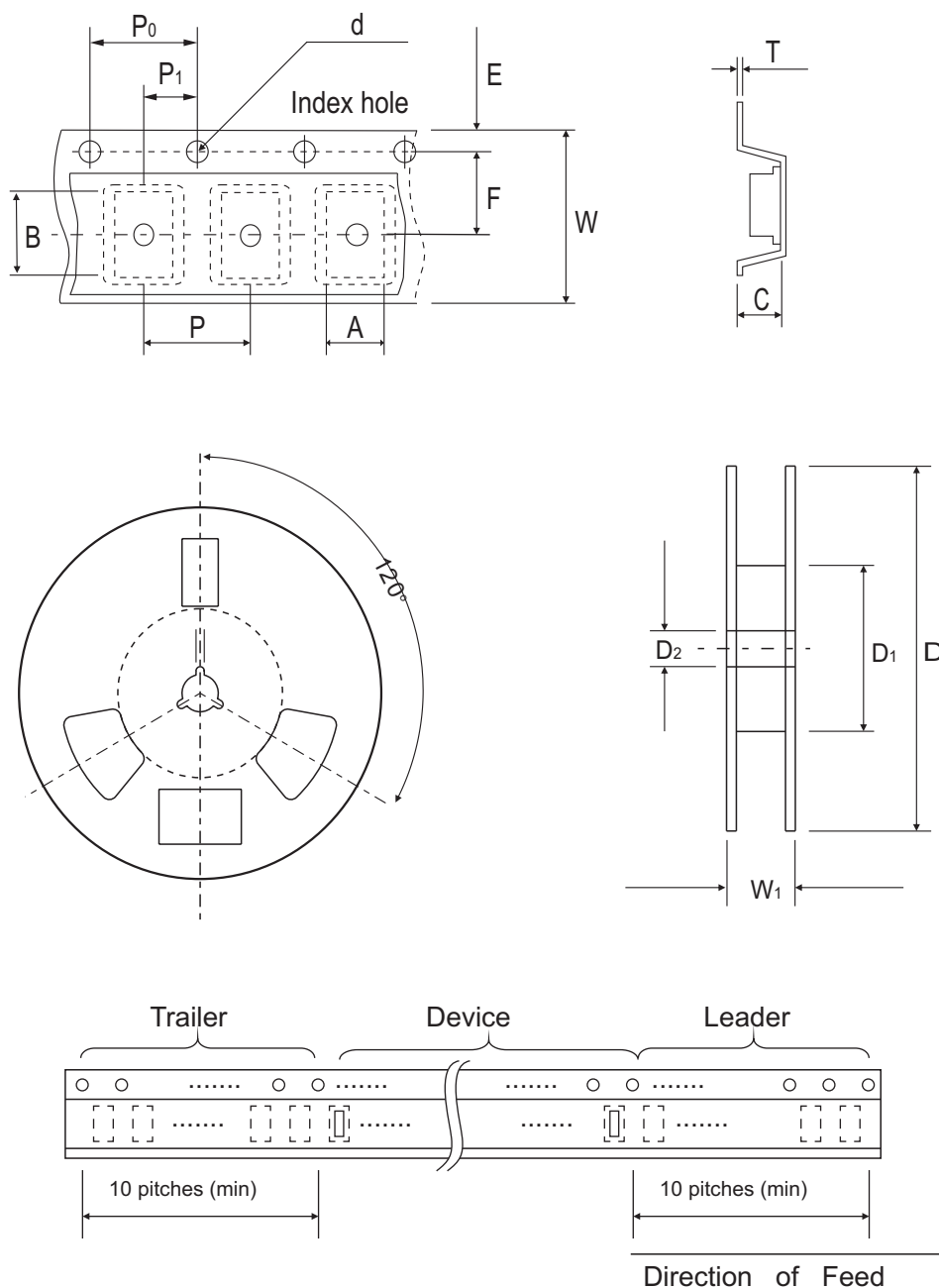


Fig.5 - Typical Reverse Characteristics



## Reel Taping Specification



| DFS | SYMBOL | A             | B             | C             | d             | D   | D <sub>1</sub> | D <sub>2</sub> |
|-----|--------|---------------|---------------|---------------|---------------|-----|----------------|----------------|
|     | (mm)   | 8.64 ± 0.10   | 10.41 ± 0.10  | 3.81 ± 0.10   | 1.55 ± 0.05   | 330 | 50.0 MIN.      | 13.00 ± 0.20   |
|     | (inch) | 0.340 ± 0.004 | 0.409 ± 0.004 | 0.150 ± 0.004 | 0.061 ± 0.002 | 13  | 1.969 MIN.     | 0.512 ± 0.008  |

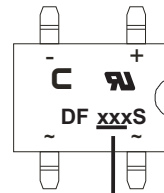
| DFS | SYMBOL | E             | F             | P             | P <sub>0</sub> | P <sub>1</sub> | T     | W             | W <sub>1</sub> |
|-----|--------|---------------|---------------|---------------|----------------|----------------|-------|---------------|----------------|
|     | (mm)   | 1.75 ± 0.10   | 7.50 ± 0.05   | 12.00 ± 0.10  | 4.00 ± 0.10    | 2.00 ± 0.10    | 0.32  | 16.00 ± 0.30  | 16.00~18.40    |
|     | (inch) | 0.069 ± 0.004 | 0.295 ± 0.002 | 0.472 ± 0.004 | 0.157 ± 0.004  | 0.079 ± 0.004  | 0.013 | 0.630 ± 0.012 | 0.630~0.724    |

Company reserves the right to improve product design , functions and reliability without notice.

REV: F

## Marking Code

| Part Number | Marking code | Packaging |
|-------------|--------------|-----------|
| DF2005SP-G  | DF2005S      | Tube      |
| DF201SP-G   | DF201S       | Tube      |
| DF202SP-G   | DF202S       | Tube      |
| DF204SP-G   | DF204S       | Tube      |
| DF206SP-G   | DF206S       | Tube      |
| DF208SP-G   | DF208S       | Tube      |
| DF210SP-G   | DF210S       | Tube      |
| DF2005ST-G  | DF 2005S     | Reel      |
| DF201ST-G   | DF201S       | Reel      |
| DF202ST-G   | DF202S       | Reel      |
| DF204ST-G   | DF204S       | Reel      |
| DF206ST-G   | DF206S       | Reel      |
| DF208ST-G   | DF208S       | Reel      |
| DF210ST-G   | DF210S       | Reel      |



**XXX / XXXX = Product type marking code**  
**C = Comchip Logo**

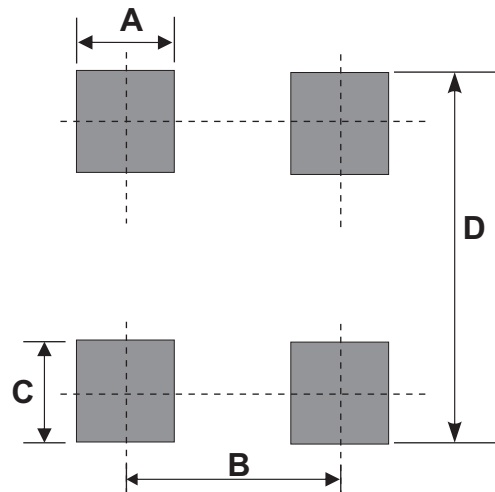
Note:

1) Suffix code after part number to specify packaging item .

| Packaging | Code |
|-----------|------|
| TUBE PACK | P    |
| REEL PACK | T    |

## Suggested PAD Layout

| SIZE | DFS       |           |
|------|-----------|-----------|
|      | (mm)      | (inch)    |
| A    | 1.20 Min  | 0.047 Min |
| B    | 5.21 REF  | 0.205 REF |
| C    | 1.52 Min  | 0.060 Min |
| D    | 10.26 Max | 0.404 Max |



## Standard Packaging

| Case Type | TUBE PACK       |                   |
|-----------|-----------------|-------------------|
|           | TUBE<br>( pcs ) | Carton<br>( pcs ) |
| DFS       | 50              | 10,000            |

| Case Type | REEL PACK       |                     |
|-----------|-----------------|---------------------|
|           | REEL<br>( pcs ) | Reel Size<br>(inch) |
| DFS       | 1,000           | 13                  |

Company reserves the right to improve product design , functions and reliability without notice.

REV: F