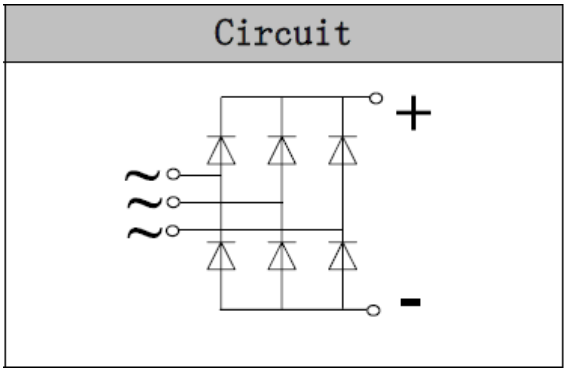
# DSD5006 thru DSD5016

## Glass Passivated Three Phase Bridge Rectifiers

$V_{RRM}$ 600 to 1600V

$I_{FAV}$ 50 Amp




### Features

- Heat transfer through aluminum oxide ceramic isolated metal baseplate
- Glass passivated chips
- High surge currents
- Blocking voltage up to 1600V

### Applications

- 3-phase rectifiers for power supplies
- Rectifiers for DC motor field supplies
- Input rectifiers for variable frequency drives
- Battery charger rectifiers

**Module Type**

| TYPE | $V_{RRM}$ | $V_{RSM}$ |
|---|---|---|
| DSD5006 | 600V | 700V |
| DSD5008 | 800V | 900V |
| DSD5010 | 1000V | 1100V |
| DSD5012 | 1200V | 1300V |
| DSD5014 | 1400V | 1500V |
| DSD5016 | 1600V | 1700V |

**Maximum Ratings**

| Symbol | Item | Conditions | Value | Units |
|---|---|---|---|---|
| $I_O$ | Average forward output current | $T_c$=110℃ | 50 | A |
| $I_{FSM}$ | Forward surge current, max | T=8.3ms Single Half-Sine-Wave Superimposed On Rated Load (JEDEC METHOD) | 500 | A |
| $i^2t$ | Value for fusing | T=8.3mS VR=0 | 1000 | $A^2s$ |
| $V_{isol}$ | Isolation Breakdown Voltage (R.M.S) | a.c.50$H_Z$;r.m.s.;1 min $T_j$=25℃<br>$T_j$=125℃ | 3000 | V |
| $T_{vj}$ | Operating Junction Temperature | | -55 to +150 | ℃ |
| $T_{stg}$ | Storage Temperature | | -55 to +150 | ℃ |
| $M_t$ | Mounting Torque | | 2 | N.m |
| Weight | Approximately | | 28 | g |

**Thermal Characteristics**

| Symbol | Item | Conditions | Value | Units |
|---|---|---|---|---|
| $R_{th(j-c)}$ | Junction to Case | Bridge | 0.5 | ℃/W |

**Electrical Characteristics**

| Symbol | Item | Conditions | Value | | | Units |
|---|---|---|---|---|---|---|
| | | | Min. | Typ. | Max. | |
| $V_{FM}$ | Forward Voltage Drop, max | T=25℃ $I_F$=25.0A | - | 1.00 | 1.20 | V |
| $I_{RD}$ | Maximum DC Reverse | $T_{vj}$=25℃ $V_{RD}=V_{RRM}$<br>$T_{vj}$=150℃ $V_{RD}=V_{RRM}$ | - | - | 5.0<br>3.0 | uA<br>mA |

**Characteristic Curve**

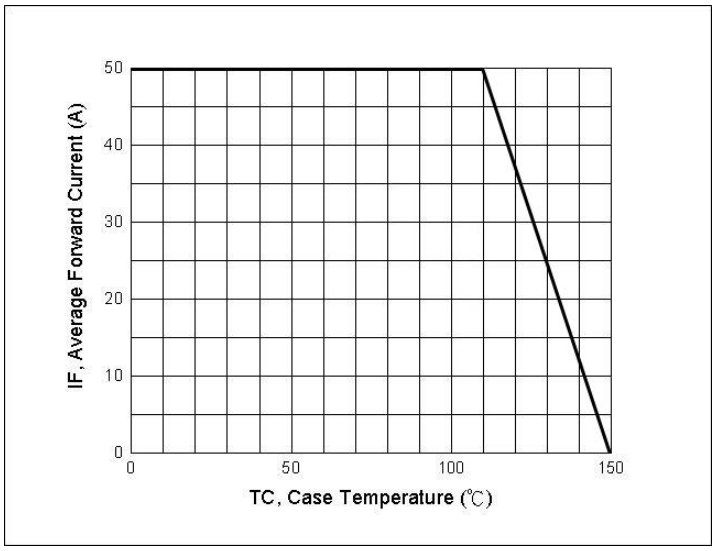



**Fig.1 Forward Current Derating Curve**

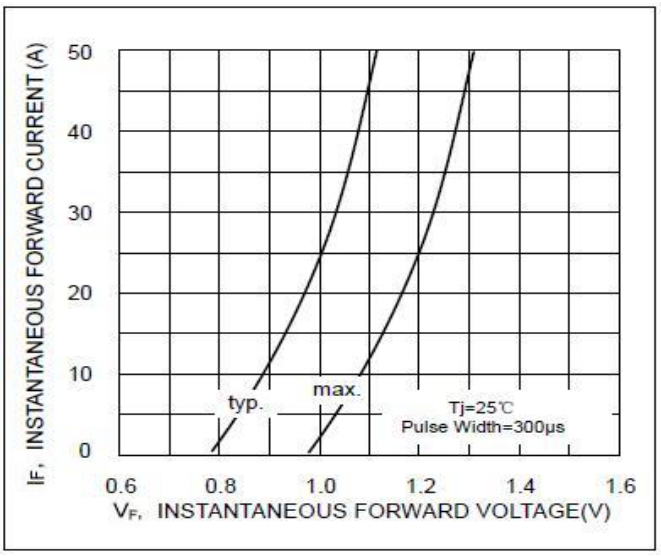



**Fig.2 Typical Forward Characteristics**

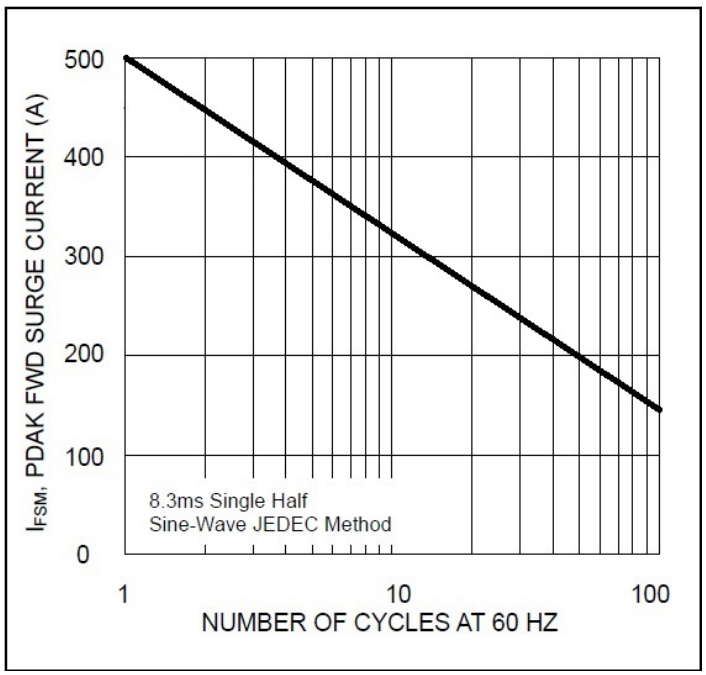



**Fig.3 Max Non-Repetitive Peak Surge Current**

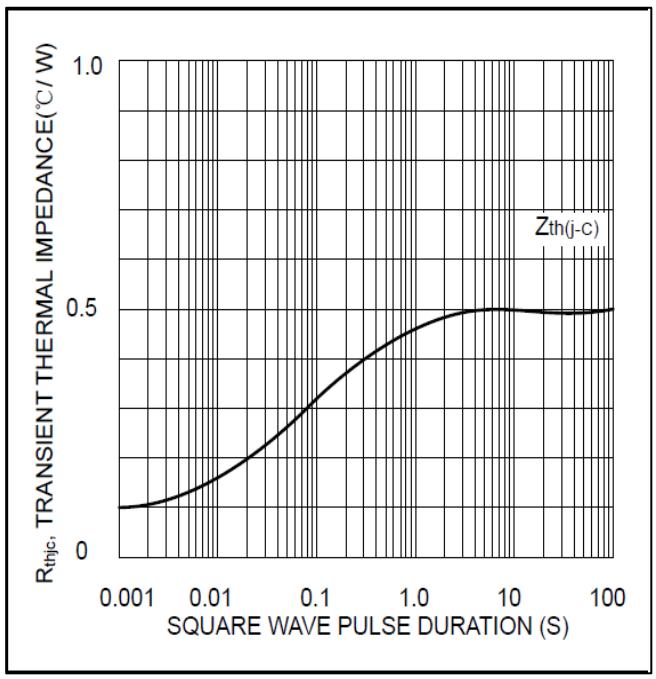
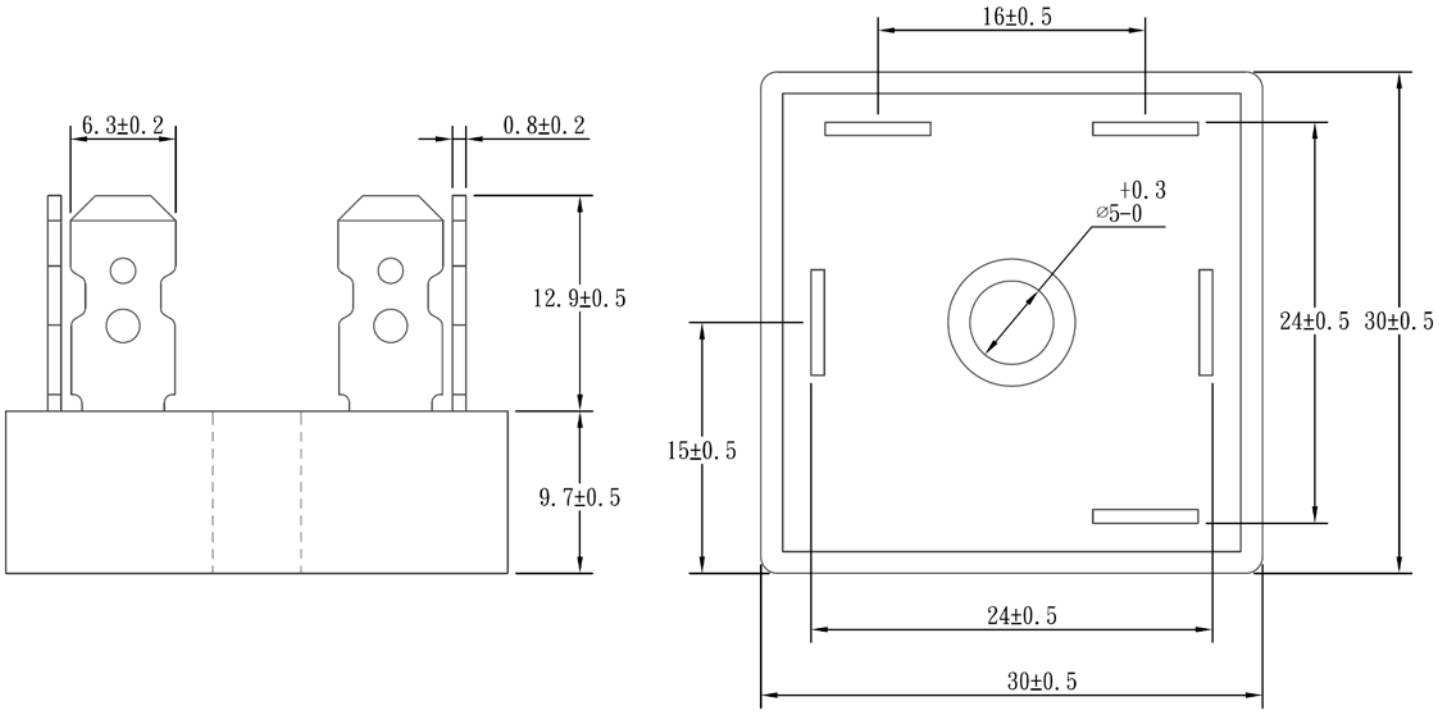



**Fig.4 Transient Thermal Impedance**

**Package Outline Information**

**CASE:**




Dimensions in mm