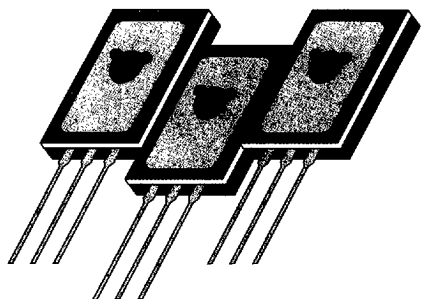


# TR410 & 425 Series

4.0 AMP PLASTIC SILICON TRIACS

## Description

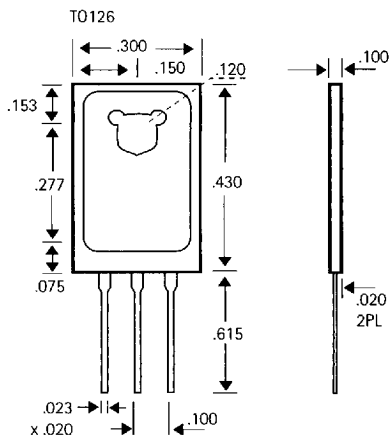


### Features:

- IC Compatible
- Non-Sensitive gate Trigger
- Voltage Ratings from 200 to 600V
- Void Free Passivated Glass Passivated Chips

## Mechanical Details

all dimensions in inches



5607013 0000967 073

## TR410 & 425 Series

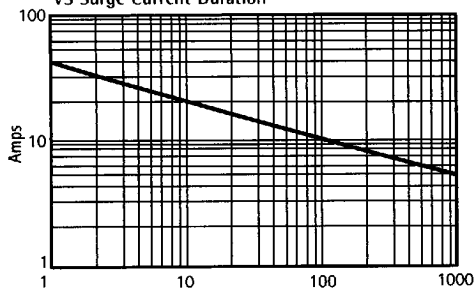
### Maximum Ratings

Electrical Characteristics @ 25°C

|                                                                 |                                              | Voltage TR410 & 425 Series |              |         |          |
|-----------------------------------------------------------------|----------------------------------------------|----------------------------|--------------|---------|----------|
|                                                                 |                                              | 200                        | TR410-4      | TR425-4 | Volts    |
|                                                                 |                                              | 400                        | TR410-6      | TR425-6 | Volts    |
|                                                                 |                                              | 600                        | TR410-8      | TR425-8 | Volts    |
| V <sub>DRM</sub>                                                | Repetitive Peak Off-state Voltage            |                            |              |         | Volts    |
| V <sub>RRM</sub>                                                | Maximum Repetitive Peak Reverse Voltage      |                            |              |         | Volts    |
| T <sub>c</sub> = 125 C                                          |                                              |                            |              |         |          |
| I <sub>T(RMS)</sub>                                             | RMS On State Current                         | 4.0                        | 4.0          |         | Amp      |
| T <sub>c</sub> = 80 C., Conduction Angle 360 Deg.               |                                              |                            |              |         |          |
| I <sub>TSM</sub>                                                | Peak Surge Non-Repetitive On State Current   | 40                         | 40           |         | Amp      |
| One cycle at 50 or 60Hz                                         |                                              |                            |              |         |          |
| I <sub>GTM</sub>                                                | Peak Gate Trigger Current / 3 uS Max         | 1.2                        | 1.2          |         | Amp      |
| P <sub>GM</sub>                                                 | Peak Gate Power Dissipation / 1gt </= 1gtm   | 15                         | 15           |         | Watt     |
| P <sub>G(AV)</sub>                                              | Average Gate Power Dissipation               | 0.3                        | 0.3          |         | Watt     |
| I <sub>DRM</sub>                                                | Peak Off-State Current                       | 0.5                        | 0.5          |         | uAmp     |
| / I <sub>RRM</sub> TC = 110°C                                   |                                              |                            |              |         |          |
| V <sub>TM</sub>                                                 | Maximum On-State Voltage (Peak)              | 1.6                        | 1.6          |         | V Max    |
| It = Rated Amps, TC = 25 C                                      |                                              |                            |              |         |          |
| I <sub>HO</sub>                                                 | DC Holding Current                           | 15                         | 25           |         | mA Max   |
| Gate Open & TC = 25 C                                           |                                              |                            |              |         |          |
| Dv/Dt                                                           | Critical Rate of Rise of OFF State Voltage   | 15                         | 25           |         | V/uS     |
| Gate Open & TC = 110 C                                          |                                              |                            |              |         |          |
| Dv/Dt                                                           | Critical Rate of Rise of Commutating Voltage | 1.0                        | 1.0          |         | V/uS     |
| Gate Open & TC = 80 C., Unenergized Vd = Vdrms, It = It(RMS)    |                                              |                            |              |         |          |
| I <sub>GT</sub>                                                 | DC Gate Trigger Current                      | 10                         | 25           |         | mA Max   |
| V <sub>D</sub> = 12 VDC, RI = 60 Ohms, TC = 25 C                |                                              |                            |              |         |          |
| V <sub>GT</sub>                                                 | DC Gate Trigger Voltage                      | 2.0                        | 2.0          |         | Vout Max |
| VD = 12VDC, RI = 60 Ohms, TC = 25 C                             |                                              |                            |              |         |          |
| T <sub>GT</sub>                                                 | Gate Controlled Turn On Time                 | 3.0                        | 3.0          |         | uSec     |
| VD = VDRM, IGT = 80 MA, TR = 0.1 uSec, It = 6A (Peak), TC = 25C |                                              |                            |              |         |          |
| Thermal Resistance, Junction to case                            |                                              |                            |              |         |          |
|                                                                 |                                              | 4.0                        | 4.0          |         | °C/W     |
| T <sub>STG</sub>                                                | Storage Temperature                          | -40 to 150°C               | -40 to 150°C |         | °C       |
| T <sub>OPER</sub>                                               | Operating Temperature                        | -40 to 110°C               | -40 to 110°C |         | °C       |

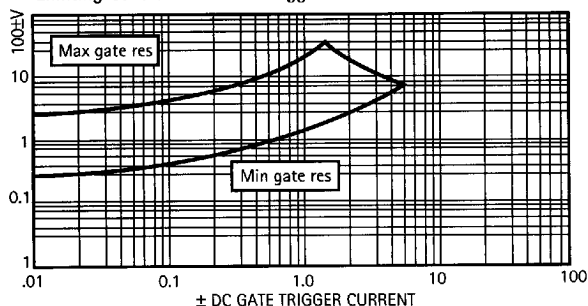
# TR410 & 425 Series

Peak Surge On State Current  
VS Surge Current Duration

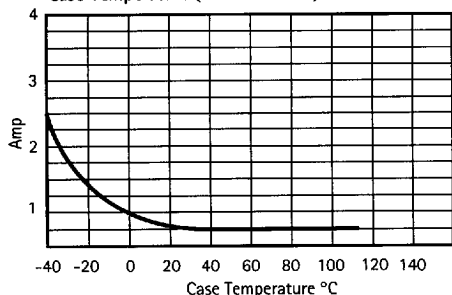


## TR410 & 425 Series

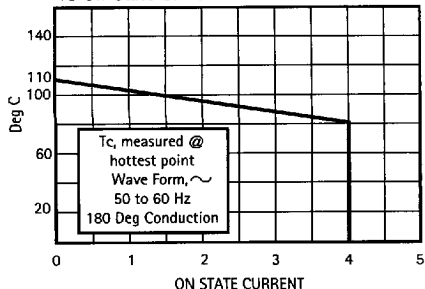
Gate Trigger Characteristics &  
Limiting Conditions of Gate Trigger



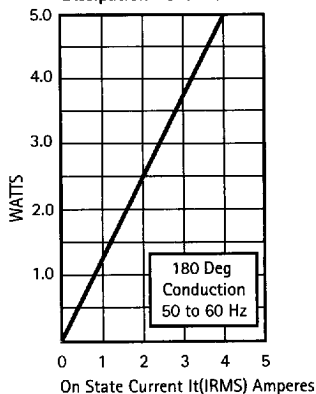
Typical Gate Current VS  
Case Temperature (Sensitive Gate)



Max Allowable case Temp  
VS On-State Current



Maximum Conduction Power  
Dissipation VS On-State Current



Gate control may be lost during and after surge. Gate control will be regained after T<sub>j</sub> returns to steady state value.

Surge current duration, full cycle @ 60Hz.  
Current wave form 60Hz, Sinesoidal.  
Resistive load, I<sub>t</sub>(rms) = Amps 2 50°C.