

## Three Phase Bridge (Power Modules), 25/35 A


**D-63**

### FEATURES

- Universal, 3 way terminals: push-on, wrap around or solder
- High thermal conductivity package, electrically insulated case
- Center hole fixing
- Excellent power/volume ratio
- UL E300359 approved 
- Gold plated terminals solderable using lead (Pb)-free solder; solder alloy Sn/Ag/Cu (SAC305); solder temperature 260 to 275 °C
- RoHS compliant
- Designed and qualified for industrial and consumer level


**RoHS**  
COMPLIANT

### PRODUCT SUMMARY

|       |         |
|-------|---------|
| $I_o$ | 25/35 A |
|-------|---------|

### DESCRIPTION

A range of extremely compact, encapsulated three phase bridge rectifiers offering efficient and reliable operation. They are intended for use in general purpose and instrumentation applications.

### MAJOR RATINGS AND CHARACTERISTICS

| SYMBOL    | CHARACTERISTICS | 26MT        | 36MT | UNITS            |
|-----------|-----------------|-------------|------|------------------|
| $I_o$     |                 | 25          | 35   | A                |
|           | $T_c$           | 70          | 60   | °C               |
| $I_{FSM}$ | 50 Hz           | 360         | 475  | A                |
|           | 60 Hz           | 375         | 500  |                  |
| $I^2t$    | 50 Hz           | 635         | 1130 | A <sup>2</sup> s |
|           | 60 Hz           | 580         | 1030 |                  |
| $V_{RRM}$ |                 | 100 to 1600 |      | V                |
| $T_J$     |                 | - 55 to 150 |      | °C               |

### ELECTRICAL SPECIFICATIONS

#### VOLTAGE RATINGS

| TYPE NUMBER   | VOLTAGE CODE | $V_{RRM}$ , MAXIMUM REPETITIVE<br>PEAK REVERSE VOLTAGE<br>V | $V_{RSM}$ , MAXIMUM NON-REPETITIVE<br>PEAK REVERSE VOLTAGE<br>V | $I_{RRM}$ MAXIMUM<br>AT $T_J$ MAXIMUM<br>mA |
|---------------|--------------|-------------------------------------------------------------|-----------------------------------------------------------------|---------------------------------------------|
| 26MT../36MT.. | 10           | 100                                                         | 150                                                             | 2                                           |
|               | 20           | 200                                                         | 275                                                             |                                             |
|               | 40           | 400                                                         | 500                                                             |                                             |
|               | 60           | 600                                                         | 725                                                             |                                             |
|               | 80           | 800                                                         | 900                                                             |                                             |
|               | 100          | 1000                                                        | 1100                                                            |                                             |
|               | 120          | 1200                                                        | 1300                                                            |                                             |
|               | 140          | 1400                                                        | 1500                                                            |                                             |
|               | 160          | 1600                                                        | 1700                                                            |                                             |

| FORWARD CONDUCTION                                     |                     |                                                                                                                                       |                                  |                                                    |        |        |                   |
|--------------------------------------------------------|---------------------|---------------------------------------------------------------------------------------------------------------------------------------|----------------------------------|----------------------------------------------------|--------|--------|-------------------|
| PARAMETER                                              | SYMBOL              | TEST CONDITIONS                                                                                                                       |                                  |                                                    | VALUES |        | UNITS             |
|                                                        |                     |                                                                                                                                       |                                  |                                                    | 26MT   | 36MT   |                   |
| Maximum DC output current at T <sub>C</sub>            | I <sub>O</sub>      | 120° rect. conduction angle                                                                                                           |                                  |                                                    | 25     | 35     | A                 |
|                                                        |                     |                                                                                                                                       |                                  |                                                    | 70     | 60     | °C                |
| Maximum peak, one-cycle non-repetitive forward current | I <sub>FSM</sub>    | t = 10 ms                                                                                                                             | No voltage reapplied             | Initial<br>T <sub>J</sub> = T <sub>J</sub> maximum | 360    | 475    | A                 |
|                                                        |                     | t = 8.3 ms                                                                                                                            |                                  |                                                    | 375    | 500    |                   |
|                                                        |                     | t = 10 ms                                                                                                                             | 100 % V <sub>RRM</sub> reapplied |                                                    | 300    | 400    |                   |
|                                                        |                     | t = 8.3 ms                                                                                                                            |                                  |                                                    | 314    | 420    |                   |
| Maximum I <sup>2</sup> t for fusing                    | I <sup>2</sup> t    | t = 10 ms                                                                                                                             | No voltage reapplied             |                                                    | 635    | 1130   | A <sup>2</sup> s  |
|                                                        |                     | t = 8.3 ms                                                                                                                            |                                  |                                                    | 580    | 1030   |                   |
|                                                        |                     | t = 10 ms                                                                                                                             | 100 % V <sub>RRM</sub> reapplied |                                                    | 450    | 800    |                   |
|                                                        |                     | t = 8.3 ms                                                                                                                            |                                  |                                                    | 410    | 730    |                   |
| Maximum I <sup>2</sup> √t for fusing                   | I <sup>2</sup> √t   | I <sup>2</sup> t for time t <sub>x</sub> = I <sup>2</sup> √t x √t <sub>x</sub> ; 0.1 ≤ t <sub>x</sub> ≤ 10 ms, V <sub>RRM</sub> = 0 V |                                  |                                                    | 6360   | 11 300 | A <sup>2</sup> √s |
| Low level of threshold voltage                         | V <sub>F(TO)1</sub> | (16.7 % x π x I <sub>F(AV)</sub> < I < π x I <sub>F(AV)</sub> ), T <sub>J</sub> maximum                                               |                                  |                                                    | 0.88   | 0.86   | V                 |
| High level of threshold voltage                        | V <sub>F(TO)2</sub> | ( I > π x I <sub>F(AV)</sub> ), T <sub>J</sub> maximum                                                                                |                                  |                                                    | 1.13   | 1.03   |                   |
| Low level forward slope resistance                     | r <sub>t1</sub>     | (16.7 % x π x I <sub>F(AV)</sub> < I < π x I <sub>F(AV)</sub> ), T <sub>J</sub> maximum                                               |                                  |                                                    | 7.9    | 6.3    | mΩ                |
| High level forward slope resistance                    | r <sub>t2</sub>     | ( I > π x I <sub>F(AV)</sub> ), T <sub>J</sub> maximum                                                                                |                                  |                                                    | 5.2    | 5.0    |                   |
| Maximum forward voltage drop                           | V <sub>FM</sub>     | T <sub>J</sub> = 25 °C, I <sub>FM</sub> = 40 Apk - per single junction                                                                |                                  |                                                    | 1.26   | 1.19   | V                 |
| Maximum DC reverse current                             | I <sub>RRM</sub>    | T <sub>J</sub> = 25 °C, per junction at rated V <sub>RRM</sub>                                                                        |                                  |                                                    | 100    |        | μA                |
| RMS isolation voltage                                  | V <sub>INS</sub>    | T <sub>J</sub> = 25 °C, all terminal shorted; f = 50 Hz, t = 1 s                                                                      |                                  |                                                    | 2700   |        | V                 |

| THERMAL - MECHANICAL SPECIFICATIONS            |                                   |                                                               |             |      |       |
|------------------------------------------------|-----------------------------------|---------------------------------------------------------------|-------------|------|-------|
| PARAMETER                                      | SYMBOL                            | TEST CONDITIONS                                               | VALUES      |      | UNITS |
|                                                |                                   |                                                               | 26MT        | 36MT |       |
| Maximum junction and storage temperature range | T <sub>J</sub> , T <sub>Stg</sub> |                                                               | - 55 to 150 |      | °C    |
| Maximum thermal resistance, junction to case   | R <sub>thJC</sub>                 | DC operation per bridge (based on total power loss of bridge) | 1.42        | 1.35 | K/W   |
| Maximum thermal resistance, case to heatsink   | R <sub>thCS</sub>                 | Mounting surface, smooth, flat and greased                    | 0.2         | 0.2  |       |
| Approximate weight                             |                                   |                                                               | 20          |      | g     |
| Mounting torque ± 10 %                         |                                   | Bridge to heatsink with screw M4                              | 2.0         |      | Nm    |

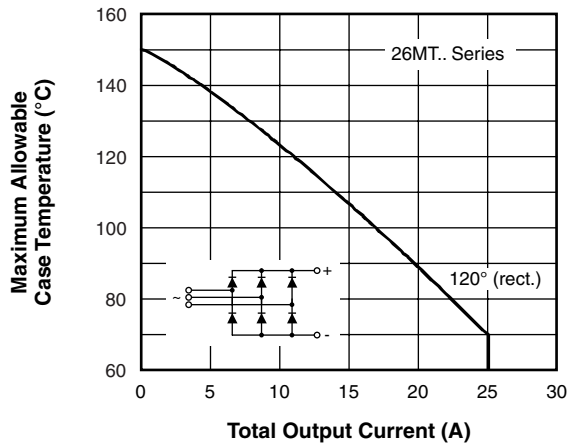


Fig. 1 - Current Ratings Characteristics

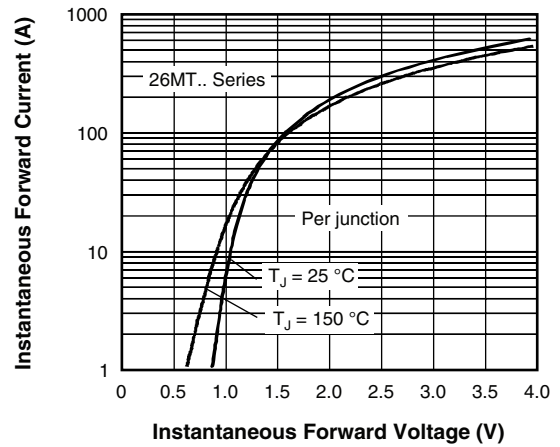


Fig. 2 - Forward Voltage Drop Characteristics

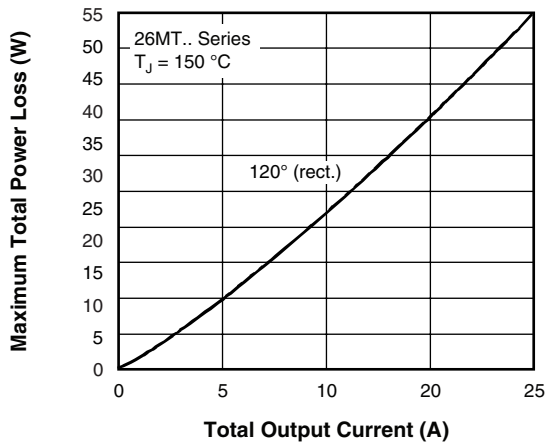


Fig. 3 - Total Power Loss Characteristics

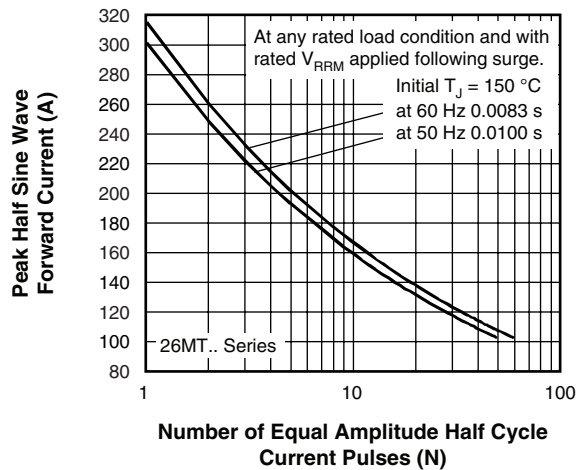
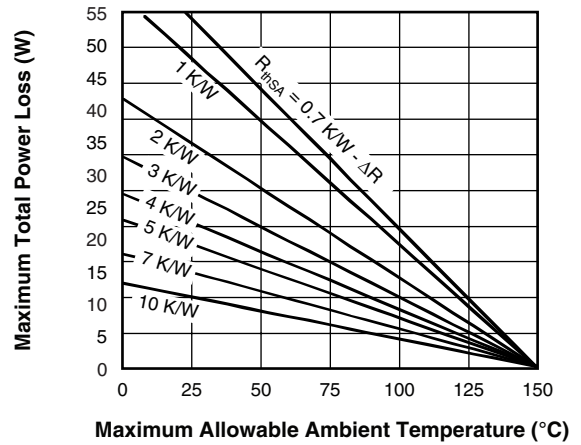


Fig. 4 - Maximum Non-Repetitive Surge Current

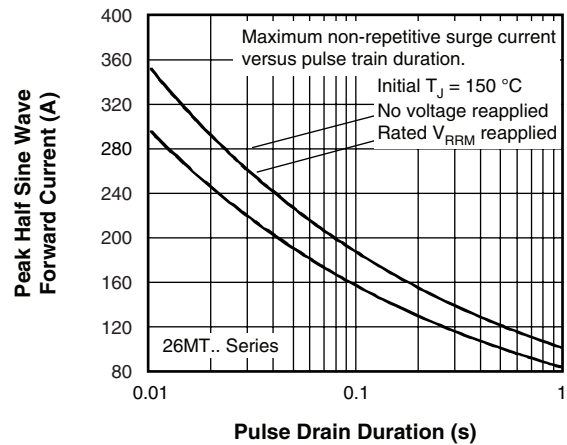


Fig. 5 - Maximum Non-Repetitive Surge Current

# 26MT../36MT.. Series

Vishay High Power Products Three Phase Bridge  
(Power Modules), 25/35 A

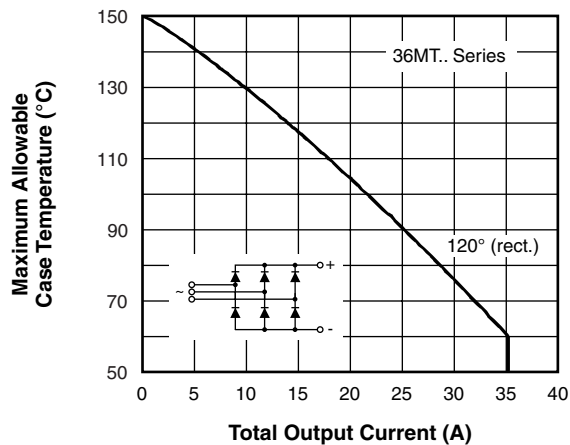


Fig. 6 - Current Ratings Characteristics

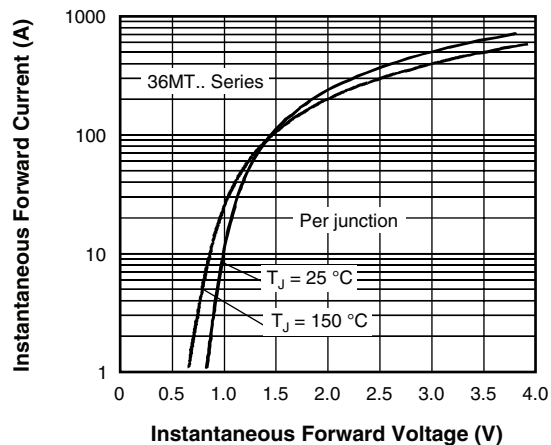


Fig. 7 - Forward Voltage Drop Characteristics

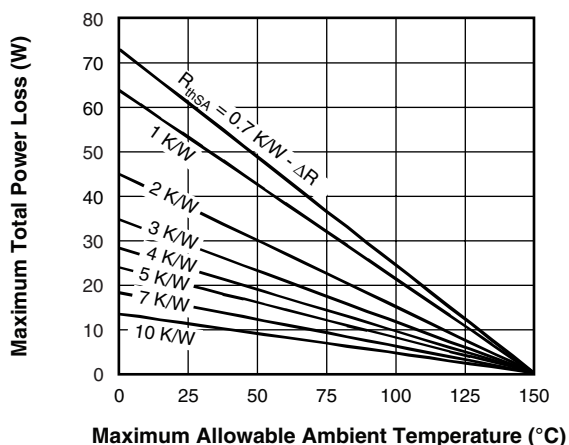
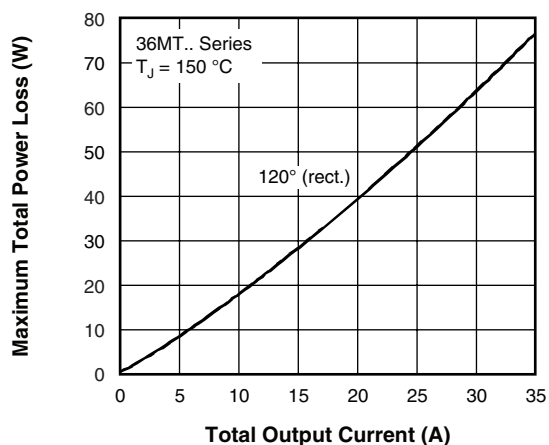


Fig. 8 - Total Power Loss Characteristics

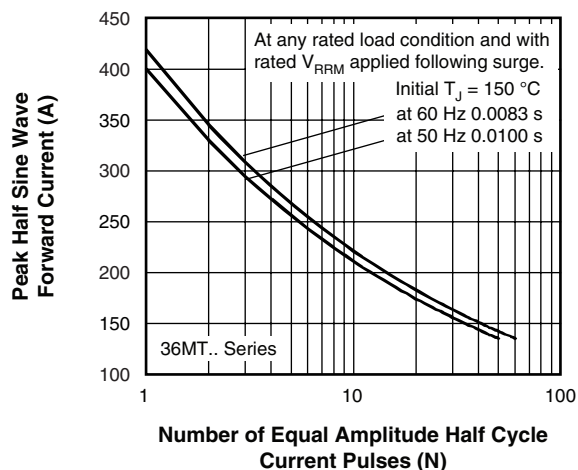


Fig. 9 - Maximum Non-Repetitive Surge Current

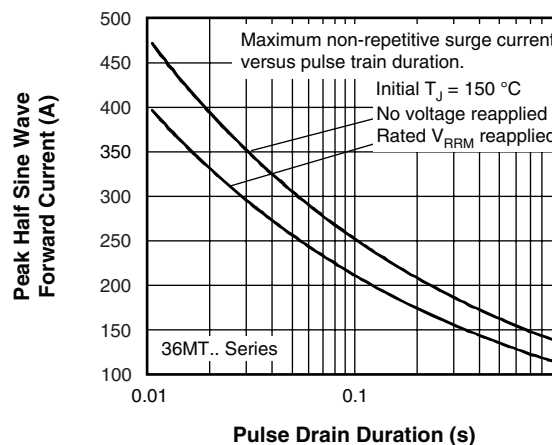


Fig. 10 - Maximum Non-Repetitive Surge Current

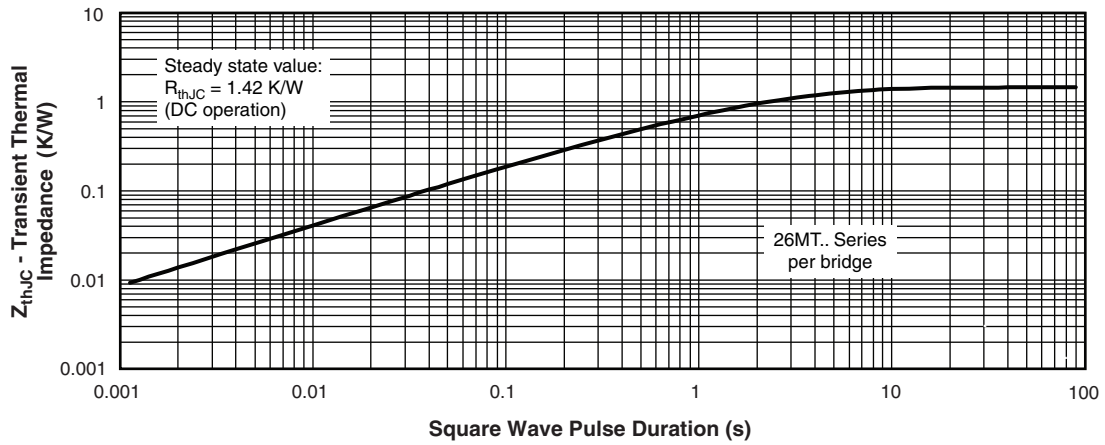


Fig. 11 - Thermal Impedance  $Z_{thJC}$  Characteristics

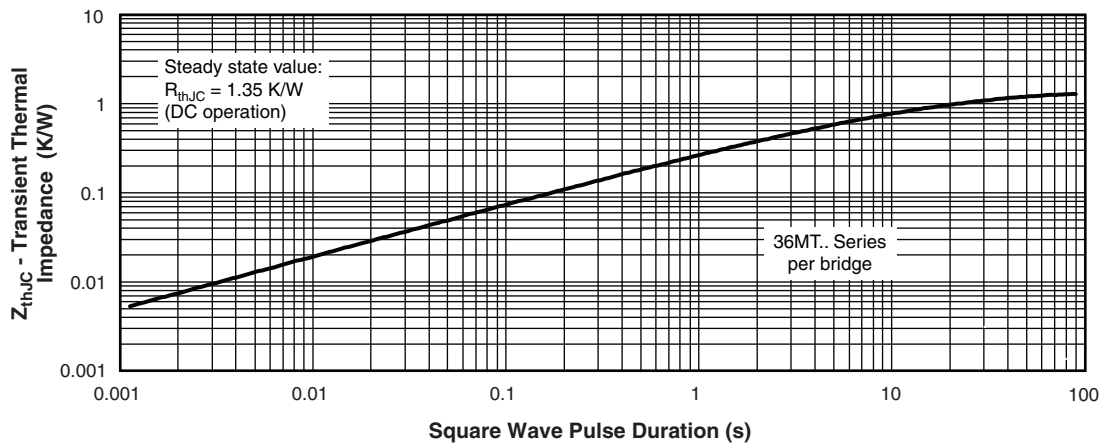


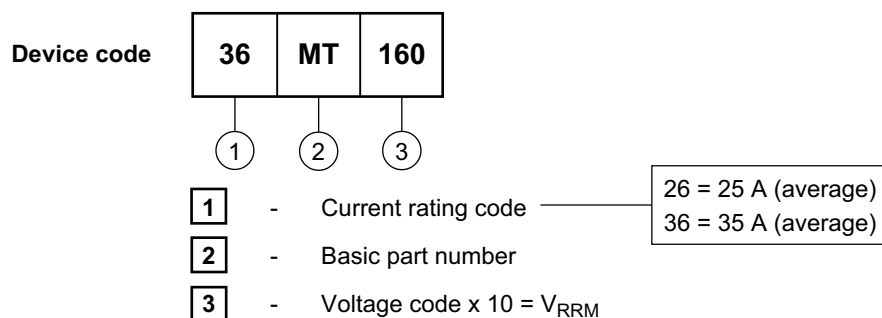
Fig. 12 - Thermal Impedance  $Z_{thJC}$  Characteristics

## Vishay High Power Products

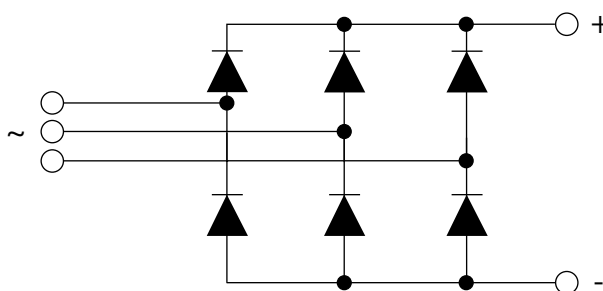
Three Phase Bridge  
(Power Modules), 25/35 A



## ORDERING INFORMATION TABLE



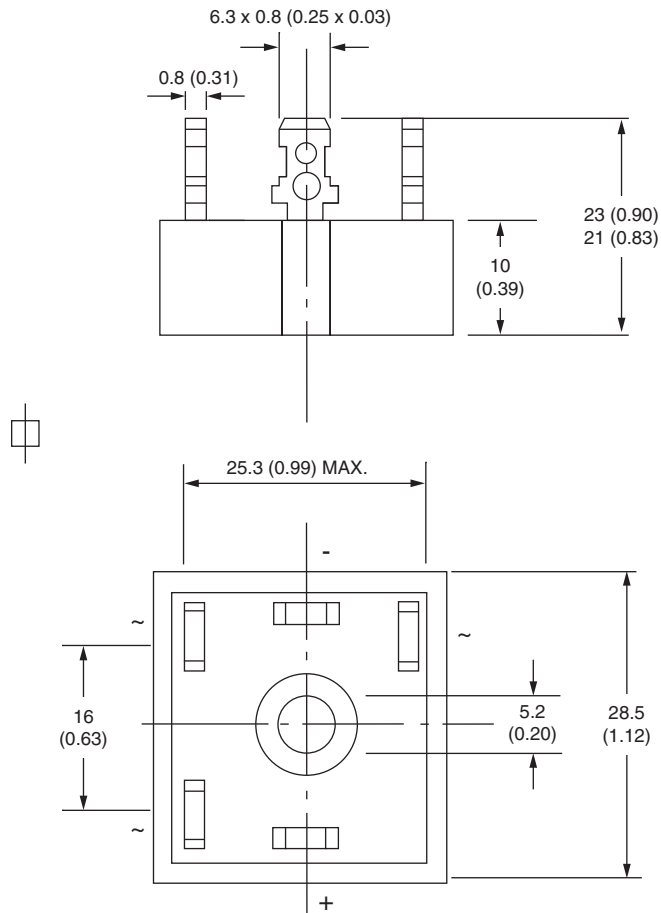
## CIRCUIT CONFIGURATION



| LINKS TO RELATED DOCUMENTS |                                                                               |
|----------------------------|-------------------------------------------------------------------------------|
| Dimensions                 | <a href="http://www.vishay.com/doc?95251">http://www.vishay.com/doc?95251</a> |

## D-63

**DIMENSIONS** in millimeters (inches)



Suggested plugging force:  
400 N maximum;  
axially applied to fast on terminals

Not to scale



## Disclaimer

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- Техническую поддержку проекта.
- Защиту от снятия компонента с производства.
- Оценку стоимости проекта по компонентам.
- Изготовление тестовой платы монтаж и пусконаладочные работы.



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