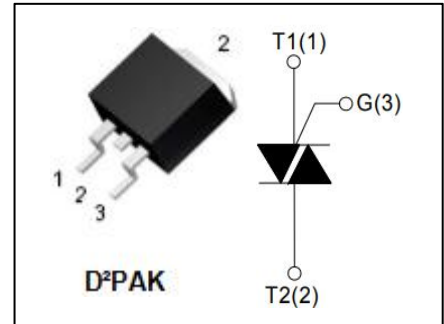


## isc Thyristors

## BT152B series

## APPLICATIONS

- It is suitable to fit all modes of control found in applications such as overvoltage crowbar protection, motor control circuits in power tools and kitchen aids, in-rush current limiting circuits, capacitive discharge ignition, voltage regulation circuits etc.
- Minimum Lot-to-Lot variations for robust device performance and reliable operation

ABSOLUTE MAXIMUM RATINGS( $T_a=25^\circ\text{C}$ )

| SYMBOL              | PARAMETER                             | MIN                   | UNIT |   |
|---------------------|---------------------------------------|-----------------------|------|---|
| V <sub>DRM</sub>    | Repetitive peak off-state voltage     | 400R                  | V    |   |
|                     |                                       | 600R                  |      |   |
|                     |                                       | 800R                  |      |   |
| I <sub>T(AV)</sub>  | Average on-state current              | 13                    | A    |   |
| I <sub>T(RMS)</sub> | RMS on-state current                  | 20                    | A    |   |
| I <sub>TSM</sub>    | Surge non-repetitive on-state current | T <sub>P</sub> =10ms  | 200  | A |
| P <sub>G(AV)</sub>  | Average gate power dissipation        | over any 20 ms period | 1.1  | W |
| T <sub>j</sub>      | Operating junction temperature        | -40~125               | °C   |   |
| T <sub>stg</sub>    | Storage temperature                   | -40~150               | °C   |   |

ELECTRICAL CHARACTERISTICS ( $T_c=25^\circ\text{C}$  unless otherwise specified)

| SYMBOL               | PARAMETER                         | CONDITIONS                                                                       | MIN | MAX  | UNIT               |
|----------------------|-----------------------------------|----------------------------------------------------------------------------------|-----|------|--------------------|
| $I_{\text{RRM}}$     | Repetitive peak reverse current   | $V_{\text{RM}}=V_{\text{RRM}}, R_{\text{GK}}=220\ \Omega, T_j=125^\circ\text{C}$ |     | 5    | $\mu\text{A}$      |
|                      |                                   |                                                                                  |     | 2    | mA                 |
| $I_{\text{DRM}}$     | Repetitive peak off-state current | $V_{\text{DM}}=V_{\text{DRM}}, R_{\text{GK}}=220\ \Omega$                        |     | 5    | $\mu\text{A}$      |
|                      |                                   |                                                                                  |     | 2    | mA                 |
| $V_{\text{TM}}$      | On-state voltage                  | $I_{\text{TM}}=40\text{A}$                                                       |     | 1.75 | V                  |
| $I_{\text{GT}}$      | Gate-trigger current              | $V_D=12\text{V}; I_T=0.1\text{A}$                                                |     | 32   | mA                 |
| $V_{\text{GT}}$      | Gate-trigger voltage              | $V_D=12\text{V}; I_T=0.1\text{A}$                                                |     | 1.5  | V                  |
| $R_{\text{th(j-c)}}$ | Thermal resistance                | Junction to case                                                                 |     | 1.3  | $^\circ\text{C/W}$ |

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