# G40H100CTW

## TRENCH SCHOTTKY RECTIFIER

**REVERSE VOLTAGE – 100 Volts**
**FORWARD CURRENT – 40 Amperes**

### FEATURES

- High junction temperature capability
- Negligible switching losses
- Good trade off between leakage current and forward voltage drop
- Qualification is according to AEC-Q101 Rev_D
- **Lead-Free Finish; RoHS Compliant (Notes 1 & 2)**
- **Halogen and Antimony Free. "Green" Device (Note 3)**

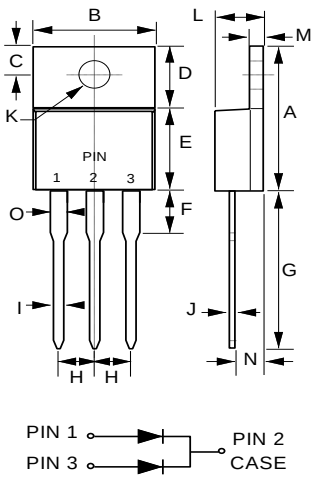
### APPLICATION

- High frequency miniature switch mode of adaptors
- On-board DC-DC converters
- Use in high frequency inverters

### MECHANICAL DATA

- Package: JEDEC TO-220AB
- Package Material: "Green" Molding compound, UL flammability classification 94V-0, "Halogen-free".
- Lead free finish, RoHS compliant
- Polarity : As marked on body
- Marking code: G40H100CTW
- Weight: 0.07 ounces, 1.927 grams (Approximate)

### TO-220AB




| TO-220AB | | |
|---|---|---|
| DIM | MIN | MAX |
| A | 14.40 | 15.20 |
| B | 9.65 | 10.67 |
| C | 2.54 | 3.43 |
| D | 5.84 | 6.86 |
| E | 8.26 | 9.28 |
| F | - | 4.20 |
| G | 12.70 | 14.73 |
| H | 2.29 | 2.79 |
| I | 0.51 | 1.00 |
| J | 0.30 | 0.64 |
| K | 3.53Φ | 4.09Φ |
| L | 3.56 | 4.83 |
| M | 1.14 | 1.40 |
| N | 2.03 | 2.92 |
| O | 1.14 | 1.37 |
| All Dimensions in millimeter | | |

## MAXIMUM RATINGS AND ELECTRICAL CHARACTERISTICS

Ratings at 25°C ambient temperature unless otherwise specified.

### ABSOLUTE RATINGS

| PARAMETER | | SYMBOL | VALUE | UNIT |
|---|---|---|---|---|
| Maximum repetitive peak reverse voltage | | $V_{RRM}$ | 100 | V |
| Maximum DC blocking voltage | | $V_{DC}$ | 100 | V |
| Maximum Average rectified forward current | @Tc = 120°C | $I_{AV}$ | 40 | A |
| Non repetitive peak reverse current | @ tp=2us | $I_{RSM}$ | 3 | |
| Peak forward surge 8.3ms single half sine-wave superimposed on rated load | | $I_{FSM}$ | 250 | A |
| Operating and Storage temperature range | | $T_J$,$T_{STG}$ | -55 ~ +175 | °C |

### STATIC ELECTRICAL CHARACTERISTICS

| PARAMETER | TEST CONDITION | | SYMBOL | TYP | MAX | UNIT |
|---|---|---|---|---|---|---|
| Forward voltage (Note 4) | $I_F$ = 20A | $T_J$ = 25°C<br>$T_J$ = 125°C | $V_F$ | --<br>0.64 | 0.79<br>-- | V |
| Reverse leakage current | $V_R$ = 100V | $T_J$ = 25°C<br>$T_J$ = 125°C | $I_R$ | --<br>1.2 | 10<br>10 | uA<br>mA |
| Typical junction capacitance (Note 5) | | | $C_J$ | 1360 | | pF |

### THERMAL CHARACTERISTICS

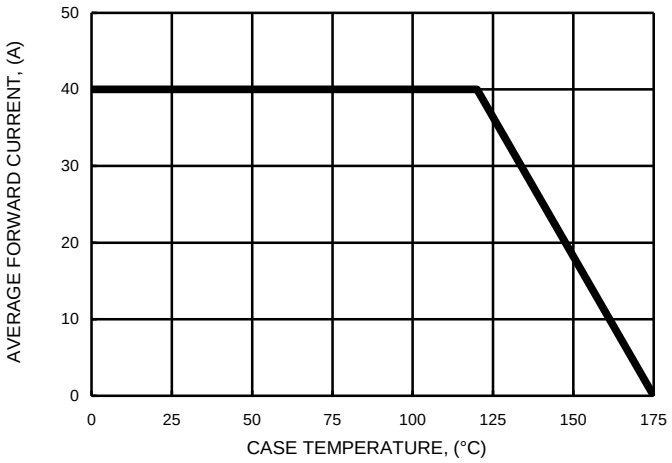
| PARAMETER | SYMBOL | TYP | UNIT |
|---|---|---|---|
| Typical thermal resistance (Note 6,7) | $RthJ_L$<br>$RthJ_C$ | 1<br>2 | °C/W |

**Note:**

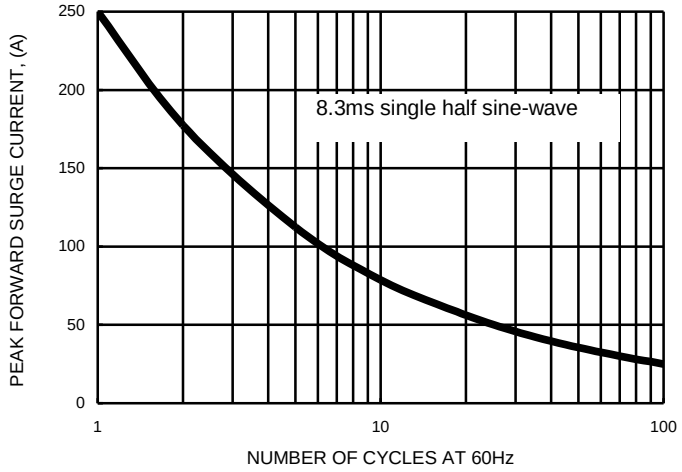
1. EU Directive 2002/95/EC (RoHS), 2011/65/EU (RoHS 2) & 2015/863/EU (RoHS 3) compliant. All applicable RoHS exemptions applied.
2. See https://www.diodes.com/quality/lead-free/ for more information about Diodes Incorporated's definitions of Halogen- and Antimony-free, "Green" and Lead-free.
3. Halogen- and Antimony-free "Green" products are defined as those which contain <900ppm bromine, <900ppm chlorine (<1500ppm total Br + Cl) and <1000ppm antimony compounds.
4. 300us pulse width, 2% duty cycle.
5. Measured at 1.0MHz and applied reverse voltage of 4.0 VDC.
6. Thermal resistance test performed in accordance with JESD-51.
7. The unit mounted on Copper heatsink (100mm x 100mm x 2mm).

## RATING AND CHARACTERISTIC CURVES
## G40H100CTW

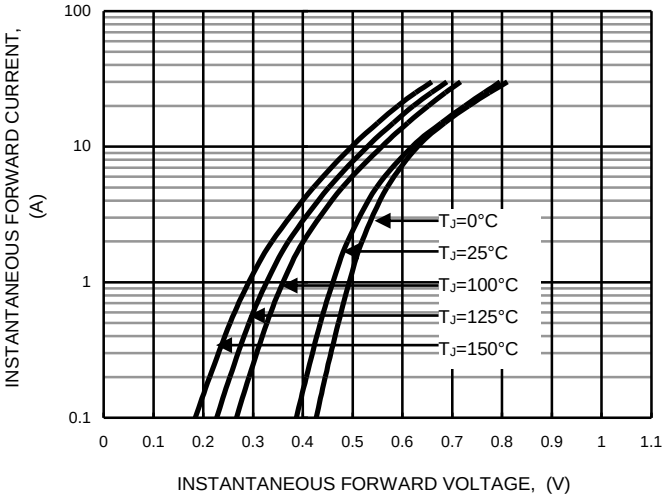
### FIG.1- FORWARD CURRENT DERATING CURVE



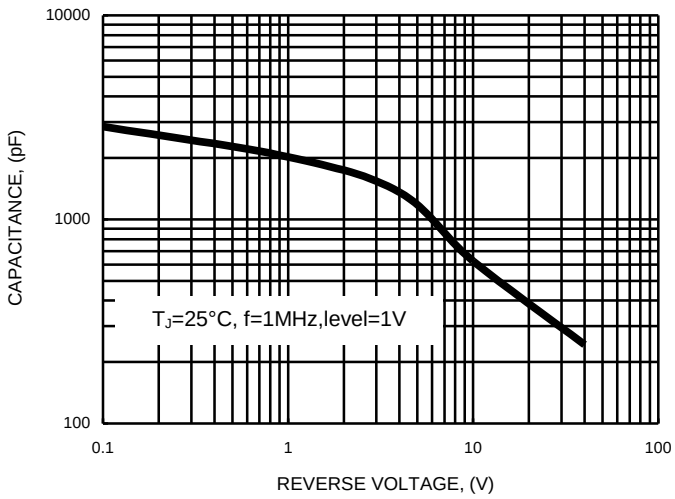

### FIG.2- MAXIMUM NON-REPETITIVE SURGE CURRENT



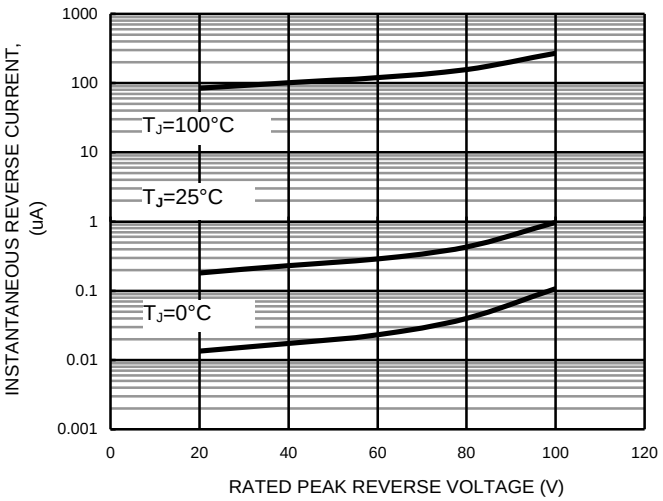

### FIG.3- TYPICAL FORWARD CHARACTERISTICS



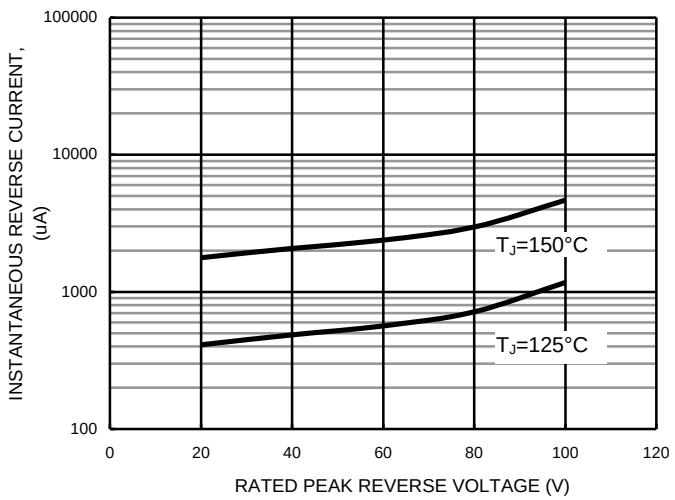

### FIG.4- TYPICAL JUNCTION CAPACITANCE




### FIG.5- TYPICAL REVERSE CHARACTERISTICS



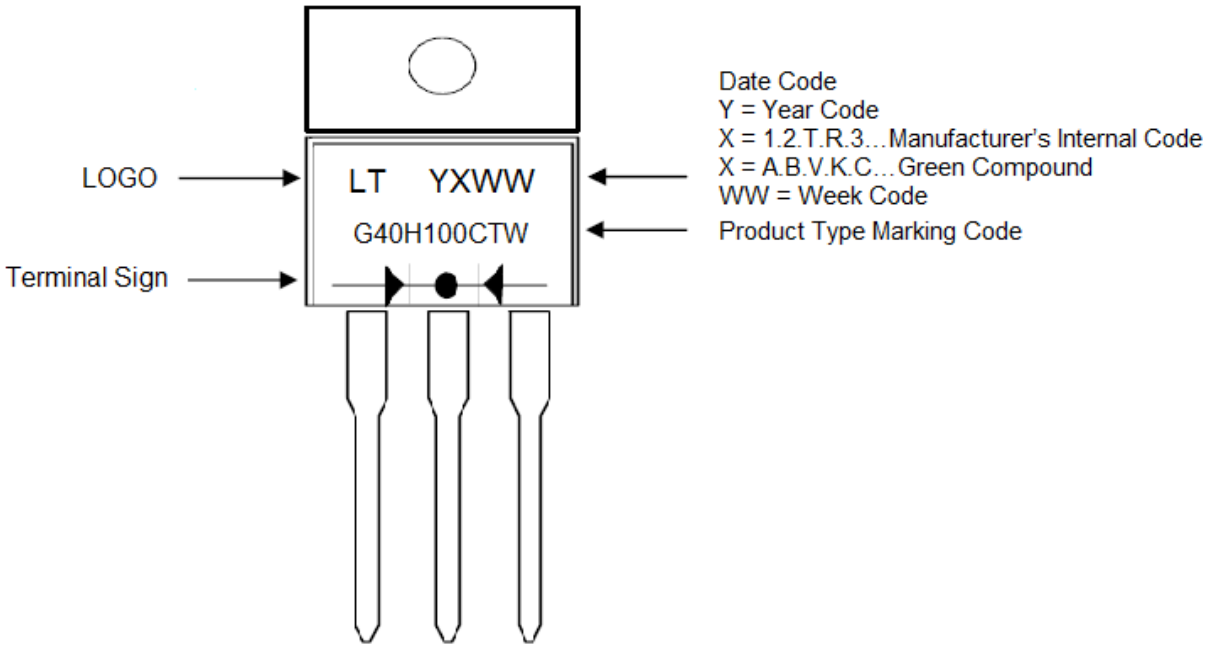

### FIG.6- TYPICAL REVERSE CHARACTERISTICS



## Ordering Information:

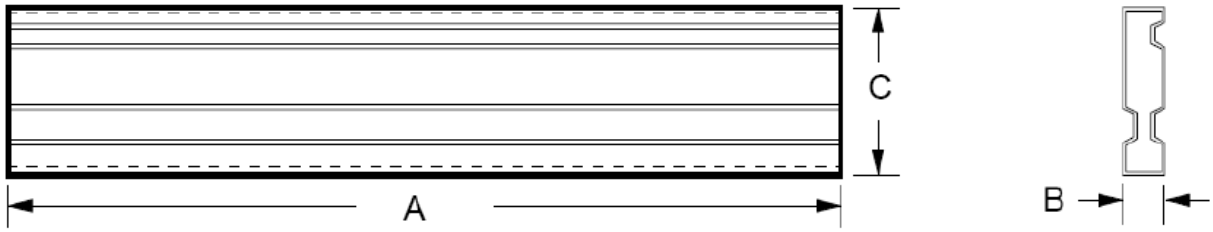
| Part Number | Package | Packing | |
|---|---|---|---|
| | | Qty. | Carrier |
| G40H100CTW | TO-220AB | 50pcs | Tube |

## Marking Information:

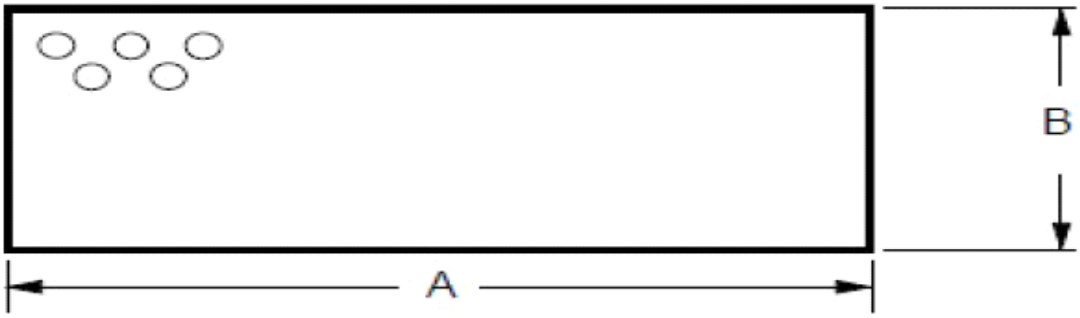


## Packaging Information:

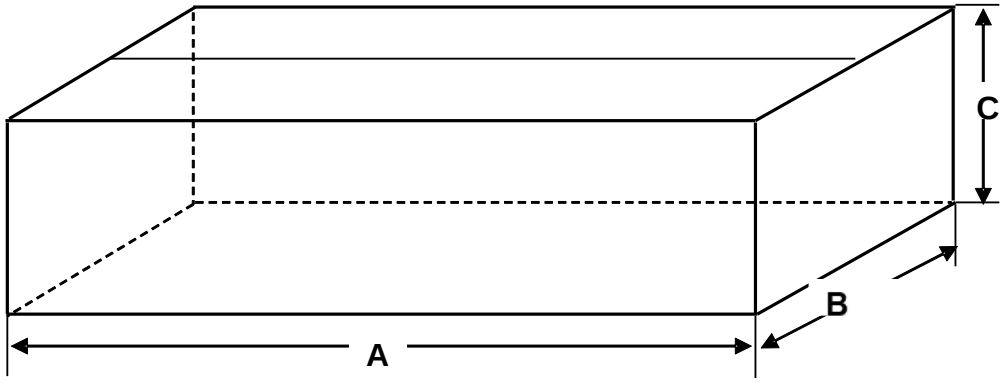
### 1. TUBE




### 2. AIR BAG

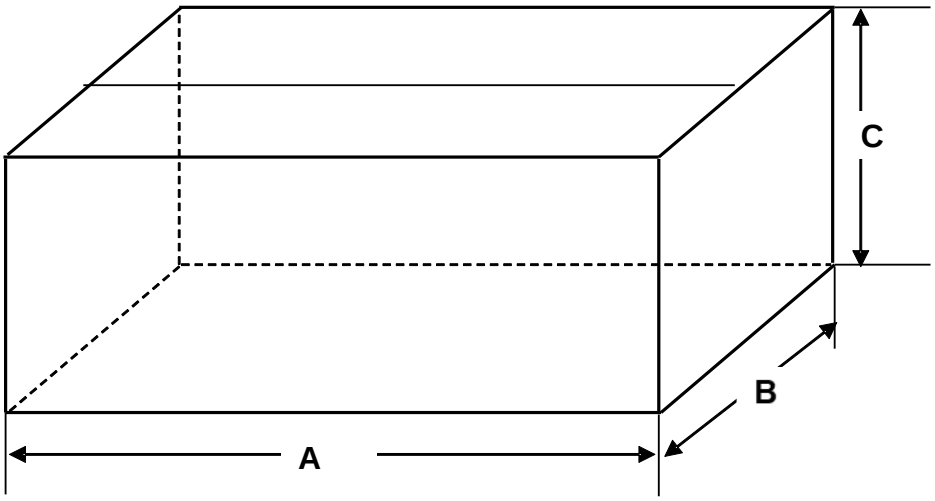



### 3. INNERBOX



## Packaging Information (continued):

### 4. CARTON




**Unit: mm**

| P/N | DIMENSION "A" | DIMENSION "B" | DIMENSION "C" | Q'ty/per | REMARK |
|---|---|---|---|---|---|
| TUBE | 536 | 5.6 | 31.8 | 50 | / |
| AIR BAG | 800 | 550 | / | / | / |
| INNERBOX | 555 | 165 | 105 | 2000 | 40TUBE |
| CARTON | 575 | 179 | 225 | 4K | 2 INNER BOX |

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