



# HT and ST Series RoHS



## **General Description**

Teccor's HT and ST Series of bilateral trigger diacs offer a range of voltage characteristics from 27 V to 70 V.

A diac semiconductor is a full-wave or bidirectional thyristor. It is triggered from a blocking state to a conduction state for either polarity of applied voltage whenever the amplitude of applied voltage exceeds the breakover voltage rating of the diac.

The Teccor line of diacs features glass-passivated junctions to ensure long-term reliability and parameter stability. Teccor's glass offers a rugged, reliable barrier against junction contamination.

The diac specifications listed in this data sheet are for standard products. Special parameter selections such as close tolerance voltage symmetry are available. Consult the factory for more information about custom design applications.

## **Features**

- **RoHS Compliant**
- Bilateral triggering device
- Glass-passivated junctions
- Wide voltage range selections

## ST Series

- **Epoxy SMT package**
- High-temperature, solder-bonded die attachment

## **HT Series**

- DO-35 trigger package
- **Pre-tinned leads**

E8 - 1

Electrical Characteristics T <sub>C</sub> = 25°C							
Part No.		V <sub>BO</sub>		∆ <b>V</b> <sub>BO</sub>	V <sub>BB</sub>	I <sub>BO</sub>	I <sub>TRM</sub>
		Breakover Voltage (Forward and Reverse)		Breakover Voltage Symmetry $\Delta V_{BO} = [ +V_{BO} - -V_{BO} ]$	Dynamic Breakback Voltage (3)   ΔV±	Peak Breakover Current at Breakover Voltage	Peak Pulse Current for 10 μs 120 PPS T <sub>A</sub> ≤40 °C
7	20.011	Volts		Volts	Volts	μAmps	Amps
DO-35	DO-214	MIN	MAX	MAX	MIN	MAX	MAX
HT-32	ST-32	27	37	3 (1)	10 (2)	25	2
HT-32A / HT-5761		28	36	2 (1)	7 at 10 mA (4)	25	2
HT-32B / HT-5761A	ST-32B	30	34	2 (1)	7 at 10 mA (4)	25	2
HT-34B	ST-34B	32	36	2 (1)	10 (2)	25	2
HT-35	ST-35	30	40	3 (1)	10 (2)	25	2
HT-36A / HT-5762	ST-36A	32	40	2 (1)	7 at 10 mA (4)	25	2
HT-36B	ST-36B	34	38	2 (1)	10 (2)	25	2
HT-40	ST-40	35	45	3 (1)	10 (2)	25	2
HT-60		56	70	4	20 (2)	25	1.5

#### **General Notes**

- Lead solder temperature is +230 °C for 10-second maximum; ≥1/16" (1.59 mm) from case.
- · See "Package Dimensions" section of this catalog.

## **Electrical Specification Notes**

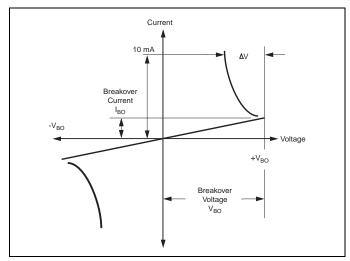
- (1) Breakover voltage symmetry as close as 1 V is available from the factory on these products.
- (2) See Figure E8.4 and Figure E8.5 for test circuit and waveforms.
- (3) Typical switching time is 900 nano-seconds measured at  $I_{PK}$  (Figure E8.4) across a 20  $\Omega$  resistor (Figure E8.5). Switching time is defined as rise time of  $I_{PK}$  between the 10% to 90% points.
- (4) See V-I Characteristics.

## **Bilateral Trigger DIAC Specifications**

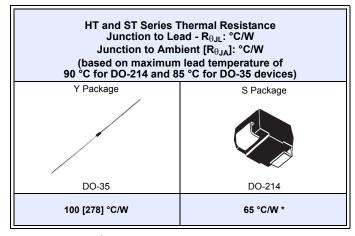
- Maximum Ratings, Absolute-Maximum Values
- Maximum Trigger Firing Capacitance: 0.1 μF
- Device dissipation (at  $T_A$  = -40 °C to +40 °C): 250 mW for DO-35 and 300 mW for DO-214
- Derate above +40 °C: 3.6 mW/°C for DO-35 and 3 mW/°C for DO-214
- Temperature Ranges

Storage: -40 °C to +125 °C

Operating (Junction): -40 °C to +125 °C



V-I Characteristics



<sup>\*</sup> Mounted on 1 cm<sup>2</sup> copper foil surface; two-ounce copper foil

Data Sheets Diac

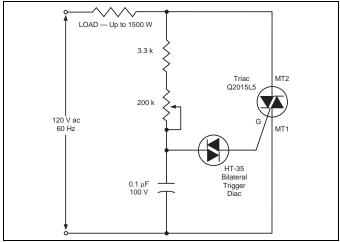


Figure E8.1 Typical Diac/Triac Full-wave Phase Control Circuit Using Lower Voltage Diacs.

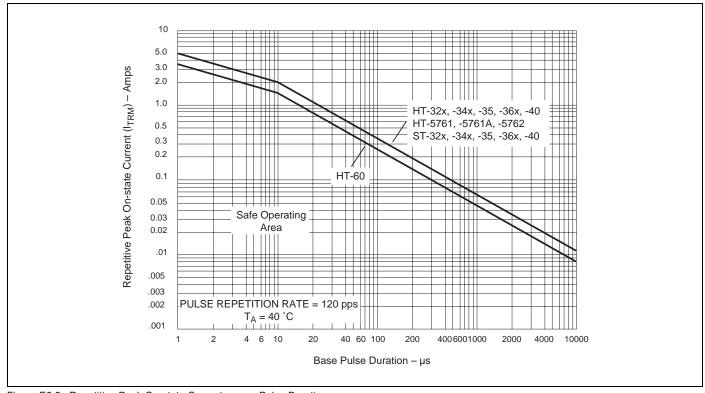


Figure E8.2 Repetitive Peak On-state Current versus Pulse Duration

Diac Data Sheets

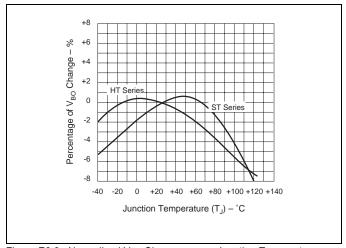


Figure E8.3 Normalized V<sub>BO</sub> Change versus Junction Temperature

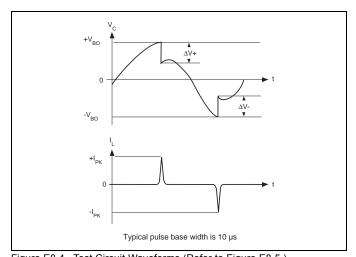


Figure E8.4 Test Circuit Waveforms (Refer to Figure E8.5.)

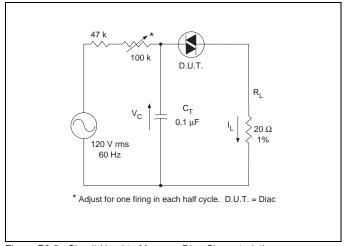


Figure E8.5 Circuit Used to Measure Diac Characteristics (Refer to Figure E8.4.)

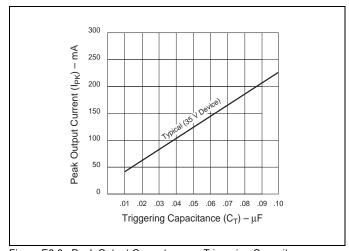


Figure E8.6 Peak Output Current versus Triggering Capacitance (Per Figure E8.5 with  $R_L$  of 20  $\Omega$ )

# **Mouser Electronics**

**Authorized Distributor** 

Click to View Pricing, Inventory, Delivery & Lifecycle Information:

## Littelfuse:

ST34B ST36B ST32B ST36A