

# Bilateral Trigger Diacs HT and ST Series

## **General Description**

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

The diac semiconductor is a full-wave or bidirectional thyristor. It is triggered from a blocking-to-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 device 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. Please consult the factory for more information for custom design applications. Suffix RP signifies tape-and-reel packing. Example: HT32RP.

## **Features**

- 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

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ELECTRICAL CHARACTERISTICS T <sub>C</sub> = 25°C							
Part No.		V <sub>BO</sub>		ΔV <sub>BO</sub>	V <sub>BB</sub>	I <sub>BO</sub>	I <sub>TRM</sub>
		Breakover Voltage (Forward and Reverse)		Breakover Voltage Symmetry	Dynamic Breakback Voltage	Peak Breakover Current at	Peak Pulse Current for 10µs
				ΔV <sub>BO</sub> = [ +V <sub>BO</sub>  - -V <sub>BO</sub>  ]	(3)   ΔV±	Breakover Voltage	120 PPS T <sub>A</sub> ≤ 40°C
	DO-214AA	Vo	olts	Volts	Volts	μAmps	Amps
DO-35	00214/00	MIN	MAX	MAX	MIN	MAX	MAX
HT-32		27	37	3 (1)	10 (2)	25	2.0
HT-32A / HT-5761		28	36	2 (1)	7 at 10mA (4)	25	2.0
HT-32B / HT-5761A		30	34	2 (1)	7 at 10mA (4)	25	2.0
HT-34B	ST-34B	32	36	2 (1)	10 (2)	25	2.0
HT-35	ST-35	30	40	3 (1)	10 (2)	25	2.0
HT-36A / HT-5762	ST-36A	32	40	2 (1)	7 at 10mA (4)	25	2.0
HT-36B	ST-36B	34	38	2 (1)	10 (2)	25	2.0
HT-40	ST-40	35	45	3 (1)	10 (2)	25	2.0
HT-60		56	70	4	20 (2)	25	1.5

#### **General Notes**

- Lead solder temperature is +230°C max. for 10 seconds max.;  $\geq$  1/16" (1.59mm) from case.
- See "Package Dimensions" section of this catalog.

#### **Electrical Specification Notes**

- (1) Breakover Voltage symmetry as close as 1.0V is available from factory on these products.
- (2) See Figures 8.4 and 8.5 for Test Circuit and waveforms.
- (4) See Figure 8.7.

## **Bilateral Trigger DIAC Specifications**

Maximum Ratings, Absolute-Maximum Values

Maximum Trigger Firing Capacitance: 0.1μF Device Dissipation (at T<sub>A</sub> = -40° to +40°C): 250mW for DO-35 and 300mW for DO-214AA Derate Above +40°C: 3.6mW/°C for DO-35 and 3mW/°C for DO-214AA

Temperature Ranges

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

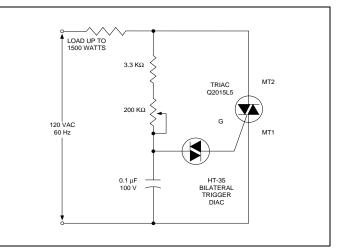
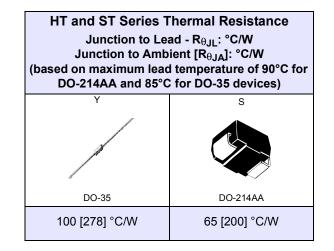
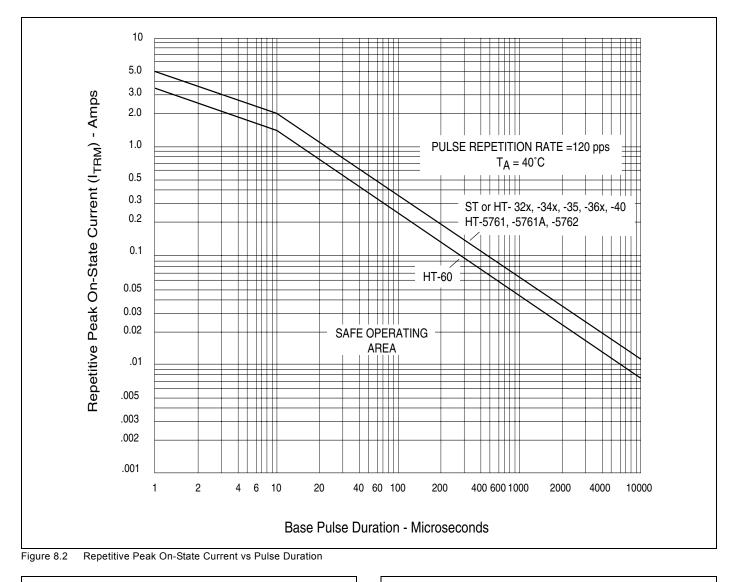
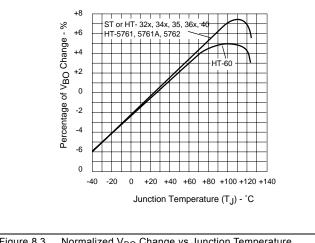


Figure 8.1 Typical Diac-Triac Full-Wave Phase Control Circuit using Lower Voltage Diacs







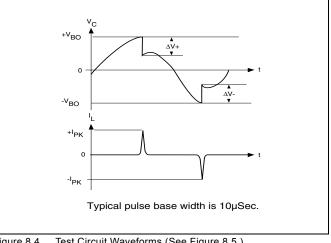
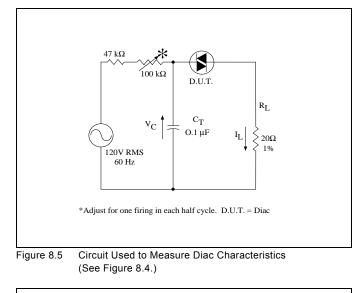


Figure 8.3 Normalized V<sub>BO</sub> Change vs Junction Temperature

Figure 8.4

Test Circuit Waveforms (See Figure 8.5.)

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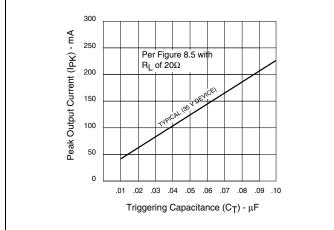


Figure 8.6 Peak Output Current vs Triggering Capacitance

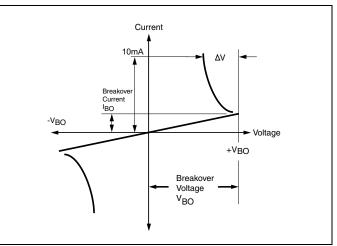


Figure 8.7 V-I Characteristics