

# CS239A & CS239E T1 Mini Span Line Repeaters

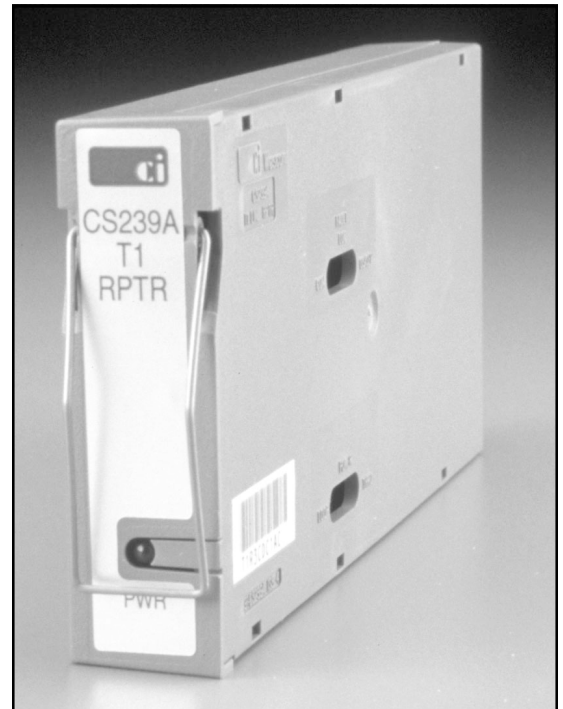
## Regenerate 2-Way 1.544 Mb/s signals on T1 spans

Each protected, low powered, CS239 T1 mini-repeater contains two regenerators.

Designed to work in Charles apparatus cases and other standard T1 housings, the CS239A and CS239E are identical in function except the CS239E repeater provides greater immunity to 60 Hz induction. The CS239A is a 1-way unit, and the CS239E is a 2-way unit.

### Features

- Dual regenerators for use on 1.544 Mb/s 2-way T1 span lines
- Rugged surge protection
- Front-panel power LED (green)
- Automatic Line Build-Out (ALBO) to accommodate a wide range of receive signals (0.0 to 35 dB)
- Thru or Loop power
- Separate or common fault locate output
- Compatibility with AMI or B8ZS line coding
- High-immunity to induced AC
- Rugged, nonmetallic outer case



## Electrical Specifications

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Line repeater type	Regenerative transmit and receive
Line signal type	Bipolar at 1.544 Mbps $\pm$ 200 bps
Repeater line signal pulse amplitude	2.4 to 3.0 V peak
Repeater line signal pulse width	324 $\pm$ 30 nsec.
Repeater line signal pulse overshoot	10 to 30 percent of pulse height, 20 percent nominal
Repeater line signal pulse rise & fall time	100 nsec maximum
Port impedance	100 ohms nominal at 772 KHz
Receive line build-out	Automatic, 0.0 to 35 dB
AC longitudinal immunity	CS239E, 1000 mA P-P; CS239A, 750 mA P-P
Surge protection	Input/output to ground, $\pm$ 2.5 KV; metallic $\pm$ 1000 V
Line current	57 to 63 mA
Voltage drop at 60 MA	8.0 V nominal

## Physical Specifications

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Height	Width	Depth	Weight	Temperature	Humidity
2.59" (6.58 cm)	0.76" (1.93 cm)	6.0" (15.24 cm)	5.5 oz (155.93 gm)	-40° to +149° F -40° to +65° C	to 95% (no condensation)



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