TR215




Telecommunications Switch
Optocoupler/1 Form A Relay

DESCRIPTION

The TR215 is a dual function circuit designed specifically as a telecommunications switch. It consists an optically isolated solid state relay separated from an optocoupler. The relay portion is composed of an LED on the input, optically coupled to a sensing circuit which drives two source-to-source DMOS transistors. The optocoupler portion of the package consists of two back-to-back LEDs that drive an output phototransistor.

FEATURES

- Low input control current
- Function integration
- 10 ohms max on-resistance
- 200mA max continuous load current

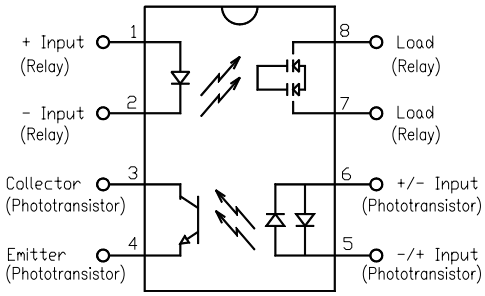
APPLICATIONS

- Telecom switching
- PCMCIA cards
- Fax/modem modules
- Set-top boxes
- DAA arrangements
- Hookswitch
- Loop current detect
- Pulse dialing

OPTIONS/SUFFIXES

- -S Surface Mount Option
- -TR Tape and Reel

SCHEMATIC DIAGRAM



MAXIMUM RATINGS

PARAMETER	UNIT	MIN	TYP	MAX
Storage Temperature	°C	-55		125
Operating Temperature	°C	-40		85
Continuous Input Current	mA			40
Transient Input Current	mA			400
Reverse Input Control Voltage	V	6		
Output Power Dissipation	mW			500

APPROVALS

- BABT CERTIFICATE #607836:
  BS EN 60950, BS EN 41003, BS EN 60065
- CSA CERTIFICATE #LR111581-1
- UL FILE #E90096

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ELECTRICAL CHARACTERISTICS - 25°

PARAMETER	UNIT	MIN	TYP	MAX	TEST CONDITIONS
RELAY INPUT SPECIFICATIONS					
LED Forward Voltage	V		1.2	1.5	If = 10mA
LED Reverse Voltage	V	6	12		Ir = 10uA
Turn-On Current	m A	5	2.5		Io = 200mA
Turn-Off Current	m A		0.5		
RELAY OUTPUT SPECIFICATIONS					
Blocking Voltage	V	400			Io = 10uA
Continuous Load Current	m A			200	If = 5mA
On-Resistance	Ω		6	10	Io = 200mA
Leakage Current	μ A		0.7	10	Vo = 400V
Output Capacitance	p F		25	50	Vo = 25V, f = 1.0MHz
Offset Voltage	m V			0.2	If = 5mA
Turn-On Time	m s		2	5	If = 5mA, Io = 200mA
Turn-Off Time	m s		0.5	1	If = 5mA, Io = 200mA
PHOTOTRANSISTOR INPUT SPECIFICATIONS					
LED Forward Voltage	V		1.2	1.5	If = 10mA
Turn-On Current	m A	2			Io = 0.5mA
PHOTOTRANSISTOR OUTPUT SPECIFICATIONS					
Breakdown Voltage	V	60			Io = 10uA
Leakage Current	n A			500	Vce = 20V
Collector-Emitter Capacitance	p F		6		Vce = 0V, f = 1.0kHz
Saturation Voltage	V			0.5	If = 5mA
Current Transfer Ratio	%	30	100	800	If = 2mA, Vce = 5V
COUPLED SPECIFICATIONS					
Isolation Voltage	V	2500			T = 1 minute
-H Suffix	V	3750			T = 1 minute
Isolation Resistance	G Ω	100			
Coupled Capacitance	p F			2	
Contact Transient Ratio	V / μ s	2000	7000		dV = 50V

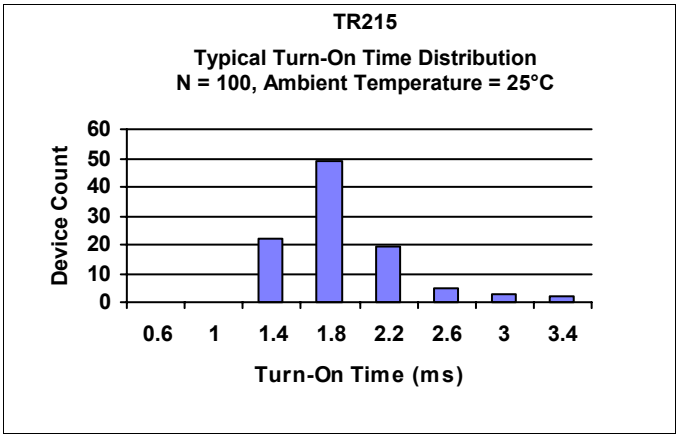
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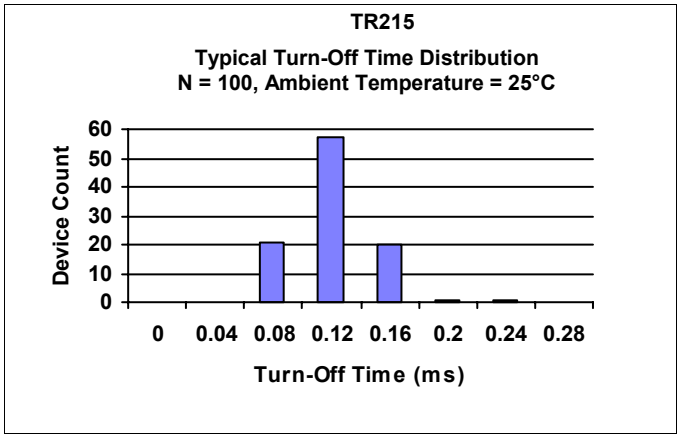
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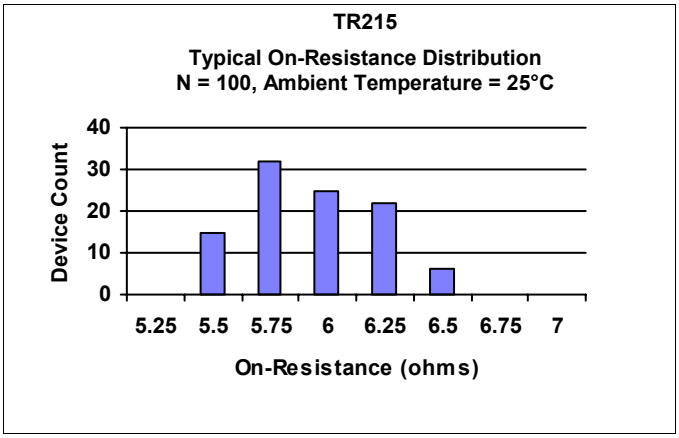


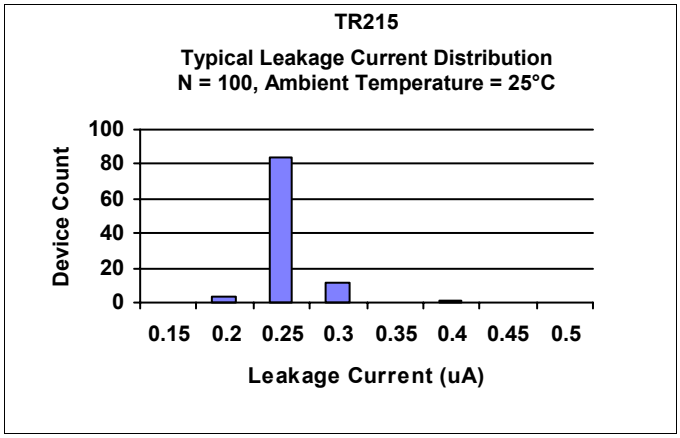

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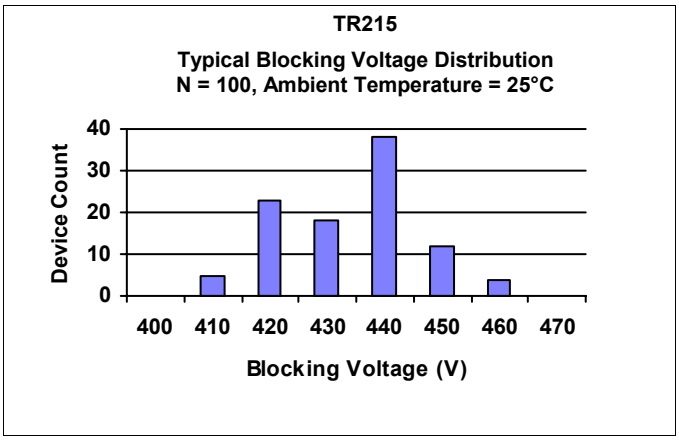
PERFORMANCE DATA

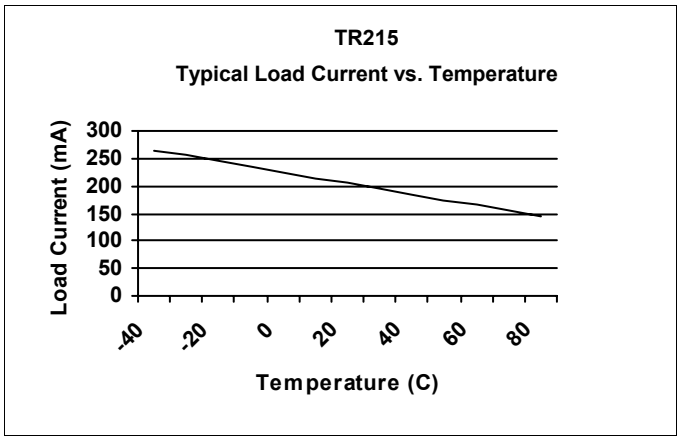












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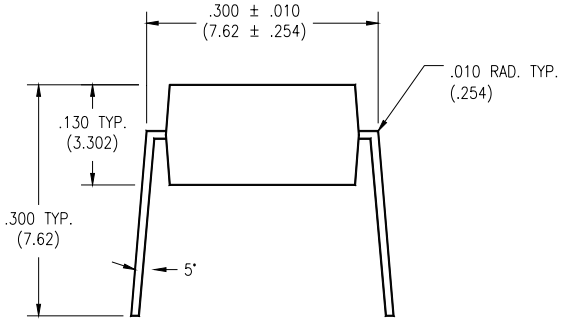
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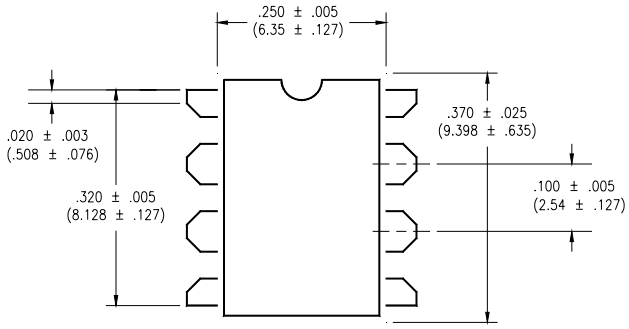

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MECHANICAL DIMENSIONS

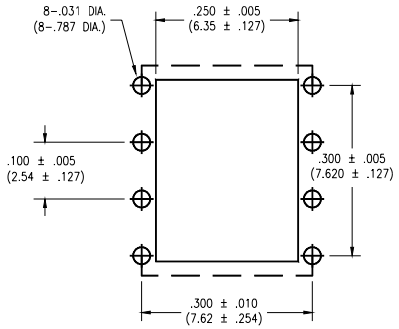
8 PIN DUAL IN-LINE PACKAGE



END VIEW

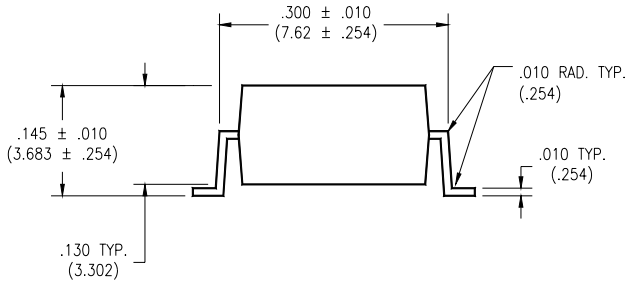


TOP VIEW

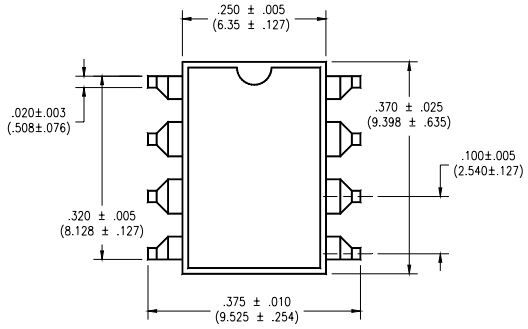


BOTTOM VIEW/
BOARD PATTERN

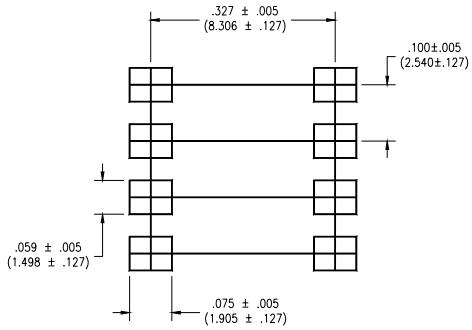
8 PIN SURFACE MOUNT DEVICE



END VIEW



TOP VIEW



BOTTOM VIEW/
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