STS750

Multifunction
Telecommunications Switch

DESCRIPTION

The STS750 is a multi-function telecommunications relay. It combines a 1 Form A solid state relay, phototransistor, Darlington transistor and a bridge rectifier in a 16-pin small outline package. Its ultra-miniature package and low height make it ideal for use in PCMCIA applications where multi-function devices help reduce cost and board space.

FEATURES

- Low input control current
- Function integration
- 35 ohms max on-resistance
- 100mA max continuous load current
- Small outline package
- Darlington transistor
- Phototransistor
- Full wave bridge rectifier

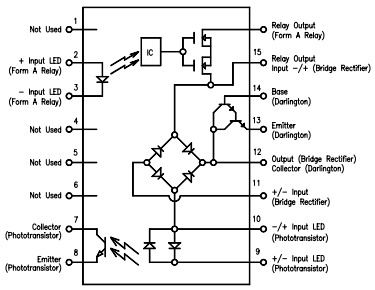
APPLICATIONS

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

OPTIONS/SUFFIXES

- -TR Tape and Reel

SCHEMATIC DIAGRAM



MAXIMUM RATINGS

PARAMETER	UNIT	MIN	TYP	MAX
Storage Temperature	°C	-55		120
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			400

APPROVALS

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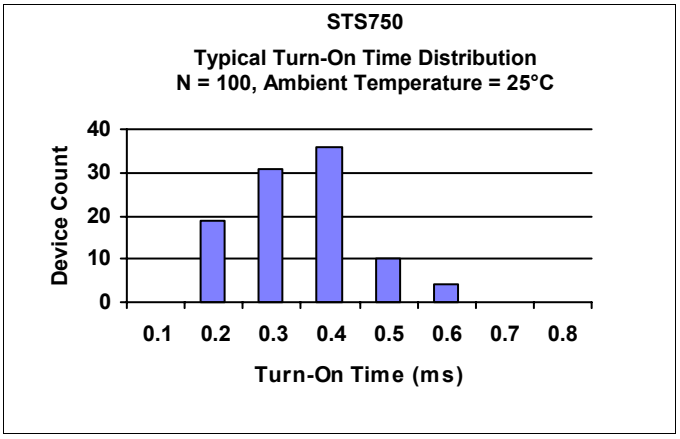
ELECTRICAL CHARACTERISTICS - 25°

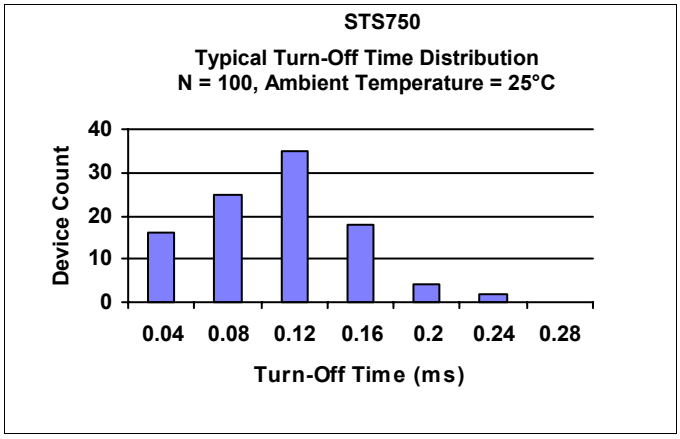
PARAMETER	UNIT	MIN	TYP	MAX	TEST CONDITIONS
RELAY INPUT SPECIFICATIONS					
LED Forward Voltage	V		1.2	1.5	If = 10mA
LED Reverse Voltage	V	6	12		Ir = 10uA
Turn-On Current	m A	10	5		Io = 100mA
Turn-Off Current	m A		0.5		
RELAY OUTPUT SPECIFICATIONS					
Blocking Voltage	V	400			Io = 10uA
Continuous Load Current	m A			100	If = 10mA
On-Resistance	Ω		25	35	Io = 100mA
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 = 10mA
Turn-On Time	m s		2	5	If = 10mA, Io = 100mA
Turn-Off Time	m s		0.5	1	If = 10mA, Io = 100mA
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 = 1kHz
Saturation Voltage	V			0.5	Io = 5mA
Current Transfer Ratio	%	30	100	800	If = 2mA, Vce = 5V
COUPLED SPECIFICATIONS					
Isolation Voltage	V	1500			T = 1 minute
-H Suffix	V	2500			T = 1 minute
Contact Transient Ratio	V / μ s	2000	7000		dV = 50V
FULL WAVE BRIDGE RECTIFIER					
Reverse Voltage	V	100			Io = 10uA
Forward Voltage Drop	V		1.5	1.8	Io = 120mA
Reverse Leakage Current	μ A			10	Vr = 100V
Continuous Load Current	m A			140	
Peak Forward Current	m A			500	T = 10us

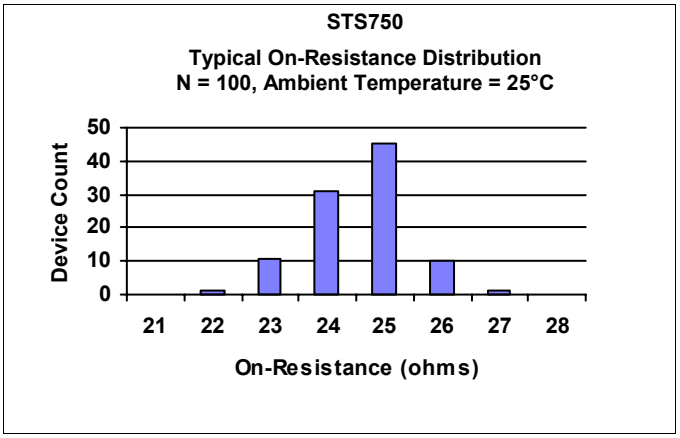
DARLINGTON TRANSISTOR					
Collector-Emitter Breakdown Voltage	V	40			Ic = 10uA, Ib = 0
Continuous Collector Current	m A			120	Vce = 5V
Collector-Emitter Leakage Current	μ A		0.5	1	Vce = 10V
Saturation Voltage	V			1.5	Ic = 120mA, Ib = 10mA

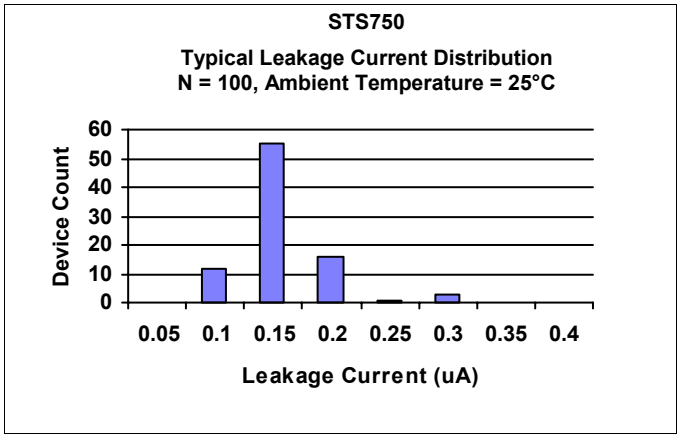
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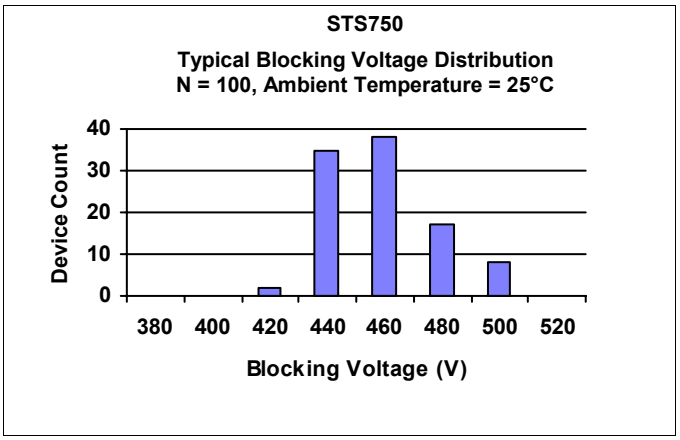
PERFORMANCE DATA

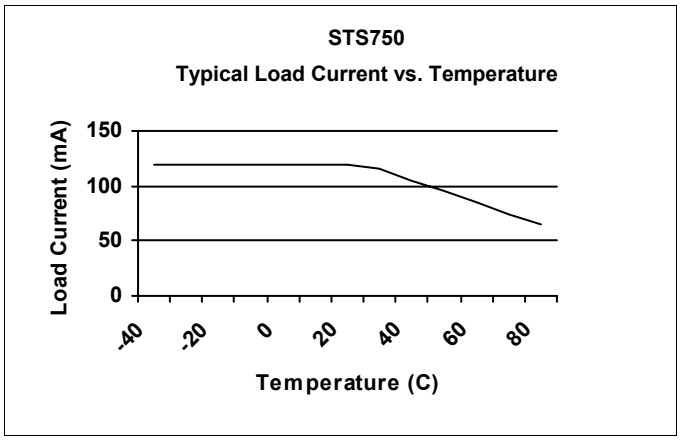








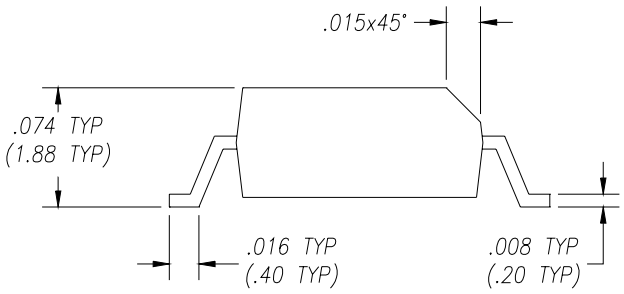




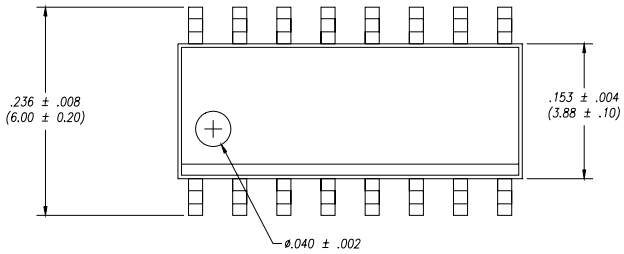
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MECHANICAL DIMENSIONS

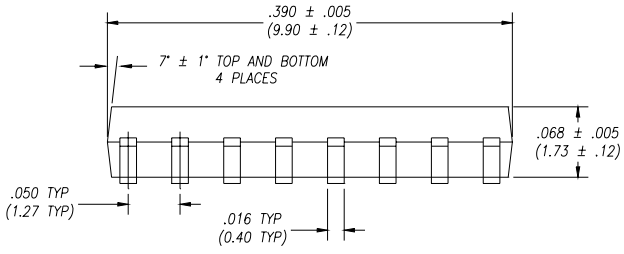
16 PIN SMALL OUTLINE PACKAGE



END VIEW



TOP VIEW



SIDE VIEW

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