



## DESCRIPTION

The STS700 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 SOIC package. Its small outline 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
- 120mA max continuous load current
- 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

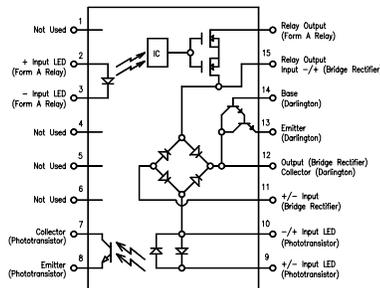
## OPTIONS/SUFFIXES

- -TR Tape and Reel

## 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			500

## SCHEMATIC DIAGRAM



## APPROVALS

- BAPT CERTIFICATE # 605963


**ELECTRICAL CHARACTERISTICS - 25°**

PARAMETER	UNIT	MIN	TYP	MAX	TEST CONDITIONS
<b>RELAY INPUT SPECIFICATIONS</b>					
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 = 120mA
Turn-Off Current	m A		0.5		
<b>RELAY OUTPUT SPECIFICATIONS</b>					
Blocking Voltage	V	400			Io = 10uA
Continuous Load Current	m A			120	If = 10mA
On-Resistance	Ω		25	35	Io = 120mA
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 = 120mA
Turn-Off Time	m s		0.5	1	If = 10mA, Io = 120mA
<b>PHOTOTRANSISTOR INPUT SPECIFICATIONS</b>					
LED Forward Voltage	V		1.2	1.5	If = 10mA
Turn-On Current	m A	2			Io = 0.5mA
<b>PHOTOTRANSISTOR OUTPUT SPECIFICATIONS</b>					
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
<b>COUPLED SPECIFICATIONS</b>					
Isolation Voltage	V	1500			T = 1 minute
-H Suffix	V	2500			T = 1 minute
Contact Transient Ratio	V / μ s	2000	7000		dV = 50V
<b>FULL WAVE BRIDGE RECTIFIER</b>					
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

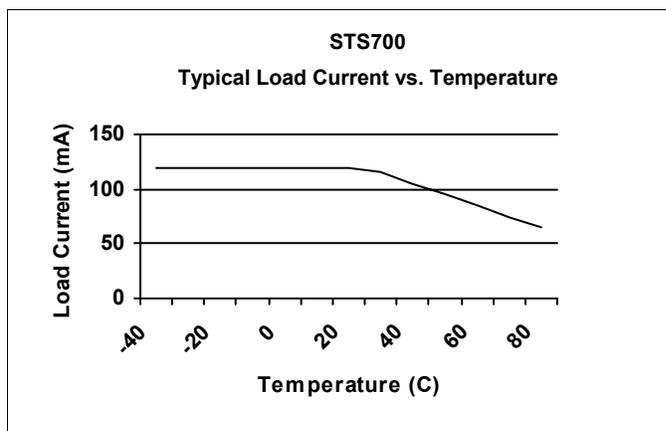
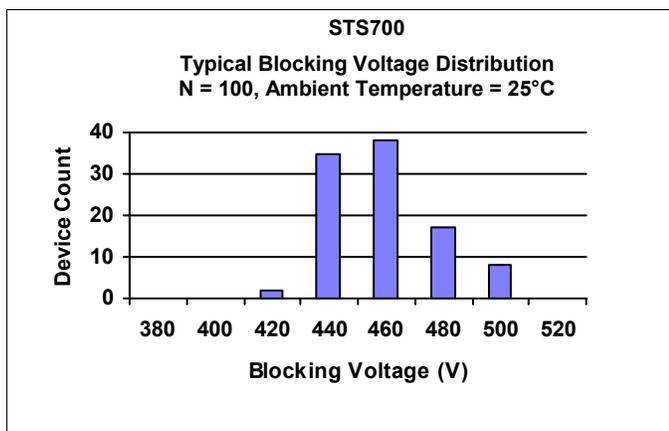
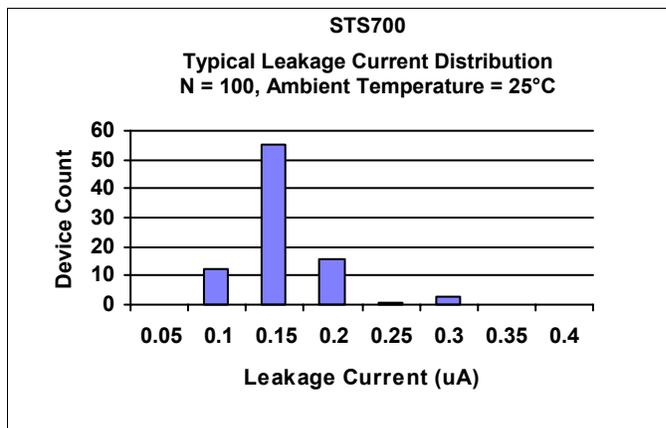
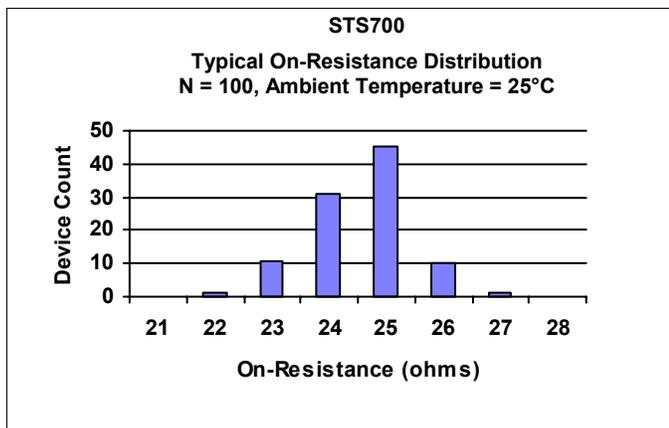
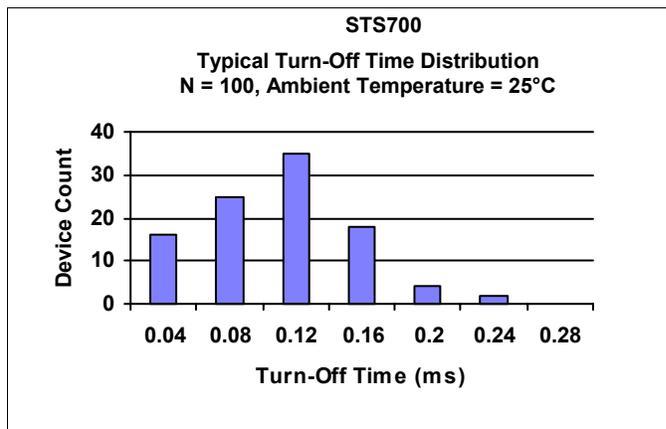
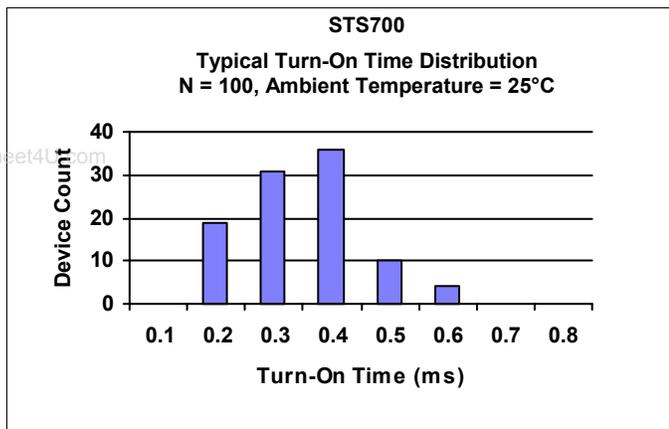


Multifunction  
Telecommunications Switch

<b>DARLINGTON TRANSISTOR</b>					
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



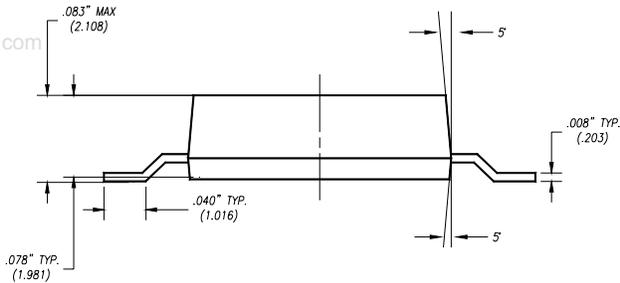
**PERFORMANCE DATA**



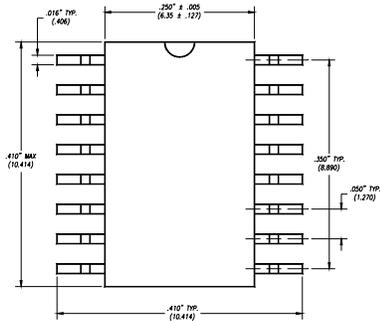


**MECHANICAL DIMENSIONS**

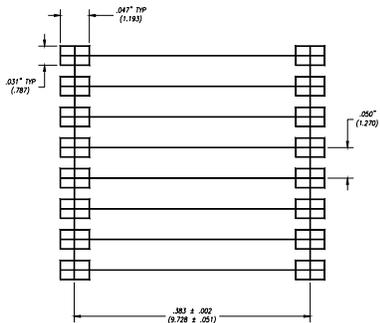
**16 PIN SMALL OUTLINE INTEGRATED CIRCUIT**



**END VIEW**



**TOP VIEW**



**BOTTOM VIEW/  
BOARD PATTERN**