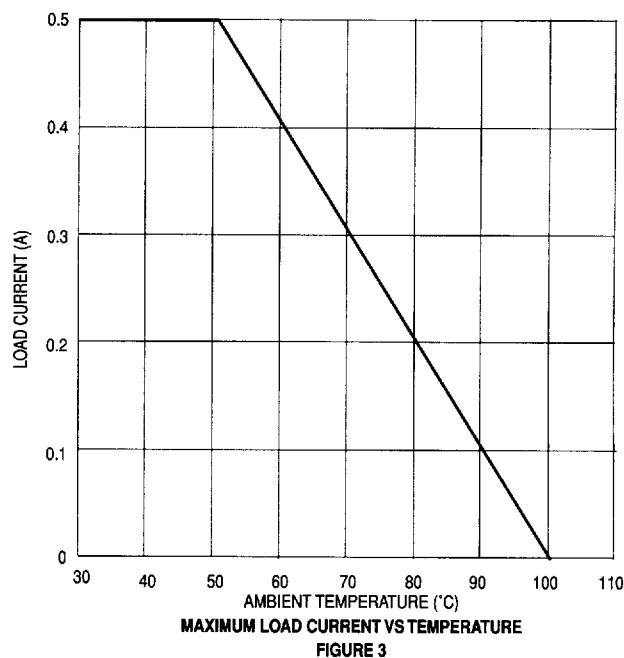
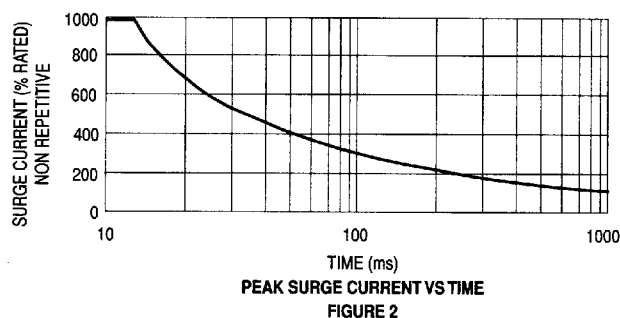
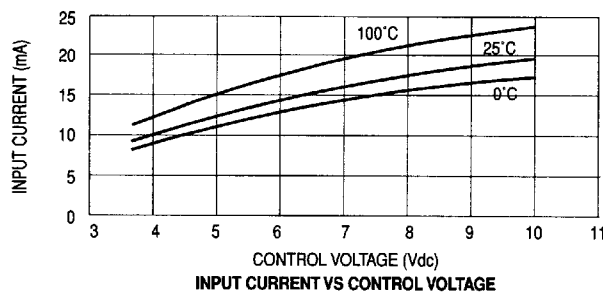
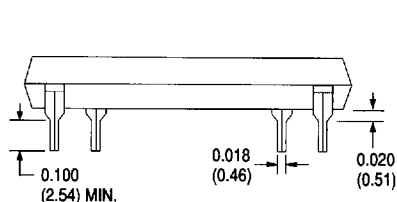


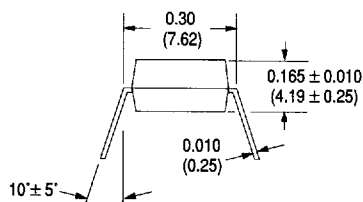
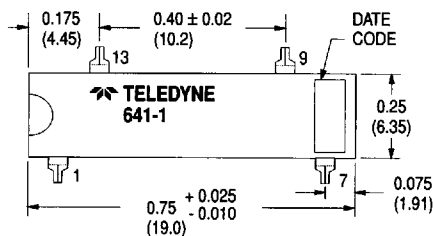
CHARACTERISTIC CURVES



MECHANICAL SPECIFICATION

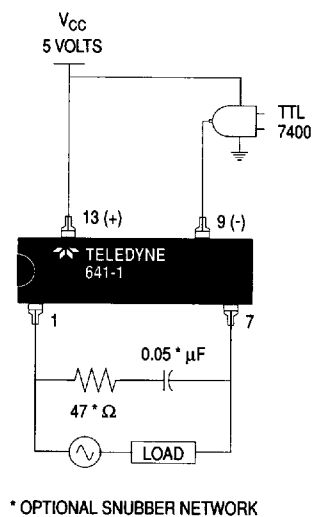


DIMENSIONS IN INCHES (MILLIMETERS)
Tolerances ± 0.015 (0.38) unless specified



- Operating Temperature -20°C to 100°C
- Storage Temperature -20°C to 100°C
- Weight: 2.0 grams maximum
- Case: 14 pin Dual-In-Line (TO-116)
- Case Material: Epoxy, self extinguishing

TYPICAL 641 INTERFACE



NOTES:

1. UL rated at 0.5 Arms for motor starting and incandescent lamp control.
2. Triac may lose blocking capability during and after surge until T_J falls below 125°C maximum.

AC Solid State Relay

TELEDYNE RELAYS

641 Series

RANDOM TURN-ON - TRANSFORMER ISOLATED

ELECTRICAL SPECIFICATIONS

(25°C UNLESS OTHERWISE SPECIFIED)

INPUT (CONTROL) SPECIFICATIONS

Parameter	Min	Max	Units
Control Voltage Range (See Figure 1)	4.0	10	Vdc
Input Current at 5V Control Voltage		16	mAdc
Must Turn-On Voltage ($0 \leq T_A \leq 100^\circ\text{C}$)	4.0		Vdc
Must Turn-Off Voltage ($0 \leq T_A \leq 100^\circ\text{C}$)		0.5	Vdc

OUTPUT (LOAD) SPECIFICATIONS

Parameter		Min	Max	Units
Load Voltage Range	641-1	6.0	140	Vrms
	641-2	6.0	250	
Output Current Rating (See Figure 3, Note 1)		0.005	0.5	Arms
Frequency Range			70	Hz
Over Voltage Rating	641-1		200	Vpeak
	641-2		400	
On-State Voltage Drop at Rated Current			1.5	Vrms
Surge Current Rating (Non repetitive 16 ms max. See Figure 2, Note 2)			5.0	A
Turn-On Time (60 Hz)			20	μs
Turn-Off Time (60 Hz)			8.3	μs
Leakage Current (Off State at 100°C)			1.0	mArms
Off-State dV/dt (Without RC Snubber, Typical)			50	V/ μs
Isolation (Input to Output at 500 Vdc)		10^9		Ohms
Dielectric Strength (Input to Output)		2500		Vac
Capacitance (Input to Output)			5	pF
Junction Temperature. (T_J)			125	°C



FEATURES/BENEFITS

- Fast Switching Speed - Where speed is important
- Floating Output - Eliminates ground loops and signal ground noise
- Random Turn On - For pulse width modulation
- Low Off State Leakage - For high off state impedance
- Switches High Voltages - To 250 Vrms
- Switches High Currents - To 0.5 Arms
- High Noise Immunity - Control signals isolated from switching noise
- High Dielectric Strength - For safety and for protection of control and signal level circuits
- UL & CUL registered File Number E55197

DESCRIPTION

The 641 Series features random turn-on for controlling AC loads with a triac output rated at 0.5 amp up to 50 °C ambient without a heat sink. A high frequency input oscillator with isolation transformer coupled directly to the triac gate provides the added capability of driving very low current AC loads down to 5 mA. Internal design employs a unique patented lead frame construction molded in a 14 pin DIP package.

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