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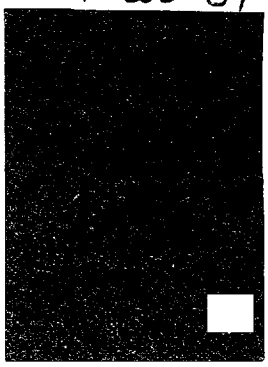
Find the *Teledyne Dalsa 615 Series* at our website: *Click HERE*



TELEDYNE SOLID STATE

SOLID STATE AC RELAY

OPTICALLY ISOLATED
10 THRU 40 A rms



FEATURES

- Optical isolation between control and load circuits
- Logic compatible input current levels
- Constant current input control circuit
- Zero voltage turn-on; zero current turn-off
- High transient immunity
- UL Recognized, File #E55197
- CSA Certified, File #LE31043
- VDE Approved File #10341-4941-1003/A1A (615V Series)

DESCRIPTION

These state-of-the-art AC SSRs utilize custom integrated circuits to replace conventional discrete circuitry. The resultant 40% reduction in component count provides numerous advantages, none the least of which are lower cost and higher reliability.

Optical coupling between control and load circuits provides a minimum of 2500 Vrms input/output isolation. Synchronous "zero voltage" turn-on and zero current turn-off minimize switching transients and EMI. Improved circuit design and built-in snubber protection guarantee high immunity from false triggering and reliable switching of low power factor loads. Constant current input circuitry reduces excessive power dissipation at higher input voltage levels.

The 615V is designed to meet the creepage/clearance spacings and the isolation dielectric strength requirements, and radiated emissions of VDE and IEC.

PART NUMBERING

OUTPUT VOLTAGE RATING / LOAD CURRENT (A)		615 SERIES			615V SERIES
CONTINUOUS (RMS)		140	250	250	250
TRANSIENT (PEAK)		200	400	600	550
10		615-1	615-2	615-2H	615V-2H
25		615-3	615-4	615-4H	615V-4H
40		615-5	615-6	615-6H	615V-6H

ELECTRICAL SPECIFICATIONS
(25°C UNLESS OTHERWISE NOTED)

INPUT (CONTROL) SPECIFICATIONS			MIN.	MAX.	UNITS
Control Voltage Range		615	3	32	Vdc
		615V	3.8	32	
Input Current (See Figure 1)	5V	615		12	mA
		615V		15.5	
	32V	615		14	
		615V		18	
Must Turn-On Voltage (−40°C≤Ta≤80°C)		615	3.0		Vdc
		615V	3.8		
Must Turn-Off Voltage (−40°C≤Ta≤80°C)				1.0	Vdc
Isolation (Input to Output, Input to Case, Output to Case)		615	10^9		OHMS
		615V	10^{10}		
Capacitance (Input to Output)				15	pF
Dielectric Strength (Input and Output to Case)			2500		Vrms 60 Hz Sine Wave
Dielectric Strength (Input to Output)		615	2500		
		615V	3750		
Reverse Voltage Protection				32	VDC
OUTPUT (LOAD) SPECIFICATIONS			**MIN.**	**MAX.**	**UNITS**
Output Current Rating (See Figures 2 and 4 for Temperature Derating)			0.10	10	Arms
			0.25	25, 40	
Load Voltage Rating	-1, -3, -5		25	140	Vrms
	-2, -2H, -4, -4H, -6, -6H		25	250	
Frequency Range			47	70	Hz
Surge Current Rating (16ms) (See Figure 3)				1000	% OF RATING
Over Voltage Rating (Transient Peak)	-1, -3, -5		200		V PEAK Note 6
	-2, -4, -6		400		
	-2H, -4H, -6H		600		
On-State Voltage Drop at Rated Current				1.5	Vrms
Turn-On Time (60 Hz)				0.5	cycle
Turn-Off Time (60 Hz)				0.5	cycle
Off-State Leakage	@ 140 V			6	mA rms
	@ 250 V			9	
Off-State dv/dt (See Note 1)			200 (TYP)		V/μs
Triac Power Dissipation Factor (D)	-1, -2, -2H			1.21	WATTS/A
	-3, -4, -4H			1.2	
	-5, -6, -6H			1.125	
Fusing I^2T (1 ms)	-1, -2, -2H			20	A^2s
	-3, -4, -4H			150	
	-5, -6, -6H			300	
Triac Junction Temperature (T_J Max.)				110	°C
Thermal Resistance, Junction to HS (Θ_{JS}) (Includes Θ_{CS})	-1, -2, -2H			3.1	°C/W
	-3, -4, -4H			2.0	
	-5, -6, -6H			1.0	

CHARACTERISTIC CURVES

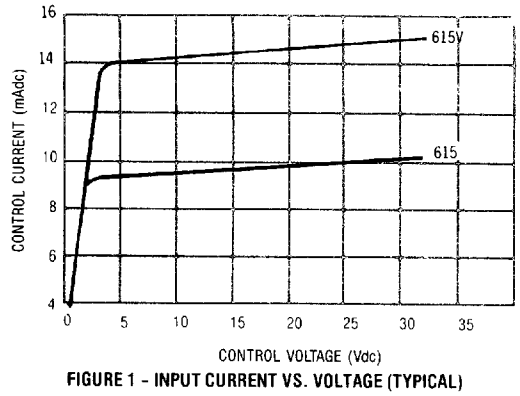


FIGURE 1 - INPUT CURRENT VS. VOLTAGE (TYPICAL)

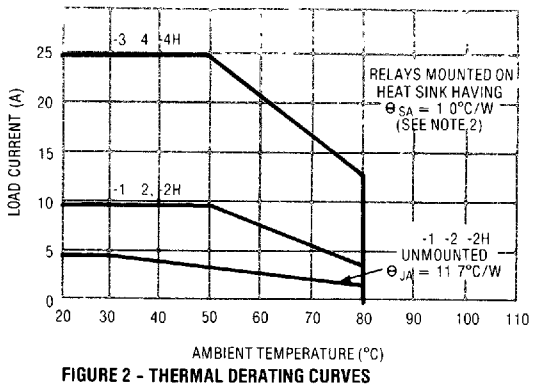


FIGURE 2 - THERMAL DERATING CURVES

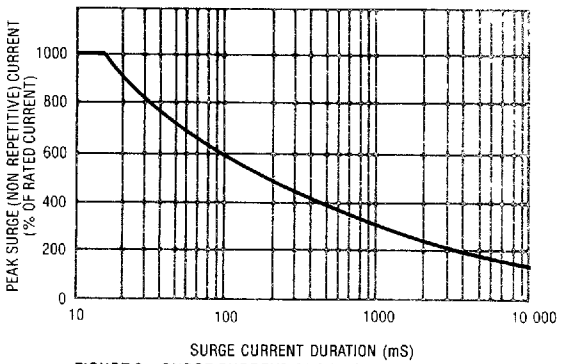


FIGURE 3 - SURGE CURRENT DURATION (See Note 3)

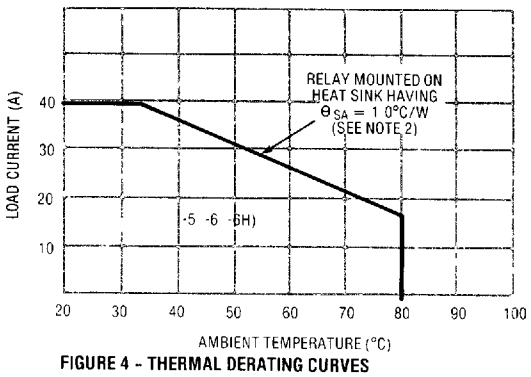
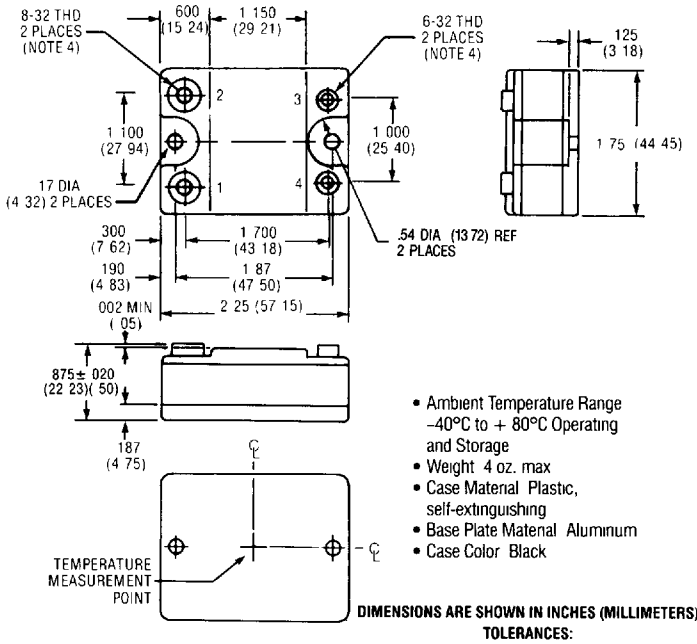


FIGURE 4 - THERMAL DERATING CURVES

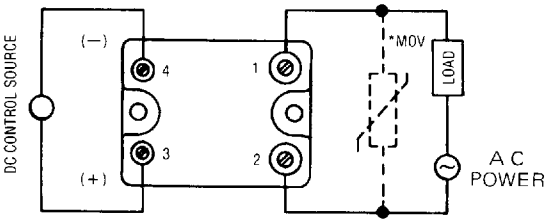
MECHANICAL SPECIFICATIONS



- Ambient Temperature Range -40°C to + 80°C Operating and Storage
- Weight 4 oz. max
- Case Material Plastic, self-extinguishing
- Base Plate Material Aluminum
- Case Color Black

DIMENSIONS ARE SHOWN IN INCHES (MILLIMETERS)
TOLERANCES:
XX ± 02 (50), XXX ± 01 (25)

WIRING DIAGRAM



*OPTIONAL EXTERNAL TRANSIENT VOLTAGE PROTECTION

USE THE TABLE BELOW FOR SELECTION OF PROPER METAL OXIDE VARISTOR (MOV)

MAXIMUM CONTINUOUS LINE VOLTAGE RATING	TRANSIENT (PEAK) RATING OF RELAY	TELEDYNE MOV P/N
140 Vac	400 V	970-1
250 Vac	600 V	970-2

(SEE 970 SERIES DATA SHEET FOR FURTHER INFORMATION ON MOV'S)

NOTES:

1. Output (dv/dt) protection is provided in all models, and they are designed to switch resistive or inductive loads to 0.2 power factor. The dv/dt rating is based on a source impedance of 50 ohms.
2. Relays mounted with silicone grease on a 1°C/W heat sink.
3. Triac may lose blocking capability during and after surge until T_J falls below maximum.
4. Hardware packaged separately: 6-32 and 8-32 Screws and Saddle Clamps.
5. Relays may be shipped with ¼" Quick Disconnects instead of Saddle Clamps by adding a "Q" (for single) or "QQ" (for double) to Basic Part Number (Example: 615-2HQQ).
6. The overvoltage rating of the 615V-2H, -4H and -6H is 550V Peak.

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