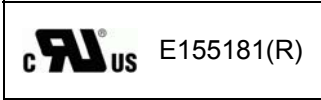




**PCB MOUNT SOLID STATE RELAY
ESR2 SERIES**

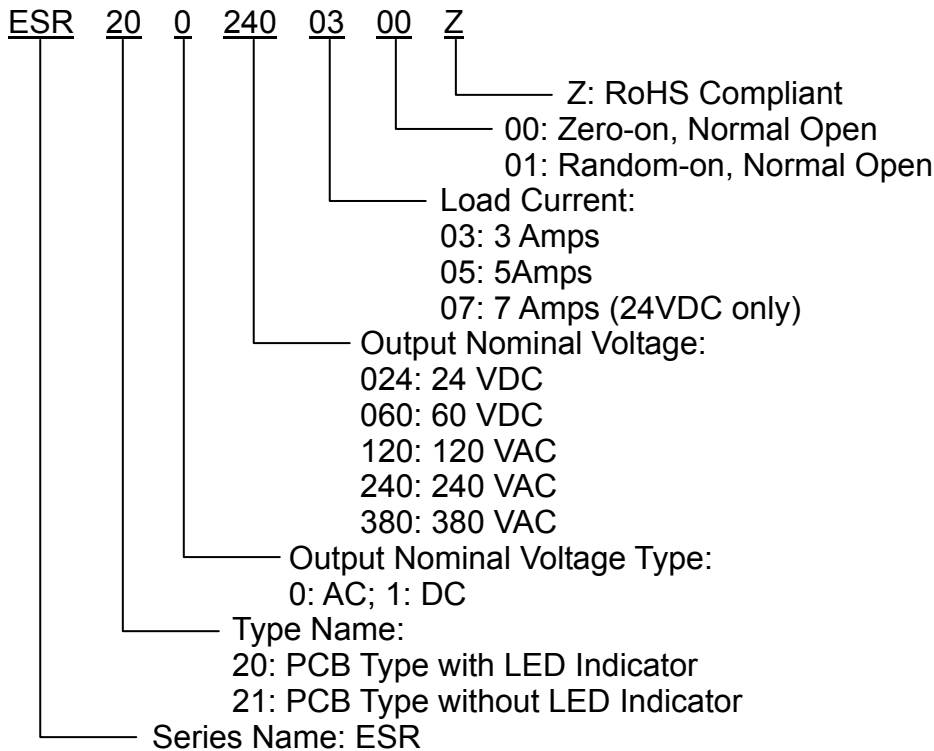


FEATURES

- PCB Mount; Single in Line Package.
- Optically Isolated.
- Input LED Indicator.
- High dv/dt and High Blocking Voltage.
- Low Input Power Consumption, TTL and CMOS Compatible.
- Zero Voltage Turn-on, Zero Current Turn-off (minizes EMI/RFI).
- High Surge Rating Allows Lamp and Motor Load Switching.
- Built-in Snubber Network.



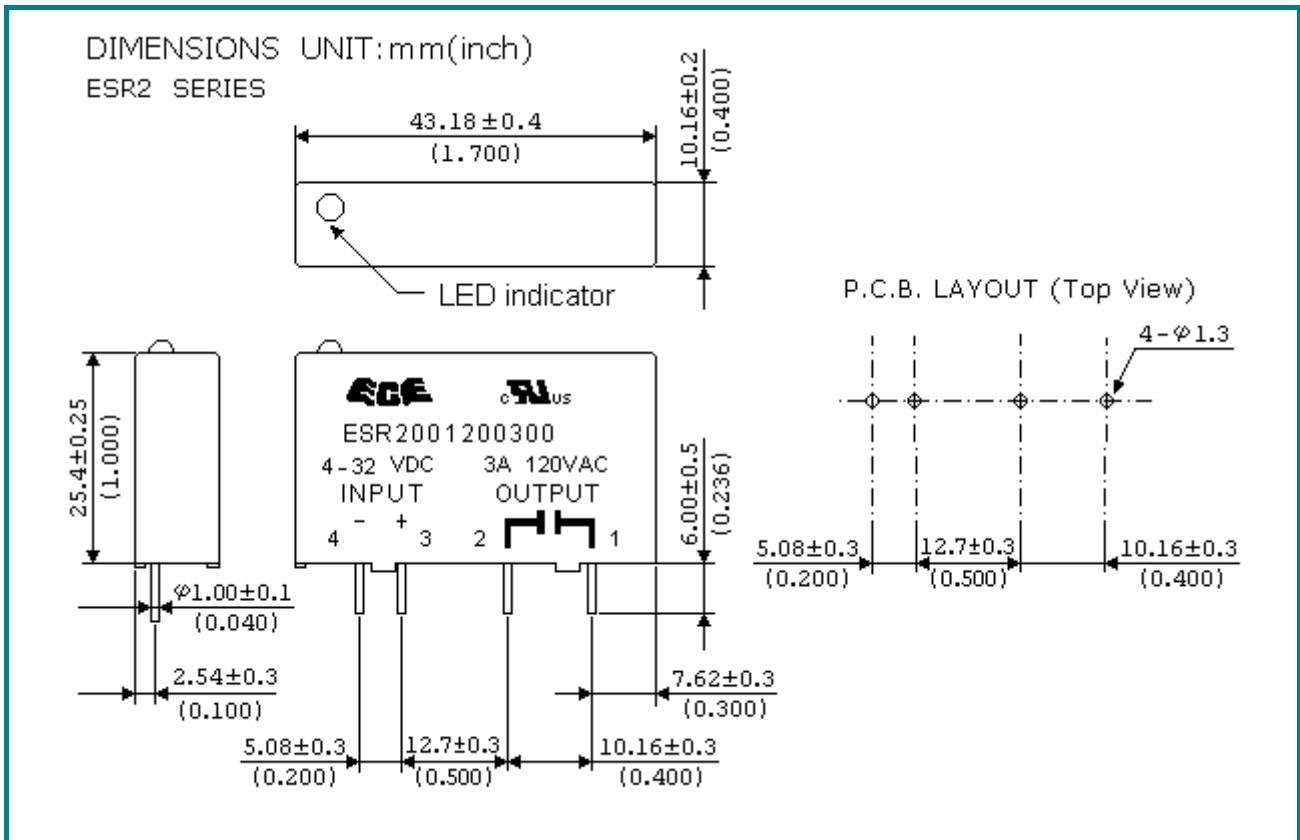
PART NUMBERING SYSTEM





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DIMENSIONS





■ SPECIFICATIONS

◆ MAX. LOAD CURRENT: 3A (rms.)

DESCRIPTION	ESR200				ESR210			
	1200300	2400300	1200301	2400301	1200300	2400300	1200301	2400301
■ INPUT CIRCUIT								
LED Indicate	YES				NO			
Control Voltage Range	4-32 VDC				3-32 VDC			
Control Current (mAdc)	15mA Max.				15mA Max.			
Min. Turn-off Voltage	1.5VDC				1VDC			
Min. Input Impedance	2.0KΩ				2.2KΩ			
■ OUTPUT CIRCUIT								
Load type	AC				AC			
Max. Load Current	3A (rms.)				3A (rms.)			
Nominal load Voltage (VAC)	120	240	120	240	120	240	120	240
Load Voltage Range (VAC)	24-140	24-280	24-140	24-280	24-140	24-280	24-140	24-280
Non-Repetitive Max. Peak Voltage (VAC)	400	600	400	600	400	600	400	600
Non-Repetitive Max. Peak Current	80A							
Max. Off-state Leakage Current	5mA							
Max. On-state Voltage Drop	1.5V							
Min. Load Current	50mA							
Max. Off-state Slew Rated (dv/dt)	100V/μs							
Operating Frequency Range	47Hz ~ 63Hz							
■ GENERAL CHARACTERISTICS								
Zero-on or Random-on	Z		R		Z		R	
Max. Turn-on Time	8.3ms		100μs		8.3ms		100μs	
Max. Turn-off Time	8.3ms							
Insulation Resistance	DC 500V 10 ⁸ Ω Min. (Between Input & Output, Input / Output & Case)							
Dielectric Strength	2.5K VAC (Between Input & Output)							
Capacitance	10pF Max. (Between Input & Output)							
Operating Temperature	-20°C ~ +85°C							
Storage Temperature	-40°C ~ +100°C							



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TYPES	ESR201	ESR211	ESR200	ESR210
DESCRIPTION	0600301	0600301	3800300	3800300
■ INPUT CIRCUIT				
LED Indicate	YES	NO	YES	NO
Control Voltage Range	4-32 VDC	3-32 VDC	4-32 VDC	3-32 VDC
Control Current (mAdc)	15mA Max.	15mA Max.	16mA Max.	16mA Max.
Min. Turn-off Voltage	1.5VDC	1VDC	1.5VDC	1VDC
Min. Input Impedance	2.0KΩ	2.2KΩ		
■ OUTPUT CIRCUIT				
Load type	DC		AC	
Max. Load Current	3A (rms.)		3A (rms.)	
Nominal load Voltage (VAC)	60		380	
Load Voltage Range (VAC)	3-60		48-415	
Non-Repetitive Max. Peak Voltage (VAC)	60		800	
Non-Repetitive Max. Peak Current	5A		120A	
Max. Off-state Leakage Current	1mA		5mA	
Max. On-state Voltage Drop	1.5V		1.6V	
Min. Load Current	10mA		50mA	
Max. Off-state Slew Rated (dv/dt)			500V/μs	
Operating Frequency Range			47Hz ~ 63Hz	
■ GENERAL CHARACTERISTICS				
Zero-on or Random-on	R		Z	
Max. Turn-on Time	50μs		8.3ms	
Max. Turn-off Time	100μs		8.3ms	
Insulation Resistance	DC 500V 10 ⁸ Ω Min. (Between Input & Output, Input / Output & Case)			
Dielectric Strength	3.5K VAC (Between Input & Output)		4K VAC (Between Input & Output)	
Capacitance	10pF Max. (Between Input & Output)		10pF Max. (Between Input & Output)	
Operating Temperature	-20°C ~ +80°C		-20°C ~ +80°C	
Storage Temperature	-40°C ~ +100°C		-40°C ~ +100°C	



◆ MAX. LOAD CURRENT: 5A (rms.)

TYPES	ESR200	ESR210
DESCRIPTION	2400501	2400501
■ INPUT CIRCUIT		
LED Indicate	YES	NO
Control Voltage Range	4-32VDC	3-32VDC
Control Current (Max.)	16mA	16mA
Min. Turn-off Voltage	1.5VDC	1VDC
■ OUTPUT CIRCUIT		
Max. Load Current	5A (rms.)	
Nominal Load Voltage	24VAC	
Load Voltage Range	24-280VAC	
Non-Repetitive Max. Peak Voltage	600V	
Non-Repetitive Max. Peak Current (60Hz)	155A	
Max. Off-state Leakage Current	5mA	
Max. On-state Voltage Drop	1.5V rms.	
Min. Load Current	100mA	
Min. off-state (dv/dt)	100V/μs	
Operating Frequency Range	47Hz~63Hz	
■ GENERAL CHARACTERISTICS		
Zero-on or Random-on	R	
Max. Turn-on Time (60Hz)	250μs	
Max. Turn-off Time (60Hz)	8.3ms	
Insulation Resistance	DC 500V 10 ⁸ Ω Min. (Between Input & Output)	
Dielectric Strength	3.5K VAC (Between Input & Output)	
Capacitance	10pF Max. (Between Input & Output)	
Operating Temperature	-20°C ~ +85°C	
Storage Temperature	-40°C ~ +100°C	



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◆ MAX. LOAD CURRENT: 7A (rms.)

TYPES	ESR201	ESR211
DESCRIPTION	0240701	0240701
■ INPUT CIRCUIT		
LED Indicate	YES	NO
Control Voltage Range	4-32VDC	3-32VDC
Control Current (mAdc)	15mA Max.	15mA Max.
Min. Turn-off Voltage	1VDC	1VDC
■ OUTPUT CIRCUIT		
Load Type	DC	
Max. Load Current	7A DC	
Nominal Load Voltage	24VDC	
Load Voltage Range	0-32VDC	
Non Repetitive Overload Current	30A	
On State Voltage Drop (at IL=7A)	0.42V	
Static Output On-Resistance (at IL=7A)	60mΩ	
Off State Leakage Current	<1mA	
Minimum Load Current	1mA	
Turn On Time (at nominal voltage)	50μs	
Turn Off Time (at nominal voltage)	600μs	
Operating Switching Frequency	10Hz	
Breakdown Voltage(<1mA)	51V	
Power Dissipation	1W	
■ GENERAL CHARACTERISTICS		
Operating Temperature Range	-20°C / +80°C	
Storage Temperature Range	-25°C to +80°C	
Insulation Resistance	DC 500V 10 ⁸ Ω Min. (Between Input & Output, Input/Output & Case)	
Dielectric Strength	3750Vrms, 1minute (Between Input & Output)	
Capacitance	10pF Max. (Between Input & Output)	
Maximum Soldering Heat	260°C (10sec)	
Weight	18g	