



**Rely on ECE's Relays,
and You Always Relax!**

SLIM TYPE SOLID STATE RELAY ESR3 SERIES

UL[®] US E155181(R)

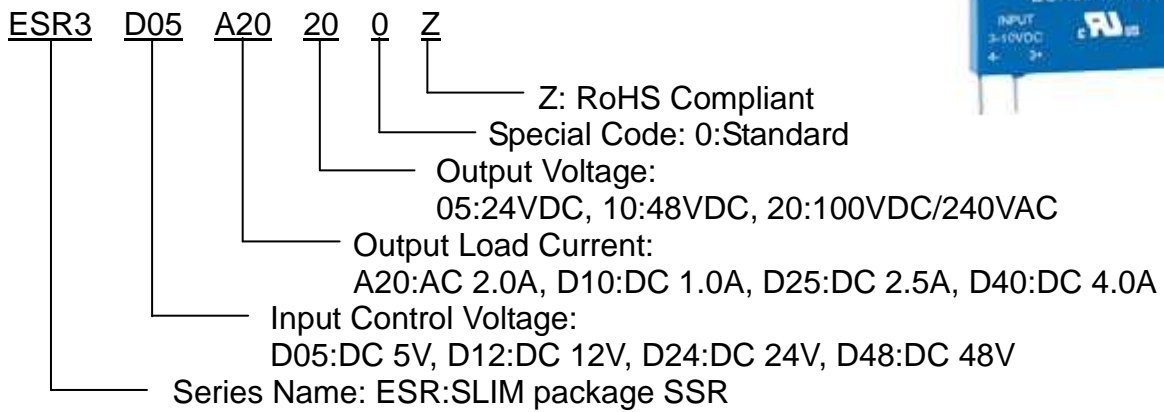
FEATURES

- Optically isolated.
- Low on-state resistance.
- Low input power consumption.
- TTL and CMOS compatible.
- RC networks (VAC).
- MOSFET output thyristor (VDC).

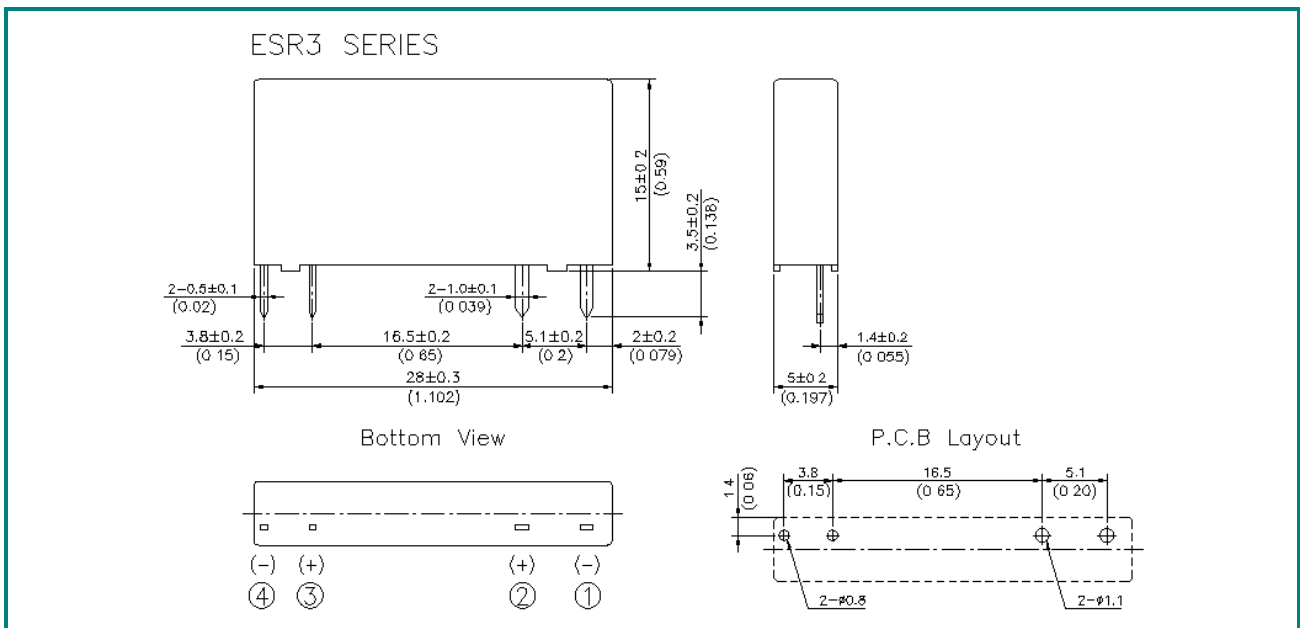
APPLICATIONS

- Household appliance
- Temperature control system
- Industrial automatic control
- Lighting system
- Office appliances
- Factory appliances

PART NUMBERING SYSTEM



DIMENSIONS UNIT:mm(inch)





■ SPECIFICATIONS (at 20°C)

◆ AC OUTPUT (Random-on)

Description	Type	ESR3		
		D05A20200	D12A20200	D24A20200
■ Input Circuit				
Nominal Voltage		5Vdc	12Vdc	24Vdc
Control Voltage Range		3~10	7~20	18~32
Control Current		12mA	10mA	7.7mA
Release Voltage		1V	1V	1V
Input Internal		300Ω	1010Ω	3000Ω
■ General Characteristics				
Operating Temperature Range		-20°C to +80°C		
Storage Temperature Range		-40°C to +100°C		
Input-Output Isolation		3.5K Vrms, 1 minute (for Input-Output)		
Max. Soldering Heat		260°C (10sec)		
Weight		4g		
■ Output Characteristics (at 20°C)				
Load Voltage		240Vrms		
Operating Range		12-280Vrms		
Peak Voltage (Clamping Voltage)		600V		
Nominal Current		2A		
Non Repetitive Overload Current		80A		
On State Voltage Drop		1.2V		
Off State Leakage Current		<1.5mA		
Min. Load Current		50mA		
Turn On Time (at Nominal Voltage)		150μs		
Turn Off Time (at Nominal Voltage)		1/2 cycle + 1ms		
Operating Switching Frequency		47-400Hz		
Off State dv/dt		500V/μs		
RC Sunbber		10nF, 100Ω		



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■ SPECIFICATIONS (at 20°C)

◆ DC OUTPUT

Description	Type	ESR3			
		D05D10200	D12D10200	D24D10200	D48D10200
■ Input Circuit					
Nominal Voltage		5Vdc	12Vdc	24Vdc	48Vdc
Control Voltage Range		3~10	7~20	18~32	38~58
Control Current		12mA	10mA	7.7mA	4.4mA
Release Voltage		1.8V	3.6V	8.3V	8.3V
Input Internal		320Ω	1070Ω	3000Ω	10800Ω
■ General Characteristics					
Operating Temperature Range		-20°C to +75°C			
Storage Temperature Range		-25°C to +80°C			
Input-Output Isolation		2.5K Vrms, 1 minute (for Input-Output)			
Max. Soldering Heat		260°C (10sec)			
Weight		4g			
■ Output Characteristics (at 20°C)					
Load Voltage		100VDC			
Operating Range		0-120V			
Nominal Current		1A			
Non Repetitive Overload Current		6A(10ms)			
On State Voltage Drop		0.6V			
Static Output On- Resistance (at IL=1A)		1Ω			
Off State Leakage Current		<1mA			
Min. Load Current		1mA			
Turn On Time (at Nominal Voltage)		150μs			
Turn Off Time (at Nominal Voltage)		600μs			
Operating Switching Frequency		10Hz			
Transient Voltage Suppressor		YES			
Breakdown Voltage		130V			
Peak Power Dissipation		600W			
Peak Voltage (Clamping Voltage)		180V			



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■ SPECIFICATIONS (at 20°C)

◆ DC OUTPUT

Description	Type	ESR3			
		D05D25100	D12D25100	D24D25100	D48D25100
■ Input Circuit					
Nominal Voltage		5Vdc	12Vdc	24Vdc	48Vdc
Control Voltage Range		3~10	7~20	18~32	38~58
Control Current		12mA	10mA	7.7mA	4.4mA
Release Voltage		1.8V	3.6V	8.3V	8.3V
Input Internal		320Ω	1070Ω	3000Ω	10800Ω
■ General Characteristics					
Operating Temperature Range		-20°C to +80°C			
Storage Temperature Range		-25°C to +80°C			
Input-Output Isolation		2.5K Vrms, 1 minute (for Input-Output)			
Max. Soldering Heat		260°C (10sec)			
Weight		4g			
■ Output Characteristics					
Load Voltage		48V			
Operating Range		0-60V			
Nominal Current		2.5A			
Non Repetitive Overload Current		6A (10ms)			
On State Voltage Drop (at IL=2A)		0.4V			
Static Output On- Resistance (at IL=2A)		200mΩ			
Off State Leakage Current		<1mA			
Min. Load Current		1mA			
Turn On Time (at Nominal Voltage)		150μs			
Turn Off Time (at Nominal Voltage)		600μs			
Operating Switching Frequency		10Hz			
Transient Voltage Suppressor		YES			
Breakdown Voltage		60V			
Peak Power Dissipation		600W			
Peak Voltage (Clamping Voltage)		100V			



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■ SPECIFICATIONS (at 20°C)

◆ DC OUTPUT

Description	Type	ESR3			
		D05D40050	D12D40050	D24D40050	D48D40050
■ Input Circuit					
Nominal Voltage		5Vdc	12Vdc	24Vdc	48Vdc
Control Voltage Range		3~10	7~20	18~32	38~58
Control Current		12mA	10mA	7.7mA	4.4mA
Release Voltage		1.8V	3.6V	8.3V	8.3V
Input Internal		320Ω	1070Ω	3000Ω	10800Ω
■ General Characteristics					
Operating Temperature Range		-20°C to +80°C			
Storage Temperature Range		-25°C to +80°C			
Input-Output Isolation		2.5K Vrms, 1 minute (for Input-Output)			
Max. Soldering Heat		260°C (10sec)			
Weight		4g			
■ Output Characteristics					
Load Voltage		24V			
Operating Range		0-32V			
Nominal Current		4A			
Non Repetitive Overload Current		7A (10ms)			
On State Voltage Drop (at IL=2A)		0.24V			
Static Output On- Resistance (at IL=2A)		120mΩ			
Off State Leakage Current		<1mA			
Min. Load Current		1mA			
Turn On Time (at Nominal Voltage)		150μs			
Turn Off Time (at Nominal Voltage)		600μs			
Operating Switching Frequency		10Hz			
Transient Voltage Suppressor		YES			
Breakdown Voltage		36V			
Peak Power Dissipation		600W			
Peak Voltage (Clamping Voltage)		60V			