

AC SOLID STATE RELAYS

PD1201/PD2401/PD2601



DESCRIPTION

The PD1201/PD2401/PD2601 are AC Solid State Switches utilizing dual power SCR outputs. These devices also include zero turn on circuitry and are available with a blocking voltage up to 600V.

FEATURES

- Load Current up to 1A
- Blocking Voltage to 600V
- 5mA Sensitivity
- Zero-Crossing Detection
- DC Control, AC Output
- Optically Isolated
- TTL and CMOS Compatible
- Low EMI and RFI Generation
- High Noise Immunity
- VDE compatible
- Machine Insertable, Wave Solderable

APPLICATIONS

- Programmable Control
- Process Control
- Power Control Panels
- Remote Switching
- Gas Pump Electronics
- Contractors
- Large Relays
- Solenoids
- Motors
- Heaters

APPROVALS

- UL recognized file #: E69938
- CSA certified file #: LR 43639-8

OPTIONS / SUFFIXES

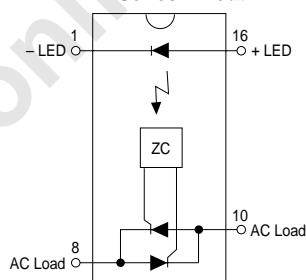
- S: Surface Mount Package

RATINGS (@ 25° C)

Parameter	Min	Typ	Max	Units
Input Power Dissipation	-	-	150 ¹	mW
Input Control Current	-	-	50	mA
Peak (10ms)	-	-	1	A
Reverse Input Voltage	-	-	5	V
Total Package Dissipation PD	-	-	1600 ²	mW
Capacitance				
Input to Output	-	3	-	pF
Isolation Voltage				
Input to Output	3750	-	-	V _{RMS}
Operational Temperature	-40	-	+85	°C
Storage Temperature	-40	-	+125	°C
Soldering Temperature				
DIP Package	-	-	+260	°C
Surface Mount Package (10 Seconds Max.)	-	-	+220	°C

¹ Derate Linearly 1.33 mW/°C
² Derate Linearly 16.6 mW/°C

PD Series Pinout



Note: For Mechanical Dimensions See Pages 408-415

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SPECIFICATIONS

PARAMETERS	CONDITIONS	SYMBOL	PD1201			PD2401			PD2601			UNITS
			MIN	TYP	MAX	MIN	TYP	MAX	MIN	TYP	MAX	
Output Characteristics @ 25°C												
Peak Blocking Voltage	-	V_{DRM}	-	-	400	-	-	500	-	-	600	V
Load Current (Continuous)	$V_L=120-240V_{AC}$	I_L	0.005	-	1	0.005	-	1	0.005	-	1	A
Off State Leakage Current	V_{DRM}	I_{LEAK}	-	-	1	-	-	1	-	-	1	mA
On-State Voltage Drop	$I_L=1A$		-	-	1.2	-	-	1.2	-	-	1.2	V_{RMS}
Critical Rate of Rise	dv/dt		1000	1200	-	1000	1200	-	1000	1200	-	V/ μ S
Switching Speeds												
Turn-on	$I_F=5\text{ mA}$	T_{ON}	-	-	0.5	-	-	0.5	-	-	0.5	Cycles
Turn-off	$I_F=5\text{ mA}$	T_{OFF}	-	-	0.5	-	-	0.5	-	-	0.5	Cycles
Zero-Cross Turn-On Voltage	1st half cycle		-	2	5	-	2	5	-	2	5	V
	Sub. half cycle		-	-	1	-	-	1	-	-	1	V
Operating Frequency ¹	-		20	-	500	20	-	500	20	-	500	Hz
Load Power Factor for Guaranteed Turn-On ²	-	PF	0.25	-	-	0.25	-	-	0.25	-	-	-
Input Characteristics @ 25°C												
Input Control Current												
For Normal Environment	-	I_F	5	-	50	5	-	50	5	-	50	mA
For High Noise Environment	-	I_F	10	-	100	10	-	100	10	-	100	mA
Input Voltage Drop	$I_F=5\text{mA}$	V_F	0.9	1.2	1.4	0.9	1.2	1.4	0.9	1.2	1.4	V
Input Drop-out Voltage	-		0.8	-	-	0.8	-	-	0.8	-	-	V
Reverse Input Current	$V_R=5V$	I_R	-	-	10	-	-	10	-	-	10	μ A
Common Characteristics @ 25°C												
Input to Output Capacitance	-	$C_{I/O}$	-	-	3	-	-	3	-	-	3	V_{RMS}
Input to Output Isolation	-	$V_{I/O}$	3750	-	-	3750	-	-	3750	-	-	V_{RMS}

¹ Zero cross 1st 1/2 cycle @ <100Hz

² Snubber circuits may be required at low power factors.

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PERFORMANCE DATA

