Relays — NEW —

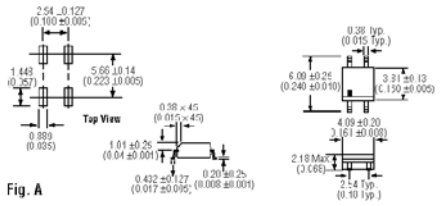

Fig. A

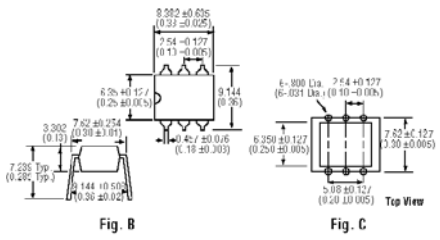

Fig. B

Fig. C

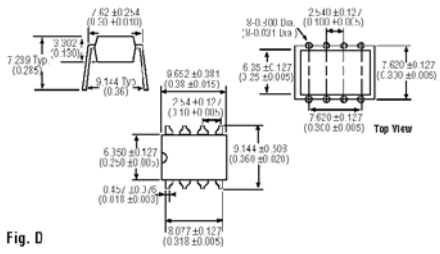

Fig. D

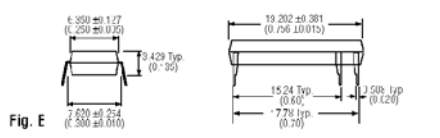

Fig. E

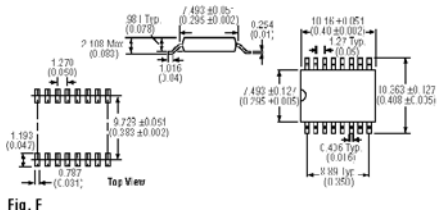

Fig. F

Single Pole OptoMOS Relay

Clare's Single Pole OptoMOS® Relays devices are an integral part of Clare's growing family of optical solid state switching devices. These single output devices offer a variety of solutions within the telecommunication, industrial control, security and instrumentation industries. As replacements for 1-Form-A (normally open output) and 1-Form-B (normally closed output) mechanical relays, these devices utilize discrete semiconductor components as opposed to conventional coils and contacts. Unlike their electromechanical counterparts, there are no moving parts within these devices. Therefore, they can offer faster, more reliable, bounce-free switching in a much more compact through hole or surface mount package. Optical isolation ensures extremely high I/O isolation. Current limiting for added protection is available on some models.

4 Pin SOP 1-Form-A — Fig. A

Stock No.	Mfr.'s Type	VLOAD (V)	ILOAD (mA)	RON (Ohms)	EACH
252-1310	CPC1008N	100	150	8.0	**1.91**
252-1320	CPC1016N	100	100	16.0	**1.73**
252-1330	CPC1030N	350	120	30.0	**1.81**
252-1340	CPC1035N	350	100	35.0	**1.63**
252-1350	CPC1230N	350	120	30.0	**2.01**

4 Pin SOP 1-Form-B — Fig. A

252-1360	CPC1150N	350	100	50.0	**1.81**

6 Pin 1-Form-A — Fig. B

252-0001	LCA110	350	120	35.0	**2.76**
252-0002	LCA125	300	170	20.0	**9.14**
252-1105	LCA710	60	1000	0.5	**9.13**
252-1110	PLA110	400	150	22.0	**3.82**
252-1370	PLA134	100	350	3.0	**5.07**
252-1380	PLA143	600	100	50.0	**5.00**
252-1120	PLA150	250	250	7.0	**6.94**
252-1130	PLA160	300	50	100.0	**5.99**
252-1140	XCA170	350	100	50.0	**3.31**

6 Pin 1-Form-B — Fig. B and Fig. C

252-0003	LCB110	350	120	35.0	**6.98**
252-1150	LCB120	250	170	20.0	**4.92**
252-1390	PLB150	250	250	7.0	**4.69**

Dual Pole OptoMOS Relay — Fig. D

Clare's Dual Pole OptoMOS® Relays place two independent relays into a single 8 pin package. By integrating an additional relay into one package, Clare has paved the way for designers to condense more functionality into a single device. The result — more compact design with less board space consumption. Offerings include 2-Form-A, 2-Form-B, and independent Form-A/Form-B. In addition to being available in the through hole and surface mount packages, the eight pin product is now available in the revolutionary flatpack package. This package type shows Clare's commitment to the future as it fulfills the driving needs of PCMCIA design. As with other MOSFET products, fast, reliable switching is assured. Current limiting capabilities are available on certain models.

8 Pin 2-Form-A

252-0004	LAA110	350	120	35.0	**7.30**
252-1200	PAA140	400	250	8.0	**14.03**
252-1210	PAA150	250	250	7.0	**13.29**
252-1220	XAA170	350	100	50.0	**6.20**

8 Pin 2-Form-B

252-1230	LBB110	350	120	35.0	**6.96**
252-1400	PBB150	250	250	7.0	**9.69**
252-1410	XBB170	350	100	50.0	**4.18**

8 Pin 1-Form-A/1-Form-B

252-0005	LBA110	350	120	35.0	**7.30**
252-1420	PBA150	250	250	7.0	**8.41**
252-1430	XBA170	350	100	50.0	**4.18**

Common Input OptoMOS Relay — Fig. D

Clare's Common Input OptoMOS® Relays provide a solution in designs where two independent outputs are driven by a common input. Common input relays are available in a variety of configurations which include a common input driving two normally open outputs (1-Form-2A) and a common input driving one normally open and one normally closed output (1-Form-C). These devices utilize the same technology as other OptoMOS products so quality and reliability can be assured. Clare is committed to meeting the needs of the present and future.

Common Input OptoMOS Relay (continued)

8 Pin 1-Form-C

Stock No.	Mfr.'s Type	VLOAD (V)	ILOAD (mA)	RON (Ohms)	EACH
252-0008	LCC110	350	120	35.0	**7.30**
252-1240	LCC120	250	170	20.0	**10.33**

8 Pin 1-Form-2A

252-0007	LCA210	350	85	35.0	**9.13**
252-1250	LCA220	250	170	20.0	**12.32**

Telecom Switches — Fig. D

Clare's Multifunction Telecom Switches (TS series) mark Clare's evolution from "switching" devices to "integrated" devices in order to further serve the telecom industry. By providing an optically isolated solid state relay in the same eight pin package as an optocoupler, Clare has given designers a way to consolidate circuits and save both board space and money. The TS can replace typical components found in telecom circuits while being utilized for functions as hookswitch (relay) and ring signal detection (optocoupler). Because the hookswitch has very low power consumption (2 mA), it can often be powered from a modem micro processor or data pump. In addition, it is polarity insensitive and can be operated with tip and ring reversed. The TS is available in the through hole, surface mount and Flatpack package. Current limiting is optional for the relay portion on certain models.

252-1470	TS112N	350	120	20	**5.43**
252-1260	TS117	350	120	35	**7.09**
252-1270	TS120	350	120	35	**9.54**
252-1440	XS170	350	100	50	**2.83**

AC Solid State Power Switches — Fig. E

Clare's AC Solid State Power Switches employ patented waveguide coupling with dual power SCR outputs to produce an alternative to optocoupler and Triac circuits. Superior noise immunity complying with NEMA ICS 2-230 "showering arc" test is provided along with advanced thermally efficient package design. Long life and environmental integrity make these devices suitable to control a variety of AC circuits including heaters, motors, solenoids, larger relays and contactors.

252-1480	CPC1945G	400	1000	20-400	**2.83**
252-1490	CPC1965G	600	1000	20-400	**2.98**
252-0011	PD1201	400	1000	20-500	**6.52**
252-0012	PD2401	500	1000	20-500	**7.47**
252-1280	PD2601	600	1000	20-500	**8.21**
252-0013	PS1201	400	1000	20-500	**6.87**
252-0014	PS2401	500	1000	20-500	**6.98**
252-1290	PS2601	600	1000	20-500	**8.21**
252-0009	PM1204	400	1000	20-500	**4.89**
252-0010	PM1205	500	1000	20-500	**6.58**
252-1300	PM1206	600	1000	20-500	**6.99**

Solid State MOSFET Driver — Fig. B

Clare's FDA MOSFET driver couples infrared light emitting diodes with a pair of proprietary photovoltaic integrated circuits. In addition to providing voltage for turn-on of discrete MOSFETs, these patented ICs feature a gate-clamping circuit to provide fast turn-off. The FDA offers a significant reduction in drive circuit complexity, board-space, and cost over alternate techniques for isolated switching of MOSFETs. Used in conjunction with discrete MOSFETs, the FDA is ideal for use in programmable controls, process control, instrumentation and telecommunications, replacing TRIAC/driver, mechanical relays, and bipolar components.

Stock No.	Mfr.'s Type	Input Control Current	Off-State Clamping Resistance	I/O Isolation (Vrms)	EACH
252-1160	FDA215	5	0.25 K	3750	**8.80**

Linear Optocouplers — Fig. F

Clare's family of Linear Optocouplers feature an infrared LED optically coupled with two phototransistors. One feedback (input) phototransistor is used to generate a control signal that provides a servomechanism to the LED drive current thus compensating for the LED's nonlinear time and temperature characteristics. The other (output) phototransistor provides an output signal that is linear with respect to the servo LED current.

Stock No.	Mfr.'s Type	Total Harmonic Distortion	Servo Linearity (%)	Bandwidth (kHz)	I/O Isolation (Vrms)	EACH
252-1170	LOC110	87 dB	0.01	<200	3750	**5.02**
252-1180	LOC111	87 dB	0.01	<200	3750	**5.64**
252-1190	LOC112	87 dB	0.01	<200	3750	**5.33**
252-1450	LOC210P	87 dB	0.01	<200	3750	**14.56**
252-1460	LOC211P	87 dB	0.01	<200	3750	**13.72**

AC Solid-State Relays

Ideal for industrial control, vending machines, business equipment, gasoline pumps, temperature monitoring, process control, medical equipment, programmable controllers, appliance control and gambling machines. Typical applications include input/output modules, solenoid driver, motor, blower, heater and temperature controls, control of relays, switching fans, TTL-compatible driver for contactors and replacing TRIAC/TRIAC drivers. All versions feature optical-isolation and 1 Form A normally open contacts, as well as DC control/AC output. TTL- and CMOS-compatible, these units provide interface between logic and power systems, high transient immunity, high surge capability, and they save PC board space. No arcing, no contact bounce and long life. Type PM Power-MINI relays, Type PD PowerDIP and Type PS PowerSIP relays also feature 5 mA sensitivity, zero-crossing detection, low EMI and RFI generation, inherent noise immunity, are machine insertable, wave solderable and CSA, VDE compatible. Type OFA OptoFILM™ relays have all the features listed above with the exception of 5 mA sensitivity, machine insertable and wave solderable. Type PD, PS and OFA relays are UL recognized. Type MX and JTA PowerBLOC relays feature random turn-on and are UL recognized, CSA certified.

Stock No.	Mfr.'s Type	Blocking Voltage	Continuous Load	Input Control	EACH		
					1-49	50-99	100-Up
252-0009	PM1204	400	0.5 A	2 mA	**4.89**	**3.79**	**3.14**
252-0010	PM1205	500	0.5 A	2 mA	**6.58**	**5.10**	**4.24**
252-0011	PD1201	400	1.0 A	2 mA	**6.52**	**5.06**	**4.20**
252-0012	PD2401	500	1.0 A	2 mA	**7.47**	**5.79**	**4.81**
252-0013	PS1201	400	1.0 A	2 mA	**6.87**	**5.33**	**4.43**
252-0014	PS2401	500	1.0 A	2 mA	**6.98**	**5.41**	**4.50**