PART NUMBERS

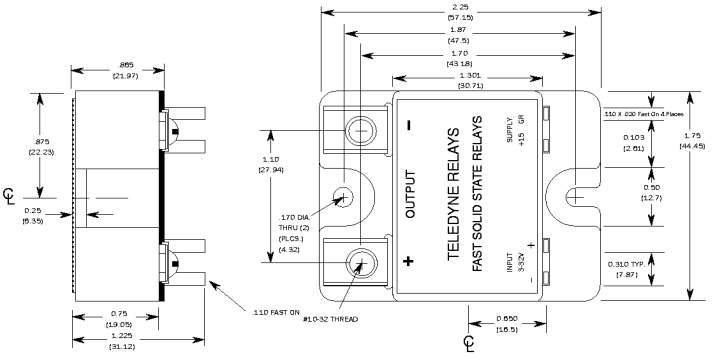
Package & Chip Type	Max Blocking Voltage (piv)/ Line Rating	Input Type	Output Current Amps	Options
IGFD-IGBT	1200480	R-DC Input	25	See Table
	600240	Random	50	Below and
		Turn-On	75	Page 64
			100	

Options (Add Suffix to Part Number) - See Page 64 for full description

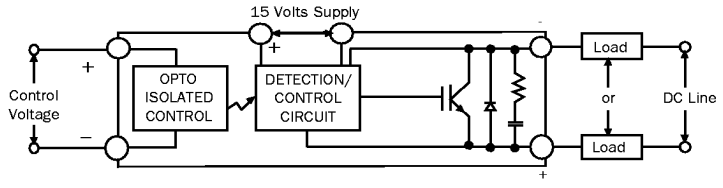
-006	Faston Terminals
-007	-65 °C Operation
-010	#8-32 Load Terminal Hardware
-011	Terminal Extenders
-012	EZ Mount™
-013	EZ Mount™ (2 sided)
-015	Output snubber (standard)
-016	MOV
-025	Cascading PCB
-026	Non-Floating Output Terminals

Part Number Example: IGFD1200480R25-L

MECHANICAL SPECIFICATION



BLOCK DIAGRAM



FEATURES/BENEFITS

- Ultrafast 4 uS switching speed.
- Industry Standard Package.
- High temperature plastic housing for exceptional mechanical ruggedness.
- IGBT output.
- Constant Current Input minimizes source current requirement.
- Exposed ceramic baseplate for reduced thermal resistance and best thermal performance.
- Constructed using Teledyne's unique Fused Copper™ process. This process yields superior thermal impedance and power cycling capabilities through reduced thermal interconnections, allowing for cooler, more reliable operation.
- The logic drive circuitry section uses the latest in reliable surface mount technology.
- Certifications:
  - UL and ULC Recognized File #E128555

TYPICAL APPLICATIONS

- Electromechanical line relay replacement.
- Industrial and Process Controls.
- Programmable Controller interface.
- Robotics motor position and speed controls.

GENERAL DESCRIPTION

The IGFD series DC Solid State Relays are designed to control high power loads in the industry standard package. Optical isolation ensures complete protection of control elements from load transients. Teledyne's advanced design featuring the Fused Copper™ process offers users superior thermal management resulting in superior performance, quality and reliability.

ELECTRICAL SPECIFICATIONS

INPUT (CONTROL) SPECIFICATIONS

Parameter	Load Voltage/ Input Code	Min	Max	Units
Control Voltage Range (Note 2)	600240R~L	3.5	15	Vdc
	1200480R~L	3.5	15	
	600240R~H	15	32	
	1200480R~H	15	32	
Input Current	R~L (@5Vdc)		30	mA
	R~H (@15Vdc)		30	
Must Turn-Off Voltage	R	1		Vdc
Reverse Voltage Protection	R		-32	Vdc
Turn-Off Current	R	0.75		mAdc

OUTPUT (LOAD) SPECIFICATION

Parameter	Voltage Code	Min	Max	Units
Load Voltage Rating	600240	24	330	Vdc
	1200480	48	530	
Frequency Range			20,000	Hz
Over Voltage Range	600240		500	VPeak
	1200480		1000	
On-State Voltage Drop @ Max Rated Current			2.5	V
Turn-On Time			4	µs
Turn-Off Time			4	µs
Leakage Current (Off-State) @25°C			0.75	mA
dV/dt (Typical)			500	V/µs
Isolation (All Terminals To Heatsink) = VRMS For 1 Min With Unit Mounted Properly			2500	V
Operating Temperature		-40	125	°C
Power Factor Range		0.5	1.0	

OUTPUT (LOAD) SPECIFICATIONS (Contd)

Parameter	Output Current	Min	Max	Units
Output Current Rating (Load Current @85°C)	25		25	A
	50		50	
	75		75	
	100		100	
Pulsed Current Rating	25		150	A
	50		190	
	75		300	
	100		380	
Thermal Resistance Junction to Case (J_C)	25		0.5	°C/W
	50		0.33	
	75		0.25	
	100		0.2	
Power Dissipation (Tc = 85°C)	25		110	W
	50		175	
	75		262	
	100		500	

NOTES:

1.) Where overvoltage transient spikes are present, suppression may be required. A suppressor and/or snubber circuit (0.2 ufd plus 10 ohms) across the AC terminals of the module will provide additional transient immunity.

2.) Indicate High or Low "R" Control Voltage Range by adding -L or -H to part number before options.