



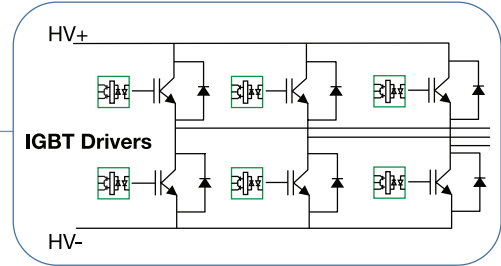
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# DID YOU KNOW?

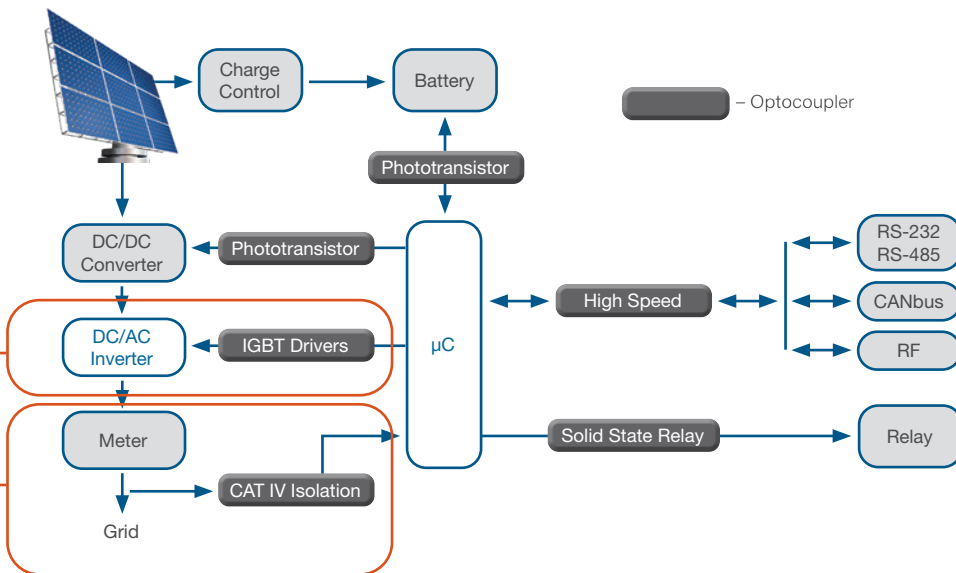
## OPTICAL ISOLATION FOR SOLAR POWER APPLICATIONS

### Control Circuitry Isolation

- IGBT drivers isolate the high voltage stage of a DC/AC inverter from the low voltage control circuitry
- Isolation is mandatory to protect user-accessible low voltage circuitry



Part Number	Output Current $I_o$ (A)	Operating Voltage Range $V_{CC}$ (V)	Pulse Width Distortion PWD Max. ( $\mu s$ )	Supply Current $I_{CC}$ (mA)	Common Mode Transient Immunity CMTI Min. (kV/ $\mu s$ )	Isolation Voltage ( $V_{RMS}$ )	External Creepage Distance (mm)
<a href="#">VO3120</a>	2.5	15 to 32	0.2	2.5	25	4420	> 7
<a href="#">VO3150A</a>	0.5						> 7
<a href="#">VOW3120</a>	2.5	15 to 30	0.3	3.5	35	5300	> 10
<a href="#">VOD3120A</a>	2.5		0.07				> 7



### Grid-Tied Inverters

- Require up to 8000 V transient voltage protection (CAT IV) to protect low voltage side from high voltage side
- High voltage optocouplers provide > 3 mm distance through insulation for highest safety requirements

	<a href="#">CNY64x</a>	<a href="#">CNY65x</a>	<a href="#">CNY66x</a>
<b>Creepage</b>	9.5 mm	14.0 mm	17.0 mm



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## OPTICAL ISOLATION FOR SOLAR POWER APPLICATIONS

### Status and enable signals

- Phototransistor optocouplers ensure safe and galvanic-isolated communication between the micro controller and high voltage units
- The VO61xA and VOL61xA offer high isolation voltage and low current operation

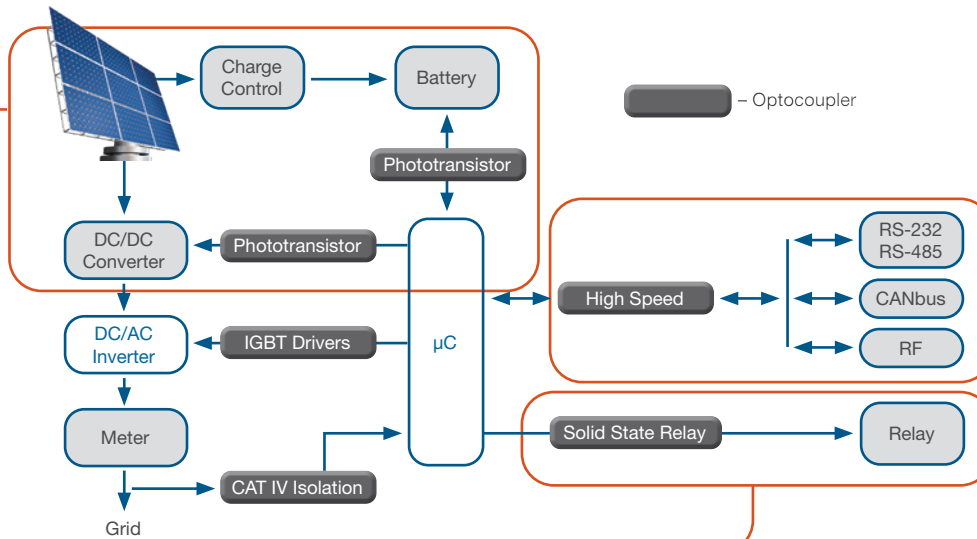
Part Number	Package	Maximum Withstanding Isolation Voltage ( $V_{iso}$ )	Input Current
<a href="#">VO617A</a>	DIP-4, SMD-4	5300 $V_{RMS}$	5 mA
<a href="#">VO618A</a>			1 mA
<a href="#">VOL617A</a>	LSOP-4	5000 $V_{RMS}$	5 mA
<a href="#">VOL618A</a>			1 mA

### Communication Ports

- High speed optocouplers protect I/O ports from RF noise, while costly EMI shielding becomes redundant



Part Number	Data Rate	Package	Key Features
<a href="#">VOM453T</a>	1 MBd	SOP-5	Small package footprint
<a href="#">SFH6325</a>	1 MBd	DIP-8, SMD-8	$\geq 7$ mm creepage distance
<a href="#">VOH1016AB/D/G</a>	1 MBd	DIP-6, SMD-6	Schmitt-Trigger output, low power supply
<a href="#">VOW136</a>	1 MBd	DIP-8 widebody, SMD-8 widebody	Creepage > 10 mm, CMR of 1000 V/ $\mu$ s
<a href="#">VO0661T</a>	10 MBd	SOIC-8	Dual-channel, CMR of 25 kV/ $\mu$ s (typ.)
<a href="#">VOW2611</a>	10 MBd	DIP-8 widebody, SMD-8 widebody	Creepage > 10 mm, CMR of 40 kV/ $\mu$ s (typ.)



### Alarms and Cooling



- Solid state relays (PhotoMOS) provide reliable, optically isolated contact outputs for actuation of external devices, such as audible alarms and fans for cooling
- MOSFET drivers enable customized isolated relays, using discrete standard MOSFETs

Part Number	Function	Package	Output	Load Voltage (V)	Load Current (A)	$R_{ON}$ Typical ( $\Omega$ )	$t_{on} / t_{off}$ ( $\mu$ s)	I/O Isolation ( $V_{RMS}$ )
<a href="#">VO14642AT</a>	SSR, low $R_{ON}$	SMD-6, DIP-6	1 Form A	60	2	0.18	370 / 50	5300
<a href="#">VO1400AEF</a>	SSR, multi-purpose	SOP-4	1 Form A	60	0.1	2.3	52 / 36	3750

Part Number	Function	Package	Open Circuit Voltage Typ. (V)	Short Circuit Current Typ. ( $\mu$ A)	$t_{on} / t_{off}$ $I_F = 20$ mA ( $\mu$ s)	I/O Isolation ( $V_{RMS}$ )
<a href="#">LH1262</a>	MOSFET Driver	SMD-8, DIP-8	13.9	6.9	35 / 90	5300
<a href="#">VO1263</a>			14.7	21	16 / 472	5300
<a href="#">VOM1271T</a>		SOP-4	8.7	30	53 / 24	3750