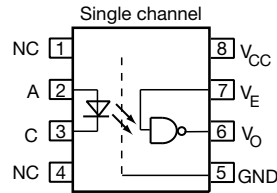
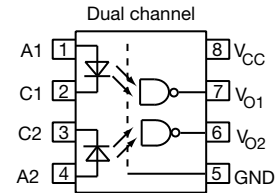


High Speed Optocoupler, Single and Dual, 10 MBd



6N137, VO2601, VO2611



VO2630, VO2631, VO4661



FEATURES

- Choice of CMR performance of 15 kV/μs, 5 kV/μs, and 1000 V/μs
- High speed: 10 MBd typical
- +5 V CMOS compatibility
- Pure tin leads
- Guaranteed AC and DC performance over temperature
- Meets IEC 60068-2-42 (SO₂) and IEC 60068-2-43 (H₂S) requirements
- Low input current capability of 5 mA
- Material categorization: for definitions of compliance please see www.vishay.com/doc?99912


RoHS
COMPLIANT

APPLICATIONS

- Microprocessor system interface
- PLC, ATE input / output isolation
- Computer peripheral interface
- Digital fieldbus isolation: CC-link, DeviceNet, profibus, SDS
- High speed A/D and D/A conversion
- AC plasma display panel level shifting
- Multiplexed data transmission
- Digital control power supply
- Ground loop elimination, noise isolation

AGENCY APPROVALS

- [UL1577](#)
- [cUL](#)
- [DIN EN 60747-5-5 \(VDE 0884-5\) available with option 1](#)
- [CQC GB8898-2011](#)
- [CQC GB4943.1-2011](#)

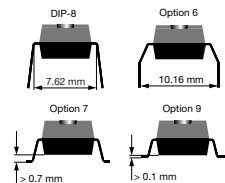
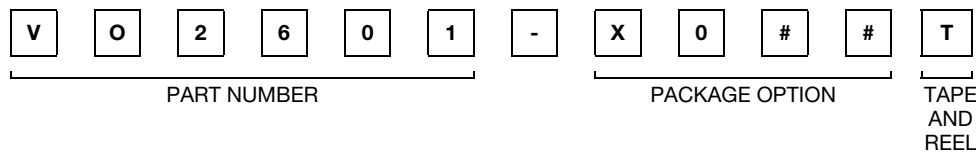
LINKS TO ADDITIONAL RESOURCES



DESCRIPTION

The 6N137, VO2601, and VO2611 are single channel 10 MBd optocouplers utilizing a high efficient input LED coupled with an integrated optical photodiode IC detector. The detector has an open drain NMOS-transistor output, providing less leakage compared to an open collector Schottky clamped transistor output. The VO2630, VO2631, and VO4661 are dual channel 10 MBd optocouplers. For the single channel type, an enable function on pin 7 allows the detector to be strobed. The internal shield provides a guaranteed common mode transient immunity of 5 kV/μs for the VO2601 and VO2631 and 15 kV/μs for the VO2611 and VO4661. The use of a 0.1 μF bypass capacitor connected between pin 5 and 8 is recommended.

ORDERING INFORMATION



AGENCY CERTIFIED / PACKAGE	CHANNELS 1			CHANNELS 2		
	CMR (V/μs)			CMR (V/μs)		
UL, cUL, CQC	1000	5000	15 000	1000	5000	15 000
DIP-8	6N137	VO2601	VO2611	VO2630	VO2631	VO4661
DIP-8, 400 mil (option 6)	6N137-X006	VO2601-X006	VO2611-X006	-	VO2631-X006	VO4661-X006
SMD-8 (option 7)	6N137-X007T	VO2601-X007T	VO2611-X007T	VO2630-X007T	VO2631-X007T	VO4661-X007T
SMD-8 (option 9)	6N137-X009T	-	-	VO2630-X009T	-	-
VDE, UL, cUL, CQC	1000	5000	15 000	1000	5000	15 000
DIP-8, 400 mil (option 6)	-	-	VO2611-X016	-	-	-
SMD-8 (option 7)	-	VO2601-X017T	VO2611-X017T	-	VO2631-X017T	-



TRUTH TABLE (positive logic)		
LED	ENABLE	OUTPUT
On	H	L
Off	H	H
On	L	H
Off	L	H
On	NC	L
Off	NC	H

ABSOLUTE MAXIMUM RATINGS (T _{amb} = 25 °C, unless otherwise specified)				
PARAMETER	CONDITIONS	SYMBOL	VALUE	UNIT
INPUT				
Average forward current (single channel)		I _F	20	mA
Average forward current (per channel for dual channel)		I _F	15	mA
Reverse input voltage		V _R	5	V
Enable input voltage		V _E	V _{CC} + 0.5 V	V
Enable input current		I _E	5	mA
Surge current	t = 100 μs	I _{FSM}	200	mA
Output power dissipation (single channel)		P _{diss}	35	mW
Output power dissipation (per channel for dual channel)		P _{diss}	25	mW
OUTPUT				
Supply voltage	1 min maximum	V _{CC}	7	V
Output current		I _O	50	mA
Output voltage		V _O	7	V
Output power dissipation (single channel)		P _{diss}	85	mW
Output power dissipation (per channel for dual channel)		P _{diss}	60	mW
COUPLER				
Storage temperature		T _{stg}	-55 to +150	°C
Operating temperature		T _{amb}	-40 to +100	°C
Lead solder temperature	for 10 s		260	°C
Solder reflow temperature			260	°C

Note

- Stresses in excess of the absolute maximum ratings can cause permanent damage to the device. Functional operation of the device is not implied at these or any other conditions in excess of those given in the operational sections of this document. Exposure to absolute maximum ratings for extended periods of the time can adversely affect reliability.