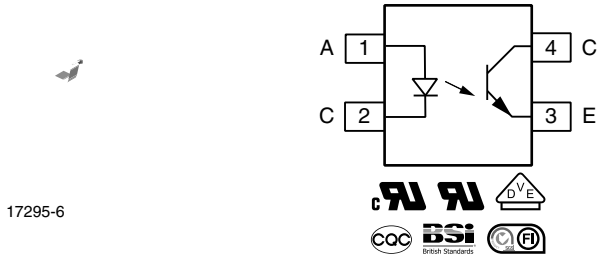
Optocoupler, Phototransistor Output, Low Input Current, 4 Pin LSOP, Long Creepage Mini-Flat Package



FEATURES

- Low profile package
- High collector emitter voltage, V_{CEO} = 80 V
- Isolation test voltage, 5000 V_{RMS}
- Isolation voltage V_{IORM} = 1050 V_{peak}
- Low coupling capacitance
- High common mode transient immunity
- Material categorization: For definitions of compliance please see www.vishay.com/doc?99912

DESCRIPTION

The VOL618A has a GaAs infrared emitting diode emitter, which is optically coupled to a silicon planar phototransistor detector, and is incorporated in a 4 pin LSOP wide body package.

It features a high current transfer ratio, low coupling capacitance, and high isolation voltage.

The coupling device is designed for signal transmission between two electrically separated circuits.

APPLICATIONS

- Telecom
- Industrial controls
- Battery powered equipment
- Office machines
- Programmable controllers

AGENCY APPROVALS

(All parts are certified under base model VOL618A)

- UL1577, file no. E76222
- cUL CSA 22.2 bulletin 5A, double protection
- DIN EN 60747-5-5 (VDE 0884-5), available with option 1
- BSI: EN 60065:2002, EN 60950-1:2006
- FIMKO EN60950-1
- CQC: GB8898-2011, GB4943.1-2011

ABSOLUTE MAXIMUM RATINGS (T_{amb} = 25 °C, unless otherwise specified)

PARAMETER	TEST CONDITION	SYMBOL	VALUE	UNIT
INPUT				
Reverse voltage		V_R	6	V
Power dissipation		P_{diss}	100	mW
Forward current		I_F	60	mA
Junction temperature		T_j	125	°C
OUTPUT				
Collector emitter voltage		V_{CEO}	80	V
Emitter collector voltage		V_{ECO}	7	V
Collector current	$t_p/T = 0.5$, $t_p < 10$ ms	I_C	50	mA
		I_C	100	mA
Power dissipation		P_{diss}	150	mW
Junction temperature		T_j	125	°C
COUPLER				
Isolation test voltage between emitter and detector	t = 1 min	V_{ISO}	5000	V_{RMS}
Total power dissipation		P_{tot}	250	mW
Storage temperature range		T_{stg}	- 55 to + 125	°C
Ambient temperature range		T_{amb}	- 55 to + 110	°C
Soldering temperature (1)	10 s	T_{sld}	260	°C

Notes

- 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.

(1) Refer to reflow profile for soldering conditions for surface mounted devices.

Fig. 1 - Total Power Dissipation vs. Ambient Temperature

ELECTRICAL CHARACTERISTICS (T_{amb} = 25 °C, unless otherwise specified)

PARAMETER	TEST CONDITION	PART

Note

- Minimum and maximum values are testing requirements. Typical values are characteristics of the device and are the result of engineering evaluation. Typical values are for information only and are not part of the testing requirements.

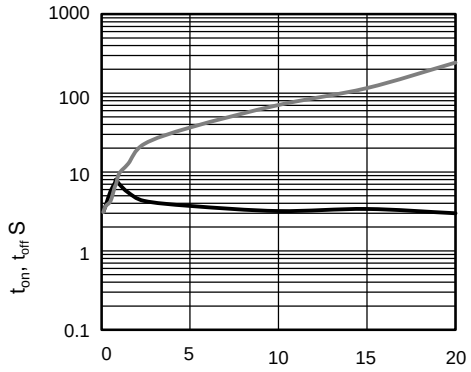


Fig. 16 - Switching Time vs. Load Resistance

Fig. 17 - Collector Emitter Saturation Voltage vs. Collector Current

Fig. 18 - Turn-On/Turn-Off Time vs. Forward Current

Fig. 19 - Voltage Gain vs. Cut-off Frequency