



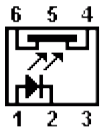
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IS610, IS611

Circuit



Features

- 5000V Isolation
- FET Output
- Low Cost Dual-in-line Package

Description

The IS610 and IS611 are optically coupled isolators each consisting of a Gallium Arsenide Infrared Emitting Diode and a symmetrical bilateral silicon photo detector, mounted in a standard 6-pin dual in line package. Surface Mount Option Available.

All electrical parameters are 100% tested. Specifications are guaranteed to a cumulative 0.65% AQL.

Absolute Maximum Ratings (25°C)

Storage Temperature:	-55°C to +150°C
Operating Temperature:	-55°C to +100°C
Lead Soldering:	260°C for 10s, 1.6mm from case
Input to Output Isolation Voltage:	±2500V (IS610) ±5000V (IS611)

Input Diode

Forward DC Current:	60mA
Peak Forward Current:	3A (1µs pw 300pps)
Reverse DC Voltage:	6V
Power Dissipation:	150mW
Derate Linearly:	2.0mW/°C above 25°C

Output Transistor

Breakdown Voltage:	±30V
Output Current:	±100mA
Power Dissipation:	300mW
Derate Linearly:	4.0mW/°C above 25°C

Individual Electrical Characteristics

INPUT	PARAMETER	CONDITIONS	MIN	TYP	MAX	UNIT
V _F	Forward Voltage	I _F =16mA		1.2	1.75	V
I _R	Reverse Current	V _R =6.0V			10	µA
V _R	Reverse Breakdown Voltage	I _R =10µA	6.0			V
OUTPUT						
V _{(BR)46}	Breakdown Voltage	I ₄₆ =10µA; I _F =0	30			V
R ₄₆	Off-State Resistance	V ₄₆ =15V, I _F =0	300			Mohms
I ₄₆	Off-State Dark Current	V ₄₆ =15V, I _F =0, T _A =25°C			50	nA
		V ₄₆ =15V, I _F =0, T _A =100°C			50	µA
C ₄₆	Capacitance	V ₄₆ =0, I _F =0, f=1MHz			15	pF
COUPLED	PARAMETER	CONDITIONS	MIN	TYP	MAX	UNIT
R ₄₆	On-State Resistance					
	IS610	I _F =16mA, I ₄₆ =100µA			200	ohms
	IS611				170	ohms
R _{IO}	Isolation Resistance, Input to Output	V _{IO} =500V, note 1	100			Gohm
C _{IO}	Capacitance, Input to Output	f=1MHz			2.5	pF
t _{ON}	Turn-On Time	I _F =16mA, R _L =50ohm, V ₄₆ =5V			15	µs
t _{OFF}	Turn-Off Time				15	µs

	Isolation Voltage, Input to Output					
	IS610	note 1	2500			V
	IS611		5000			V
	Resistance, Non-Linearity and Asymmetry	$I_F=16\text{mA}$, $I_{46}=25\mu\text{A RMS}$, $f=1\text{KHz}$			0.1	%

Notes

1. Measured with input leads shorted together and output leads shorted together.

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