



Hutton Close, Crowther Ind Est, Washington, Tyne & Wear NE38 0AH, England
<mailto:sales@isocom.uk.com> - Tel: +44 (0)191 4166546 - Fax: +44 (0)191 4155055

[Circuit](#)
[Description](#)
[Absolute Maximum Ratings](#)
[Electrical Characteristics](#)

[Similar Optocouplers](#)
[Home Page](#)

H11G1, H11G2

OPTICALLY COUPLED ISOLATORS

Circuit



Description

The H11G1 and H11G2 are dual-in-line optically coupled isolators consisting of a Gallium Arsenide infrared emitter coupled with an NPN silicon, darlington connected, phototransistor which has an integral base-emitter resistor to optimize switching speeds and elevated temperature characteristics. Surface Mount Option Available.

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

Absolute Maximum Ratings: (Ta=25°C)

Storage Temperature:	-55°C to +150°C
Operating Temperature:	-55°C to +100°C
Lead Soldering Temperature:	260°C (for 10s)
Isolation Surge Voltage:	5656V _{peak} , 4000V _{rms} (Input to Output)
Isolation Steady-State Voltage:	5300V _{peak} , 3750V _{rms} (Input to Output)

Input LED

Forward Current Continuous:	60mA (continuous)
Forward Current Peak:	0.5A (p.w. 300μs, 2% duty cycle)
Forward Current Peak:	3A (p.w. 1μs, 300Hz)
Reverse Voltage:	6V
Power Dissipation:	100mW
Derate Linearly:	1.33mW/°C above 25°C

Output Darlington Connected Phototransistor

Collector-Emitter Voltage:	100V (H11G1); 80V (H11G2)
Collector-Base Voltage:	100V (H11G1); 80V (H11G2)
Emitter-Base Voltage:	7V
Collector Current Continuous Forward:	150mA
Collector Current Continuous Reverse:	10mA
Power Dissipation:	150mW
Derate Linearly:	2.0mW/°C above 25°C

Electro-optical Characteristics: (Ta=25°C)

INPUT	PARAMETER	CONDITIONS	MIN	TYP	MAX	UNIT
V _F	Forward Voltage	I _F =10mA		1.1	1.5	V
I _R	Reverse Current	V _R =3V			10	μA
	Capacitance	V=0, f=1MHz		50		pF
DETECTOR	PARAMETER	CONDITIONS	MIN	TYP	MAX	UNIT
V _{(BR)CEO}	Collector-Emitter Breakdown Voltage					
	H11G1	I _C =1.0mA, I _F =0	100			V
	H11G2		80			V
V _{(BR)CBO}	Collector-Base Breakdown Voltage					
	H11G1	I _C =100μA, I _F =0	100			V
	H11G2		80			V
V _{(BR)EBO}	Emitter-Base Breakdown Voltage	I _E =100μA, I _F =0	7			V
I _{CEO}	Collector-Emitter Dark Current		I _F =0, -			
	H11G1	V _{CE} =80V			100	nA
	H11G2	V _{CE} =60V				nA
	H11G1	V _{CE} =80V, T _A =80°C			100	μA
	H11G2	V _{CE} =60V, T _A =80°C				μA

COUPLED	PARAMETER	CONDITIONS	MIN	TYP	MAX	UNIT
	Capacitance	$f=1\text{MHz}$, $V_{CE}=10\text{V}$		6		pF
CTR	DC Current Transfer Ratio	$I_F=10\text{mA}$, $V_{CE}=1\text{V}$	1000			%
		$I_F=1\text{mA}$, $V_{CE}=5\text{V}$	500			%
$V_{CE(SAT)}$	Collector-Emitter Saturation Voltage	$I_C=1\text{mA}$, $I_F=1\text{mA}$		0.75	1.0	V
		$I_C=50\text{mA}$, $I_F=16\text{mA}$		0.85		V
R_{ISO}	Isolation Resistance	$V_{IO}=500\text{Vdc}$	100			Gohm
C_{IO}	Capacitance Input to Output	$V_{IO}=0$, $f=1\text{MHz}$			2	pF
T_{ON}	Turn-On Time	$I_F=10\text{mA}$, $V_{CE}=5\text{V}$, $R_L=100\text{ohm}$, (pulse width $\leq 300\mu\text{s}$, $f \leq 30\text{Hz}$)		5		μs
T_{OFF}	Turn-Off Time			100		μs

Isocom takes great effort to ensure accurate data, but regrettably cannot be held liable for any error on its website. Visit [File Lists](#) to confirm old printouts are up-to-date.

[Contents](#)