

**H11D1X, H11D2X, H11D3X, H11D4X
H11D1, H11D2, H11D3, H11D4**



ISOCOM
COMPONENTS



HIGH VOLTAGE OPTICALLY COUPLED ISOLATOR PHOTOTRANSISTOR OUTPUT

'X' SPECIFICATION APPROVALS

- VDE 0884 in 3 available lead forms :-
 - STD
 - G form
 - SMD approved to CECC 00802

DESCRIPTION

The H11D series of optically coupled isolators consist of infrared light emitting diode and NPN silicon photo transistor in a standard 6 pin dual in line plastic package.

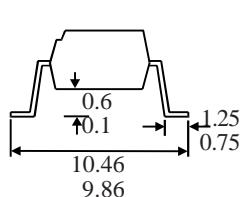
FEATURES

- Options :-
 - 10mm lead spread - add G after part no.
 - Surface mount - add SM after part no.
 - Tape&reel - add SMT&R after part no.
- High Isolation Voltage (5.3kV_{RMS}, 7.5kV_{PK})
- High BV_{CER} (300V - H11D1, H11D2)
(200V - H11D3, H11D4)
- All electrical parameters 100% tested
- Custom electrical selections available

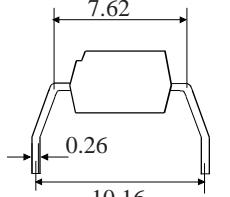
APPLICATIONS

- DC motor controllers
- Industrial systems controllers
- Measuring instruments
- Signal transmission between systems of different potentials and impedances

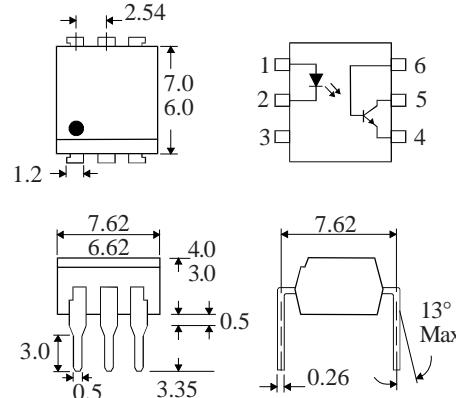
OPTION SM SURFACE MOUNT



OPTION G



Dimensions in mm



ABSOLUTE MAXIMUM RATINGS (25°C unless otherwise specified)

Storage Temperature	-55°C to +150°C
Operating Temperature	-55°C to +100°C
Lead Soldering Temperature (1/16 inch (1.6mm) from case for 10 secs)	260°C

INPUT DIODE

Forward Current	60mA
Reverse Voltage	6V
Power Dissipation	100mW

OUTPUT TRANSISTOR

Collector-emitter Voltage BV _{CER} (R _{BE} =1MΩ)	
H11D1, H11D2	300V
H11D3, H11D4	200V
Collector-base Voltage BV _{CBO}	
H11D1, H11D2	300V
H11D3, H11D4	200V
Emitter-collector Voltage BV _{ECO}	6V
Collector Current	100mA
Power Dissipation	150mW

POWER DISSIPATION

Total Power Dissipation	250mW
(derate linearly 2.67mW/°C above 25°C)	

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ELECTRICAL CHARACTERISTICS ($T_A = 25^\circ\text{C}$ Unless otherwise noted)

PARAMETER		MIN	TYP	MAX	UNITS	TEST CONDITION
Input	Forward Voltage (V_F)		1.2	1.5	V	$I_F = 10\text{mA}$
	Reverse Current (I_R)			10	μA	$V_R = 6\text{V}$
Output	Collector-emitter Breakdown (BV_{CER}) H11D1, H11D2 H11D3, H11D4	300			V	$I_C = 1\text{mA}, R_{BE} = 1\text{M}\Omega$ (note 2)
	Collector-base Breakdown (BV_{CBO}) H11D1, H11D2 H11D3, H11D4	300			V	$I_C = 100\mu\text{A}$
	Emitter-collector Breakdown (BV_{ECO})	6			V	$I_E = 100\mu\text{A}$
	Collector-emitter Dark Current (I_{CER}) H11D1, H11D2		100	nA		$V_{CE} = 200\text{V}, R_{BE} = 1\text{M}\Omega$
			250	μA		$V_{CE} = 200\text{V}, R_{BE} = 1\text{M}\Omega, T_A = 100^\circ\text{C}$
	H11D3, H11D4		100	nA		$V_{CE} = 100\text{V}, R_{BE} = 1\text{M}\Omega$
			250	μA		$V_{CE} = 100\text{V}, R_{BE} = 1\text{M}\Omega, T_A = 100^\circ\text{C}$
Coupled	Current Transfer Ratio (CTR)	20		0.4	%	$10\text{mA } I_F, 10\text{V } V_{CE}, R_{BE} = 1\text{M}\Omega$
	Collector-emitter Saturation Voltage $V_{CE(SAT)}$				V	$10\text{mA } I_F, 0.5\text{mA } I_C, R_{BE} = 1\text{M}\Omega$
	Input to Output Isolation Voltage V_{ISO}	5300			V_{RMS}	See note 1
	Input-output Isolation Resistance R_{ISO}	7500			V_{PK}	See note 1
	Turn-on Time t_{on}	5×10^{10}	5		Ω	$V_{IO} = 500\text{V}$ (note 1)
	Turn-off Time t_{off}		5		μs	$V_{CC} = 10\text{V}, I_c = 2\text{mA}, R_L = 100\Omega$, fig 1
					μs	

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

Note 2 Special Selections are available on request. Please consult the factory.

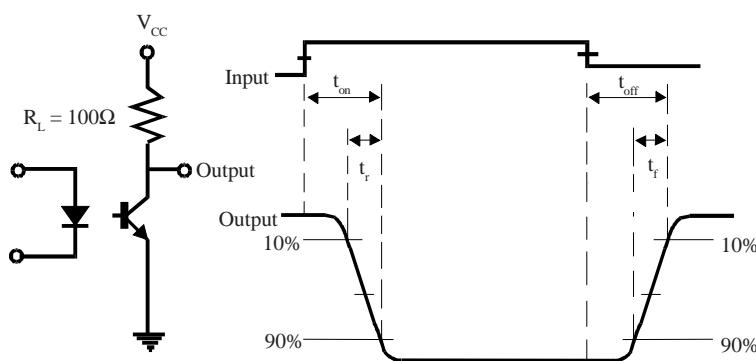
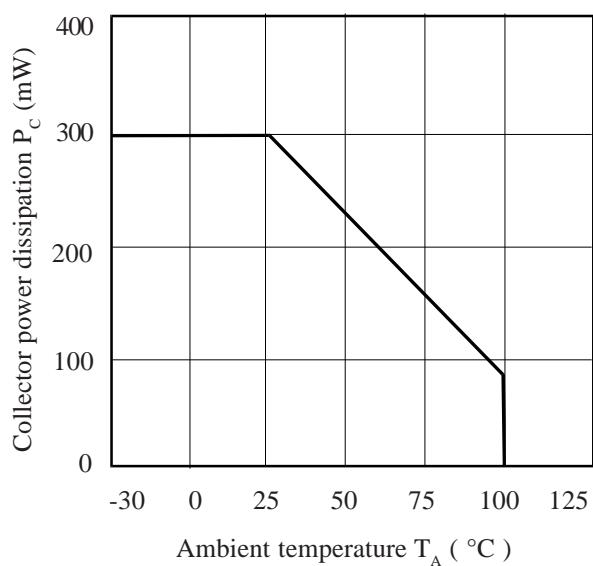
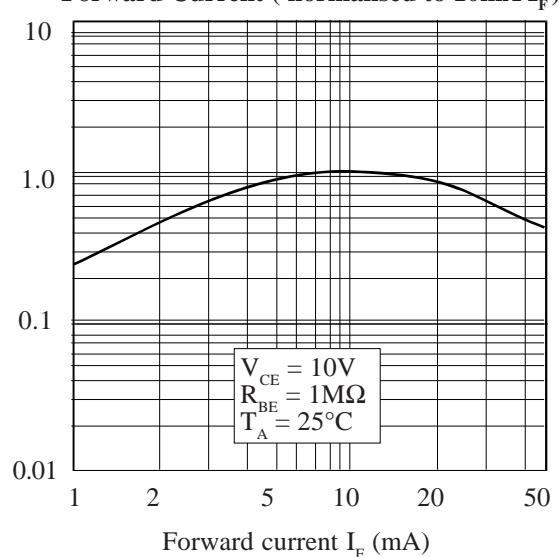


FIG 1

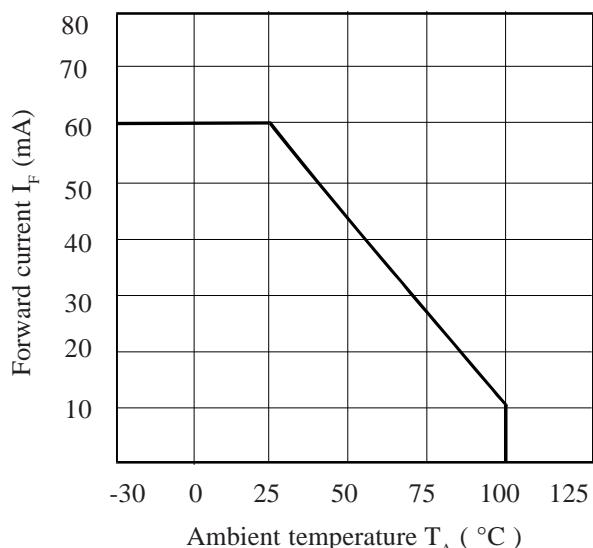
Collector Power Dissipation vs. Ambient Temperature



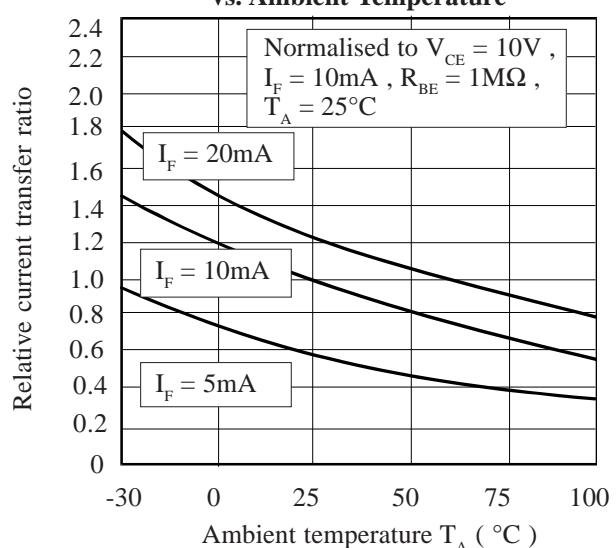
Relative Current Transfer Ratio vs. Forward Current (normalised to 10mA I_F)



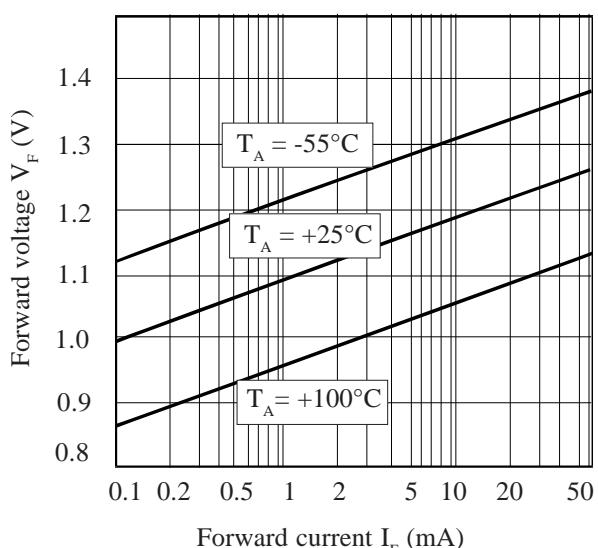
Forward Current vs. Ambient Temperature



Relative Current Transfer Ratio vs. Ambient Temperature



Forward Voltage vs. Forward Current



Collector-base Current vs. Ambient Temperature

