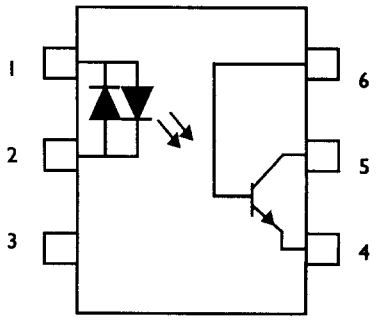
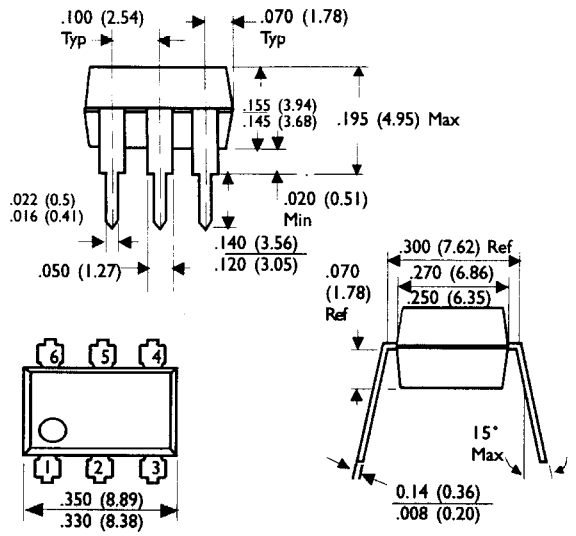
H11AA1 - H11AA4

AC INPUT COUPLED ISOLATOR Ga AS INFRARED EMITTING DIODE & NPN PHOTO-TRANSISTOR

SCHEMATIC



PACKAGE DIMENSIONS INCHES (MM)



DESCRIPTION

The GE Solid State H11AA1 through H11AA4 consists of two Gallium Arsenide infrared emitting diodes coupled with a silicon photo-transistor in a dual-in-line package. These devices are also available in Surface Mount Packaging

ABSOLUTE MAXIMUM RATINGS (25°C unless otherwise noted)

Power Dissipation T_A = 25°C	*100 Milliwatts
Power Dissipation T_A = 25°C	*100 Milliamps
(TC indicates collector lead temperature 1/32" from case)	
Input Current (RMS)	60 milliamps
Input Current (Peak)	
(Pulse width 1µsec, 300 pps)	1ampere
(derate linearly 1.33W/°C above 25°C)	

PHOTO TRANSISTOR

Power Dissipation	*300 milliwatts
V_{CEO}	30 Volts
V_{CBO}	70 Volts
V_{ECO}	7 Volts
Collector Current (Continuous)	100 milliamps
(derate linearly 4.0mW/°C above 25°C)	

TOTAL DEVICE

Storage Temperature	-55°C to 150°C
Operating Temperature	-55°C to 100°C
Lead Soldering Time (at 260°C)	10 secs
Isolation Breakdown Voltage	2500V $_{RMS}$

ISOCOM COMPONENTS LTD
Unit 25B, Park View Road West,
Park View Industrial Estate, Brenda Road
Hartlepool, Cleveland, TS25 1YD
Tel: (0429) 863609 Fax: (0429) 863581

ISOCOM INC
720 E., Park Boulevard, Suite 102,
Plano, TX 75074 USA
Tel: (214) 423-5521
Fax: (214) 422-4549

INDIVIDUAL ELECTRICAL CHARACTERISTICS: (25°C)

INFRARED EMMITTING DIODE		TYP	MAX	UNITS
Forward Voltage	(I_F = 10mA)	1.1	1.5	volts
Capacitance	(V = 0,f = 1 MHz)	50	-	picofarads

PHOTO TRANSISTOR			MIN	TYP	MAX	UNITS
Breakdown Voltage	$V_{(BR)CEO}$	(I_C = 10mA, I_F = O)	30	-	-	volts
Breakdown Voltage	$V_{(BR)CBO}$	(I_C = 100μA, I_F = O)	70	-	-	volts
Breakdown Voltage	$V_{(BR)ECO}$	(I_E = 100μA, I_F = O)	7	-	-	volts
Collector Dark Current I_{CEO}		(V_{CE} = 10V, I_F = O)	-	5	50	picofarads
Capacitance		(V_{CE} = 10V, f= 1MHz)	-	2	-	picofarads

COUPLED ELECTRICAL CHARACTERISTICS (25°C)

		MIN	TYP	MAX	UNIT
DC Current Transfer Ratio	H11AA4	100	-	-	%
(I_F = ± 10mA, V_{CE} = 10V)	H11AA3	50	-	-	%
	H11AA1	20	-	-	%
	H11AA2	10	-	-	%
Saturation Voltage- Collector to Emitter (I_F = ± 10mA, I_C = 0.5mA)		-	0.1	0.4	volts
Isolation Resistance (Input to Output Voltage = 500VDC)		100	-	-	gigaohms
Input to output Capacitance (Input to Output Voltage = O,f = 1MHz)		-	-	2	picofarads
Switching Speeds:					
Rise/Fall Time (V_{CE} = 10V, I_{CE} = 2mA, R_L = 100Ω)		-	2	-	microseconds
Rise/Fall Time (V_{CB} = 10V, I_{CB} = 50μA, R_L = 100Ω)		-	300	-	nanoseconds