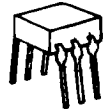


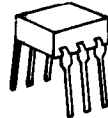
PROGRAMMABLE THRESHOLD COUPLER

GE TYPE	PAGE NO.	ISOLATION VOLTAGE (V _{pk}) MIN.	CURRENT TRANSFER RATIO MIN.	I _D (nA) MAX.	BV _{CEO} (VOLTS) MIN.	TYPICAL (μSEC.)		V _{CE(SAT)} MAX.
						T _R	T _F	
H11A10	1281	1500	10%	50	30	2	2	.4



AC INPUT COUPLER

H11AA1	1289	1500	20%	100	30	2	2	.4
H11AA2	1289	1500	10%	200	30	2	2	.4



HIGH VOLTAGE COUPLER

H11D1	1307	2500	20%	100	300	5	5	.4
H11D2	1307	1500	20%	100	300	5	5	.4
H11D3	1307	1500	20%	100	200	5	5	.4
H11D4	1307	1500	10%	100	200	5	5	.4
4N38	539	1500	10%	50	80	5	5	1.0
4N38A	539	1775 V _{RMS}	10%	50	80	5	5	1.0

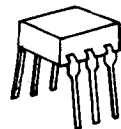


PHOTO DARLINGTON OUTPUT

H11B1	1293	2500	500%	100	25	125	100	1.0
H11B2	1293	1500	200%	100	25	125	100	1.0
H11B3	1293	1500	100%	100	25	125	100	1.0
H11B255	1295	1500	100%	100	55	125	100	1.0
H15B1	1315	4000 V _{RMS}	400%	100	25	125	100	1.4
H15B2	1315	4000 V _{RMS}	200%	100	25	125	100	1.4
4N29	533	2500	100%	100	30	5	40	1.0
4N29A	533	1775 V _{RMS}	100%	100	30	5	40	1.0
4N30	533	1500	100%	100	30	5	40	1.0
4N31	533	1500	50%	100	30	5	40	1.2
4N32	533	2500	500%	100	30	5	100	1.0
4N32A	533	1775 V _{RMS}	500%	100	30	5	100	1.0
4N33	533	1500	500%	100	30	5	100	1.0

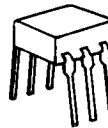
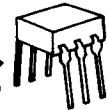
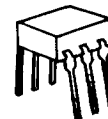


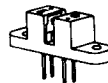
PHOTO SCR OUTPUT

GE TYPE	PAGE NO.	ISOLATION VOLTAGE MIN.	I _F TRIGGER (MAX.)	I _D 100°C (MAX.) μA	BLOCKING VOLTAGE (MIN.)	TYPICAL TON (μSEC.)	V _F (MAX.)
H11C1	1299	2500	20mA	50	200	1	1.5
H11C2	1299	1500	20mA	50	200	1	1.5
H11C3	1299	1500	30mA	50	200	1	1.5
H11C4	1303	2500	20mA	100	400	1	1.5
H11C5	1303	1500	20mA	100	400	1	1.5
H11C6	1303	1500	30mA	100	400	1	1.5
4N39	541	1500	14mA	50	200	1	1.5
4N40	541	1500	14mA	150	400	1	1.5
H74C1	1327	1500			200		
H74C2	1327	1500			400		



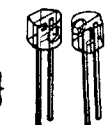
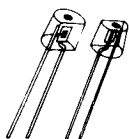
PHOTON COUPLED INTERRUPTER MODULE

GE TYPE	PAGE NO.	OUTPUT CURRENT		I _D (nA)	BV _{CEO} (V)	TYPICAL		V _{CE(SAT)} MAX.
		I _F	I _C			TON (μSEC.)	t _f (μSEC.)	
H13A1	1309	I _F = 20mA	200μA	100	30	5	5	.4
H13A2	1309	I _F = 20mA	50μA	100	30	5	5	.4
H13B1	1311	I _F = 20mA	2500μA	100	25	150	150	1.2
H13B2	1311	I _F = 20mA	1000μA	100	25	150	150	1.2



MATCHED EMITTER DETECTOR PAIRS

H17A1	1317	I _F = 20mA	50μA	100	30	5	5	.4
H17B1	1319	I _F = 20mA	1000μA	100	25	150	150	1.2
H19A1	1321	I _F = 20mA	100μA	100	30	5	5	.4
H19B1	1325	I _F = 20mA	2000μA	100	25	150	150	1.2





Photon Coupled Isolator H11B1-H11B2-H11B3

Ga As Infrared Emitting Diode & NPN Silicon Photo-Darlington Amplifier

The General Electric H11B1, H11B2 and H11B3 are gallium arsenide, infrared emitting diodes coupled with a silicon photo-darlington amplifier in a dual in-line package.

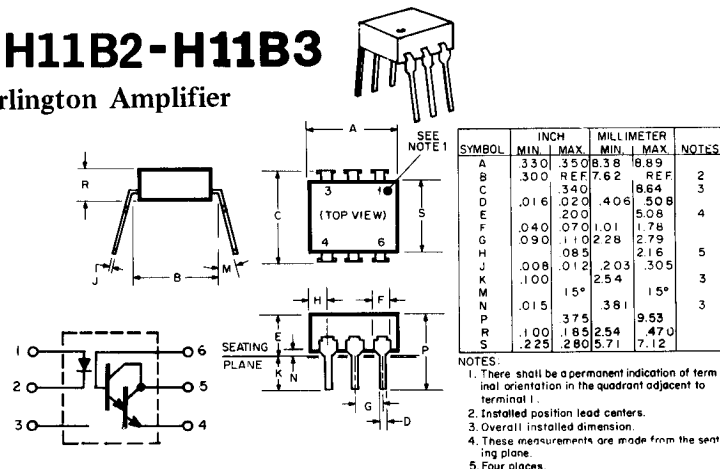
absolute maximum ratings: (25°C)

INFRARED EMITTING DIODE			
Power Dissipation	*100	milliwatts	
Forward Current (Continuous)	60	milliamps	
Forward Current (Peak) (Pulse width 1 μsec 300 P Ps)	3	ampere	
Reverse Voltage	3	volts	
*Derate 1.33mW/°C above 25°C ambient.			

PHOTO-DARLINGTON			
Power Dissipation	**150	milliwatts	
V _{CEO}	25	volts	
V _{CBO}	30	volts	
V _{ECO}	7	volts	
Collector Current (Continuous)	100	milliamps	
**Derate 2.0mW/°C above 25°C ambient.			

individual electrical characteristics (25°C)

INFRARED EMITTING DIODE	TYP.	MAX.	UNITS
Forward Voltage H11B1, B2 (I _F = 10mA) H11B3 (I _F = 50mA)	1.1	1.5	volts
Reverse Current (V _R = 3V)	—	10	microamps
Capacitance (V = 0, f = 1MHz)	50	—	picofarads

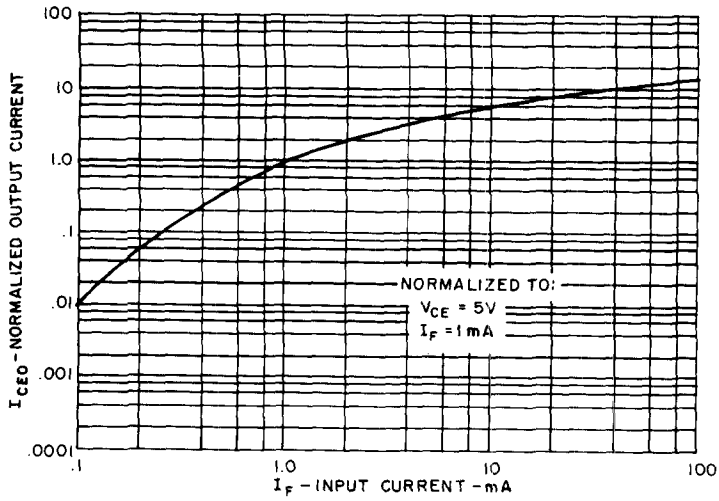


TOTAL DEVICE			
Storage Temperature -55 to 150°C			
Operating Temperature -55 to 100°C			
Lead Soldering Time (at 260°C) 10 seconds			
Surge Isolation Voltage (Input to Output).			
H11B1	2500V _(peak)	1770V _(RMS)	
H11B2, B3	1500V _(peak)	1060V _(RMS)	
Steady-State Isolation Voltage (Input to Output).			
H11B1	1500V _(peak)	1060V _(RMS)	
H11B2, B3	950V _(peak)	660V _(RMS)	

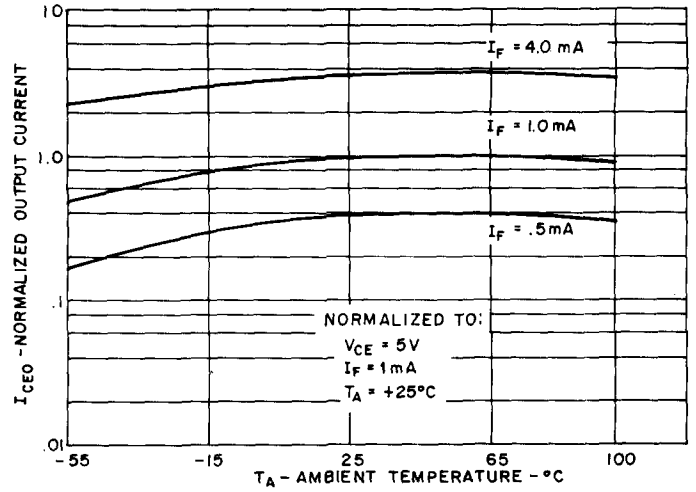
coupled electrical characteristics (25°C)

	MIN.	TYP.	MAX.	UNITS
DC Current Transfer Ratio (I _F = 1mA, V _{CE} = 5V)				
H11B1	500	—	—	%
H11B2	200	—	—	%
H11B3	100	—	—	%
Saturation Voltage — Collector to Emitter (I _F = 1mA, I _C = 1mA)	—	0.7	1.0	volts
Isolation Resistance (Input to Output Voltage = 500V _{DC})	100	—	—	gigaohms
Input to Output Capacitance (Input to Output Voltage = 0, f = 1MHz)	—	—	2	picofarads
Switching Speeds: (V _{CE} = 10V, I _C = 10mA, R _L = 100Ω)				
On-Time	—	125	—	microseconds
Off-Time	—	100	—	microseconds

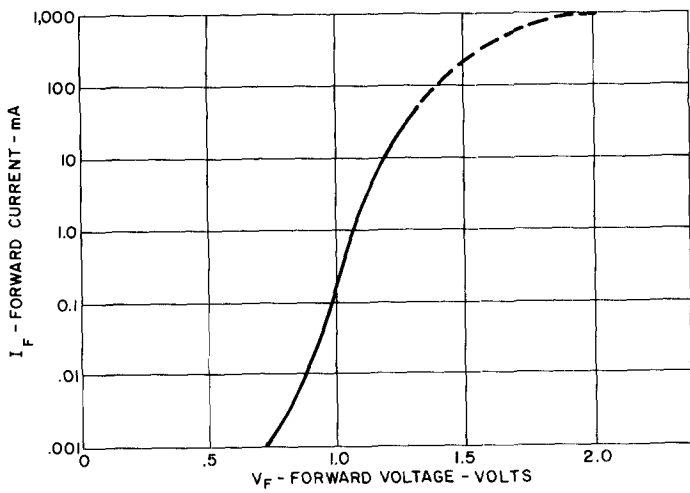
TYPICAL CHARACTERISTICS



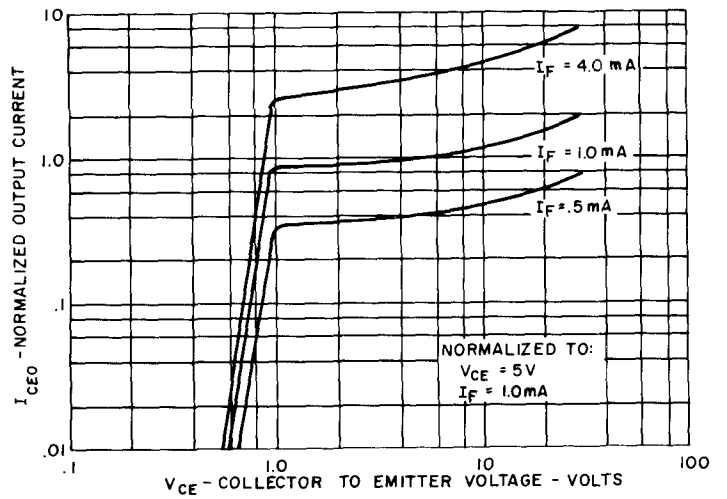
OUTPUT CURRENT VS INPUT CURRENT



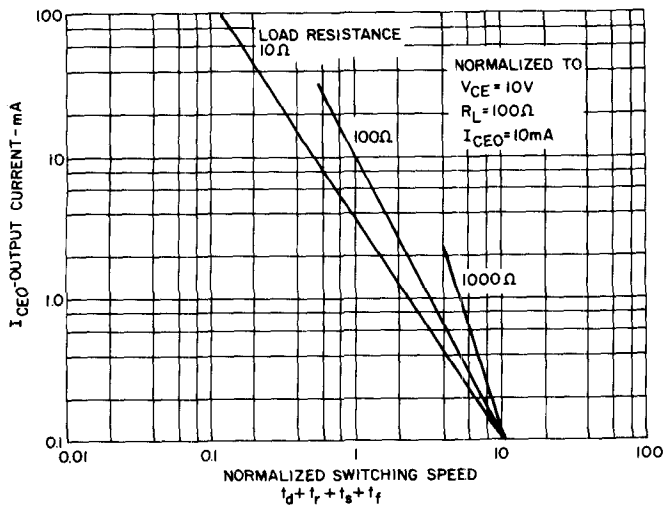
OUTPUT CURRENT VS TEMPERATURE



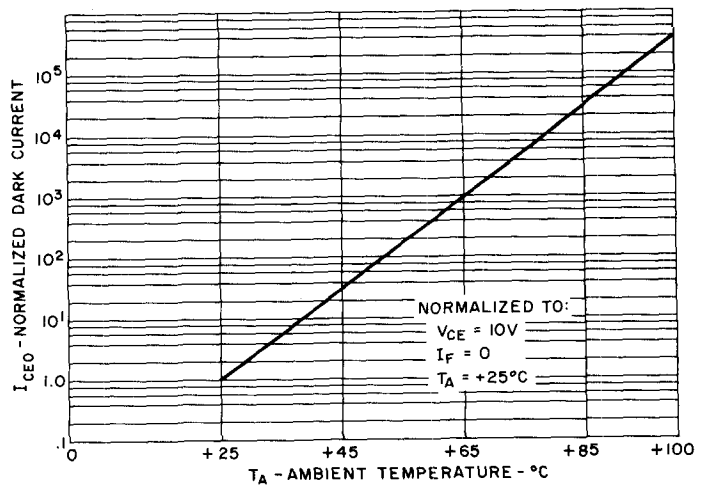
INPUT CHARACTERISTICS



OUTPUT CHARACTERISTICS



SWITCHING SPEED VS OUTPUT CURRENT



NORMALIZED DARK CURRENT VS TEMPERATURE