

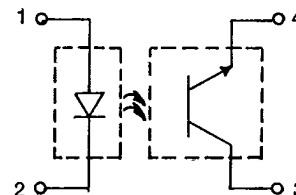
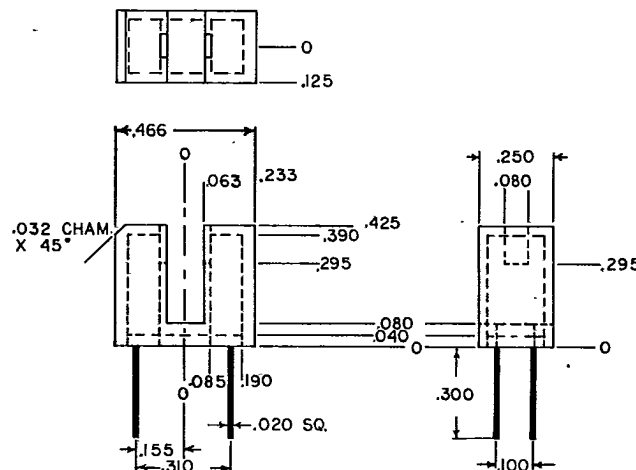
SILICON SENSORS, INC.
Highway 18 East
Dodgeville, Wisconsin 53533
Telephone: 608-935-2707
TWX:910-280-1430

**SOLID STATE
OPTO ELECTRONIC
SWITCH SS 760-10 THRU 60**

The Silicon Sensor 760-XX Optoelectronic Switch Assembly consists of a high quality Gallium Arsenide Infrared Light Emitting Diode, Optically Coupled to a high sensitivity Silicon NPN Phototransistor thru a 1/8" (0.125) air gap. The interrupter package is precision molded of glass filled Polyphelene Sulfide (a self extinguishing material Rated V-O by UL) to insure long term mechanical stability, maximum coupling efficiency and excellent ambient light rejection. Our broad range of electrical specifications provides the design engineer with sufficient latitude to make the best cost vs. performance decision for his particular application.

FEATURES:

- 1) High performance, cost effective plastic package.
- 2) Non-Contact switching
- 3) Solid state reliability
- 4) Input/Output compatible with T²L and intergrated circuits.
- 5) Fast Switching speeds (PTR).



ABSOLUTE MAXIMUM RATINGS (25°C)

Storage Temperature	T _{STG} -55°C to +100°C
Operating Temperature	T _J -55°C to +100°C
Lead Soldering Temperature	T _L 260°C
(5 seconds maximum)	

INDIVIDUAL ELECTRICAL CHARACTERISTICS (25°C) (See Note 1)

EMITTER	MIN.	TYP.	MAX.	UNITS	DETECTOR	SS760 - 10 TO 30				SS760 - 40 TO 60			
						MIN.	TYP.	MAX.	UNITS	MIN.	TYP.	MAX.	UNITS
Reverse Breakdown Voltage V _{(BR)R} I _R = 10μA	6	—	—	V	Breakdown Voltage V _{(BR)CEO} I _C = 1 mA	30	—	—	V	55	—	—	V
Forward Voltage V _F I _F = 60mA	—	—	1.7	V	Breakdown Voltage V _{(BR)ECO} I _E = 100mA	6	—	—	V	6	—	—	V
Reverse Current I _R V _R = 5V	—	—	100	nA	Collector Dark Current I _{CEO} V _{CE} = 25V	—	—	100	nA	—	—	100	nA
Capacitance C _i V = 0, f = 1 MHz	—	30	—	pF	Capacitance C _{ce} V _{CE} = 5V, f = 1 MHz	—	3.3	5	pF	—	3.3	5	pF

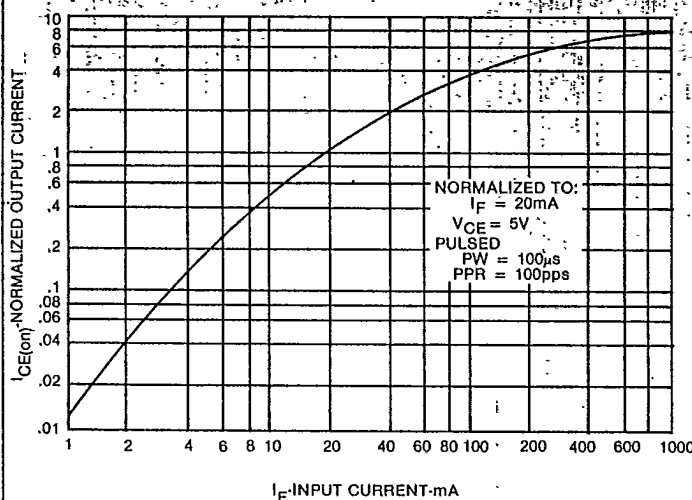
COUPLED ELECTRICAL CHARACTERISTICS (25°C) (See Note 1)

	SS760-10			SS760-20			SS760-30			SS760-40			SS760-50			SS760-60			UNITS
	MIN.	TYP.	MAX.	MIN.	TYP.	MAX.	MIN.	TYP.	MAX.	MIN.	TYP.	MAX.	MIN.	TYP.	MAX.	MIN.	TYP.	MAX.	
I _{CE(on)} I _F = 5mA, V _{CE} = 5V	0.15	—	—	0.30	—	—	0.60	—	—	1.0	—	—	2.0	—	—	4.0	—	—	mA
I _{CE(on)} I _F = 20mA, V _{CE} = 5V	1.0	—	—	2.0	—	—	4.0	—	—	1.9	—	—	3.0	—	—	5.5	—	—	mA
I _{CE(on)} I _F = 30mA, V _{CE} = 5V	1.9	—	—	3.0	—	—	5.5	—	—	—	—	—	—	—	—	—	—	—	mA
V _{CE(sat)} I _F = 20mA, I _C = 1.8mA	—	—	—	—	0.40	—	—	0.40	—	—	—	—	0.40	—	—	0.40	—	—	V
V _{CE(sat)} I _F = 30mA, I _C = 1.8mA	—	—	0.40	—	—	—	—	—	—	—	0.40	—	—	—	—	—	—	—	V
t _{on} V _{CC} = 5V, I _F = 30mA, R _L 2.5KΩ	—	8	—	—	8	—	—	8	—	—	8	—	—	8	—	—	8	—	μs
t _{off} V _{CC} = 5V, I _F = 30mA, R _L 2.5KΩ	—	50	—	—	50	—	—	50	—	—	50	—	—	50	—	—	50	—	μs

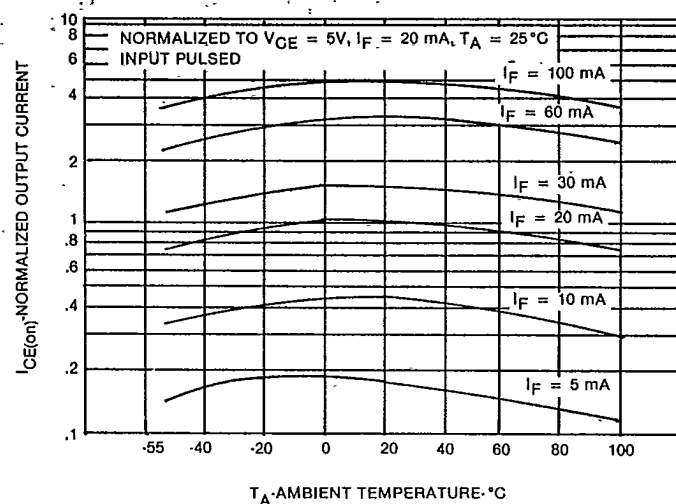
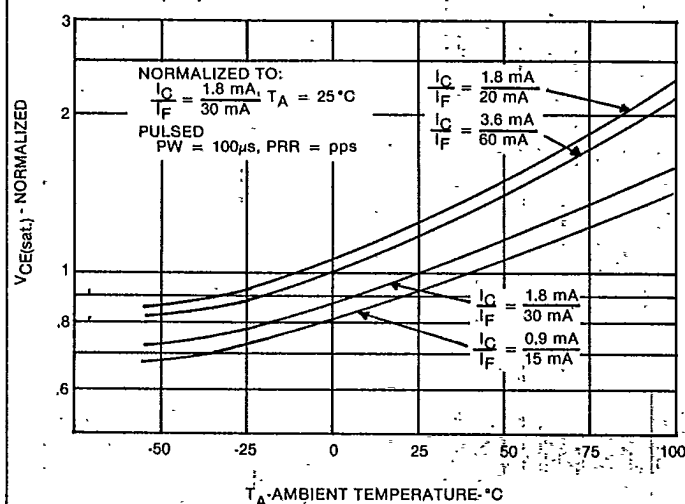
Note 1: Stray irradiation can alter values of characteristics. Adequate shielding should be provided.

TYPICAL CHARACTERISTICS

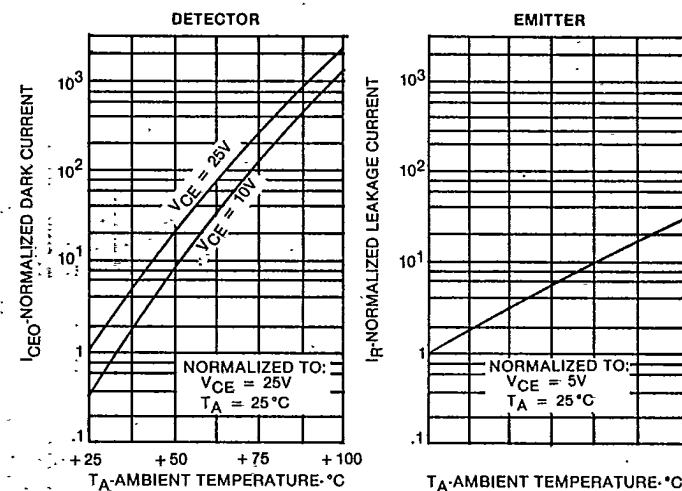
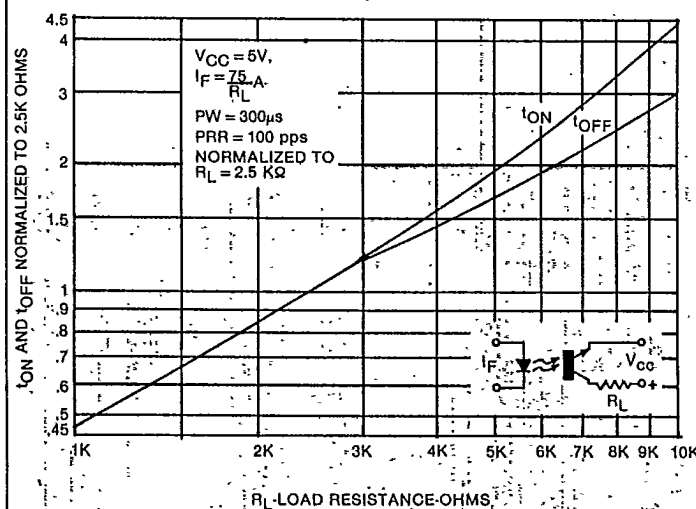
1. OUTPUT CURRENT VS. INPUT CURRENT



2. OUTPUT CURRENT VS. TEMPERATURE

3. $V_{CE}(\text{sat})$ VS. TEMPERATURE

4. LEAKAGE CURRENTS VS. TEMPERATURE

5. SWITCHING SPEED VS. R_L 

6. OUTPUT CURRENT VS. DISTANCE

