


SDP8426 — Phototransistor

Characteristics	Package	Light current	Dark current	Collector breakdown	Emitter breakdown	Saturation voltage	Light current rise time	Angular response
Test condition		$V_{CE} = 5V$ H as shown	$H = 0$ V_{CE} as shown	$I_C = 100\mu A$ $H = 0$	$I_E = 100\mu A$ $H = 0$	$I_C = 0.4mA$ $H(1) = 1.0$	$R_L = 1000\Omega$ $V_{CC} = 5V$ $I_L = 1mA$	(2)
Symbol		I_L	I_D	BV_{CEO}	BV_{ECO}	$V_{CE(sat)}$	t_r	ϕ
Units		mA	nA	V	V	V	μs	degrees
		min. max. H ⁽¹⁾	max. V_{CE}	min.	min.	typ.	typ.	typ.
 SDP 8426-1 SDP 8426-2 <i>This One</i>	plastic plastic	.15 1 1.8 1	100 30 100 30	30 30	5 5	0.4 0.4	8 8	50 50

ABSOLUTE MAXIMUM RATINGS

(25°C Free-Air Temperature unless otherwise noted)

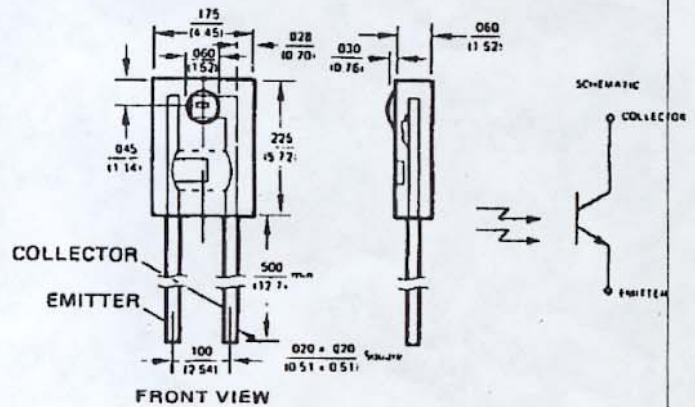
- Collector-Emitter Voltage 30 V
- Emitter-Collector Voltage 5 V
- Continuous Device Dissipation at (or below) 25°C Free-Air Temperature 100 mW⁽³⁾
- Operating Free-Air Temperature Range -40°C to 100°C
- Storage Temperature Range -40°C to 100°C
- Lead Soldering Temperature (5 sec) 240°C

- Notes 1: The value of H is measured in mW/cm² from a 935 nm IRED source.
 2: Angular response is defined as the total included angle between the half sensitivity points, and assuming a point source.
 3: Derate linearly from 25°C free-air temperature at the rate of 1.25mW/°C.

OUTLINE DIMENSIONS

Tolerance 3 pic decimals ± .005 (.12)
 2 pic decimals ± .02 (.51)
 Unless specified

ALL DIMENSIONS IN INCHES (MILLIMETERS)



TYPICAL PERFORMANCE CURVES

Fig. 1 - SPECTRAL RESPONSIVITY

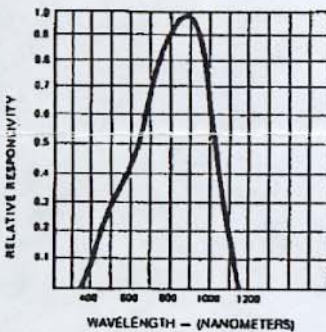


Fig. 2 - DETECTOR CURRENT vs FREE-AIR TEMPERATURE

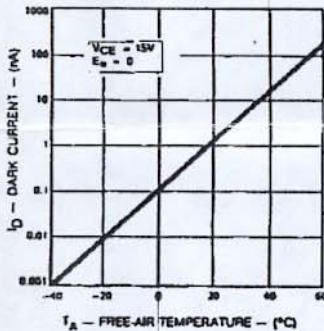


Fig. 3 - RELATIVE I_L vs H

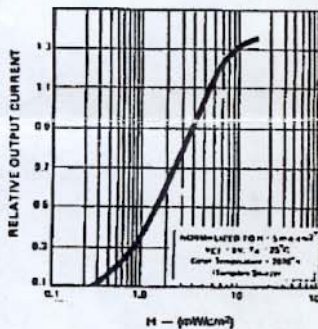


Fig. 4 - COLLECTOR - EMITTER SATURATION VOLTAGE vs IRRADIANCE

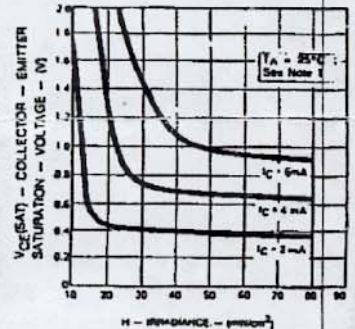


Fig. 5 - COUPLING CHARACTERISTICS SDP8426 to SEP8526

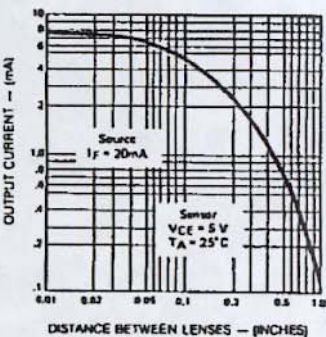
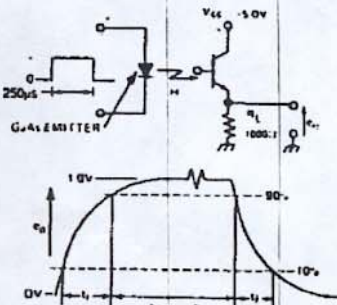



Fig. 6 - SWITCHING TIME TEST CIRCUIT



CLEAR-PHOTOTRANSISTOR
 RED-DIODE

SEP8526 — GaAs Infrared Emitting Diode

Characteristics	Package	Output power		Beam angle	Forward voltage	Reverse breakdown	Radiation rise time	Peak wavelength
Test condition		I_F as shown		(2)	I_F as shown	$I_R = 10 \mu A$		
Symbol		P_O		ϕ	V_F	V_R	t_r	λ
Units		mW/cm ²		degrees	V	V	μS	nm
		min.	max.	typ.	max.	min.	typ.	typ.
		I_F (mA)			I_F (mA)			
 <p>SEP 8526-1 SEP 8526-2 <i>This One</i></p>	plastic	.05 ⁽¹⁾	20	50	1.5 20	3	0.6	935
	plastic	.33 ⁽¹⁾	20	50	1.5 20	3	0.6	935

ABSOLUTE MAXIMUM RATINGS

(25°C Free-Air Temperature unless otherwise noted)

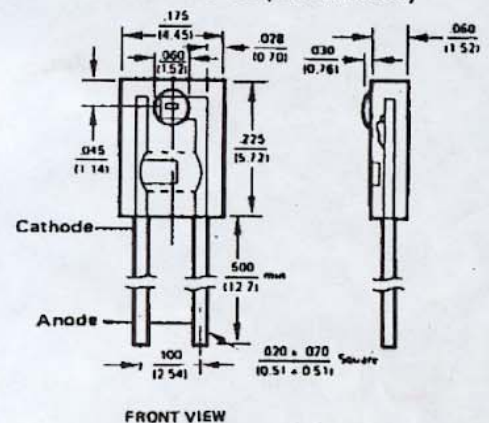
- Reverse Voltage at 25°C Free-Air Temperature 3V
- Continuous Forward Current at (or below) 25°C Free-Air Temperature 50mA
- Operating Free-Air Temperature Range -40°C to 100°C
- Storage Temperature Range -40°C to 100°C
- Lead Temperature (5 sec) 240°C
- Continuous Device Dissipation at (or below) 25°C Free-Air Temperature 100mW⁽²⁾

- Notes 1: The power output is measured into a 0.104 inch diameter aperture placed 0.535 inch from the lens tip.
 2: Beam angle is defined as the total included angle between the half intensity points.
 3: Derate linearly from 25°C free-air temperature at the rate of 0.75mA/°C.

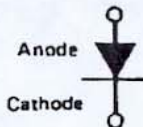
OUTLINE DIMENSIONS

Tolerance 3 plc decimals $\pm .005$ (.12)
 2 plc decimals $\pm .02$ (.51)
 Unless specified

ALL DIMENSIONS IN INCHES (MILLIMETERS)



SCHEMATIC



TYPICAL PERFORMANCE CURVES

Fig. 1 - RELATIVE POWER OUTPUT vs FREE AIR TEMP.

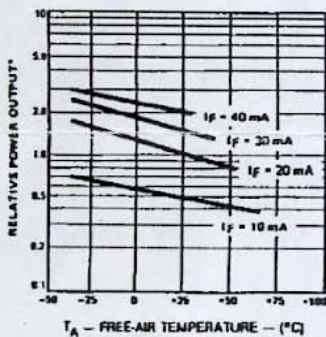


Fig. 2 - RELATIVE POWER OUTPUT vs FORWARD CURRENT

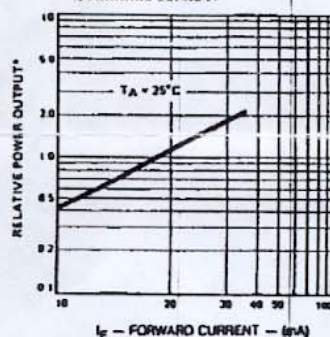


Fig. 3 - COUPLING CHARACTERISTICS SEP8526 to SDP8426

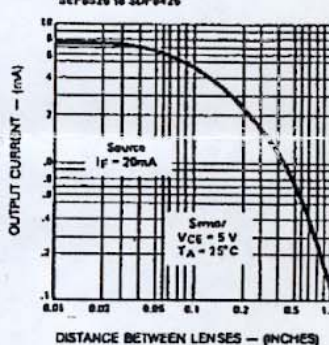


Fig. 4 - RELATIVE INTENSITY VS ANGULAR DISPLACEMENT

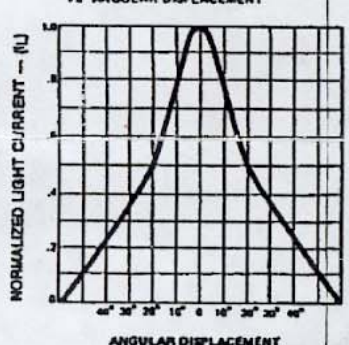


Fig. 5 - CHANGE IN WAVELENGTH OF PEAK INTENSITY vs FREE AIR TEMPERATURE

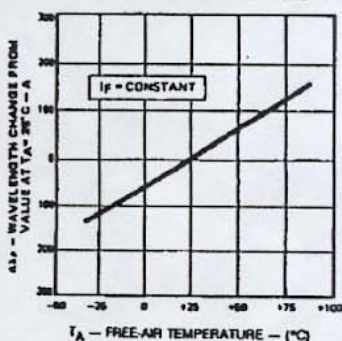
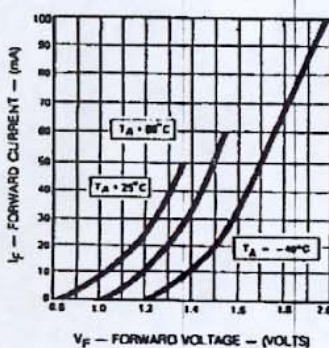


Fig. 6 - RED FORWARD BIAS CHARACTERISTICS



CLEAR-PHOTOTRANSISTOR
 RED-DIODE