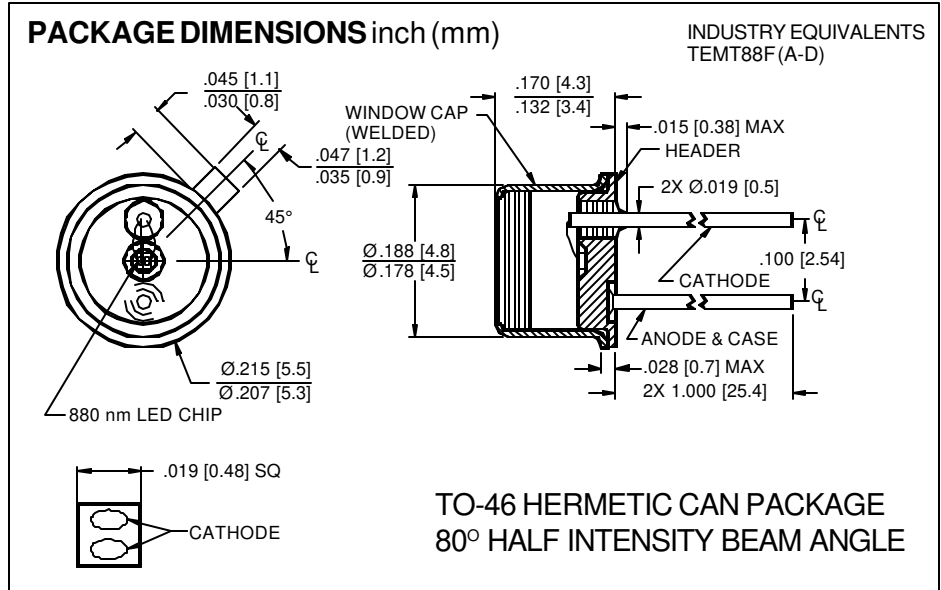


PHOTONIC DETECTORS INC.

High-Power & Current GaAlAs Infrared Emitters Peak Wavelength 880 nm, Type PDI-E811



FEATURES

- Dual cathode
- High current
- Medium- high emission angle

DESCRIPTION:

The PDI-E811 infrared emitting diode uses dual cathode, high current reliability liquid phase epitaxially grown GaAlAs. Optimized for high power, high current at 880 nm. Packaged in a TO-46 can with a flat glass window cap.

APPLICATIONS

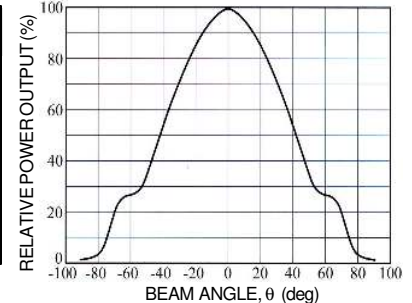
- Photoelectric switches
- Reflective switches
- Smoke detectors

ABSOLUTE MAXIMUM RATING (TA=25°C unless otherwise noted)

SYMBOL	PARAMETER	MIN	MAX	UNITS
Pd	Power Dissipation		360	mW
I _{FP}	Continuous Forward Current		180	mA
I _{FP}	Peak Forward Current (100µs pulse, 10pps)		3.0	A
V _R	Reverse voltage		3.0	V
To & Ts	Storage & Operating Temperature	-65	+125	°C
TS	Soldering Temperature*		+260	°C

*1/16 inch from case for 3 secs max

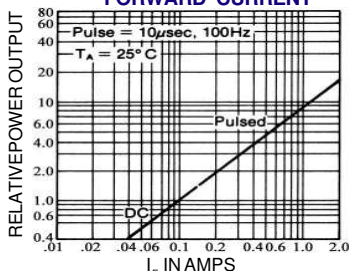
TYPICAL RADIATION PATTERN



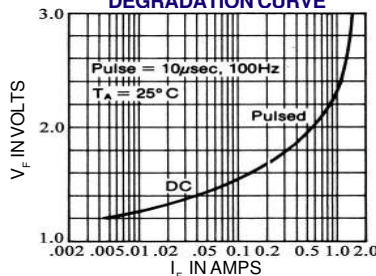
ELECTRO-OPTICAL CHARACTERISTICS (TA=25°C unless otherwise noted)

SYMBOL	CHARACTERISTIC	TEST CONDITIONS	MIN	TYP	MAX	UNITS
P _o	Output Power	I _F = 100 mA	7.0	15		mW
V _F	Forward Voltage	I _F = 100 mA		1.5	1.9	V
I _R	Reverse Current	V _R = -3.0 V			10	µA
λ _p	Peak Wavelength	I _F = 50 mA	865	880	895	nm
Δλ	Spectral Halfwidth	I _F = 50 mA		80		nm
R _d	Dynamic Resistance	I _F = 100 mA		1.2		Ohm
t _r	Rise Time	I _F = 100 mA		0.6		µs
t _f	Fall Time	I _F = 100 mA		0.5		µs

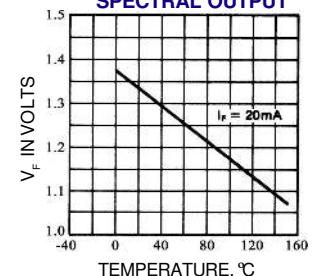
POWER OUTPUT vs FORWARD CURRENT



TYPICAL POWER OUTPUT DEGRADATION CURVE



SPECTRAL OUTPUT



Information in this technical data sheet is believed to be correct and reliable. However, no responsibility is assumed for possible inaccuracies or omission. Specifications are subject to change without notice. Optical power and radiant intensity measured using uncapped dimpled TO-46 into integrating sphere. [FORMNO. 100-PDI-E811 REV D]