mail

Chipsmall Limited consists of a professional team with an average of over 10 year of expertise in the distribution of electronic components. Based in Hongkong, we have already established firm and mutual-benefit business relationships with customers from, Europe, America and south Asia, supplying obsolete and hard-to-find components to meet their specific needs.

With the principle of "Quality Parts, Customers Priority, Honest Operation, and Considerate Service", our business mainly focus on the distribution of electronic components. Line cards we deal with include Microchip, ALPS, ROHM, Xilinx, Pulse, ON, Everlight and Freescale. Main products comprise IC, Modules, Potentiometer, IC Socket, Relay, Connector. Our parts cover such applications as commercial, industrial, and automotives areas.

We are looking forward to setting up business relationship with you and hope to provide you with the best service and solution. Let us make a better world for our industry!



Contact us

Tel: +86-755-8981 8866 Fax: +86-755-8427 6832 Email & Skype: info@chipsmall.com Web: www.chipsmall.com Address: A1208, Overseas Decoration Building, #122 Zhenhua RD., Futian, Shenzhen, China



SUPER HIGH-POWER GaAIAs IR EMITTERS



FEATURES

- · Ultra high power output
- · Four wire bonds on die corners
- · Very uniform optical beam
- Standard 3-lead TO-39 hermetic package
- Chip size .030 x .030 inches

All surfaces are gold plated. Dimensions are nominal values in inches unless otherwise specified. Two cathode pins *must be* externally connected together.



ELECTRO-OPTICAL CHARACTERISTICS AT 25°C

PARAMETERS	TEST CONDITIONS	MIN	TYP	MAX	UNITS
Total Power Output, Po	I _F = 500mA I _F = 10A	80	100 1300		mW
Radiant Intensity, I _e	I _F = 500mA		60		mW/sr
Peak Emission Wavelength, λ_P			880		nm
Spectral Bandwidth at 50%, $\Delta\lambda$	I _F = 50mA		80		nm
Half Intensity Beam Angle, θ			110		Deg
Forward Voltage, V _F	I _F = 500mA		1.65	2	Volts
Reverse Breakdown Voltage, V _R	I _R = 10μΑ	5	30		Volts
Capacitance, C	V _R = 0V		90		pF
Rise Time			0.7		μsec
Fall Time			0.7		μsec

ABSOLUTE MAXIMUM RATINGS AT 25°C CASE

Power Dissipation ¹	1000 mW
Continuous Forward Current	500mA
Peak Forward Current (10µs, 400Hz) ²	10A
Reverse Voltage	5V
Lead Soldering Temperature (1/16" from case for 10sec)	260°C

¹Derate per Thermal Derating Curve above 25°C ²Derate linearly above 25°C

THERMAL PARAMETERS

Storage and Operating Temperature Range	-55°C to 100°C
Maximum Junction Temperature	100°C
Thermal Resistance, R _{THJA} 1	145°C/W Typical
Thermal Resistance, R _{THJA} ²	75°C/W Typical

 $^1\text{Heat}$ transfer minimized by measuring in still air with minimum heat conducting through leads ^2Air circulating at a rapid rate to keep case temperature at 25°C



750 Mitchell Road, Newbury Park, California 91320 Phone: (805) 499-0335, Fax: (805) 499-8108 Email: sales@optodiode.com, Website: www.optodiode.com

SUPER HIGH-POWER GaAIAs IR EMITTERS

THERMAL DERATING CURVE MAXIMUM PEAK PULSE CURRENT 1,100 100 1,000 PEAK FORWARD CURRENT, b (amps) 900 £ 800 t = 10µs J) 700 600 500 INFINITE HEAT SIN 10 t = 50µs t = 100µs 1 400 300 $D = \frac{t}{T}$ ŦШ 200 Į k 100 0 0.1 50 75 AMBIENT TEMPERATURE (°C) 25 100 0.01 0.1 DUTY CYCLE, D (%) 100 Γ DEGRADATION CURVE **RADIATION PATTERN** 100 100 TYPICAL CHARACTERISTICS RELATIVE POWER OUTPUT (%) 90 RELATIVE POWER OUTPUT (%) 80 80 60 70 40 CASE = 25°C NO PRE BURN-IN PERFORMED 60 20 450 50 0 10¹ 102 10³ 104 -100 -80 -60 -40 -20 0 20 BEAM ANGLE, θ(deg) 40 60 80 100 STRESS TIME, (hrs) FORWARD I-V CHARACTERISTICS POWER OUTPUT vs TEMPERATURE 12 1.5 1.4 10 FORWARD CURRENT, F (amps) 1.3 1.2 1.1 1.1 1.0 1.0 1.3 e 8.0 RELATIVE F 0.7 2 0.6 0.5 0 -25 0 25 50 AMBIENT TEMPERATURE (°C) 75 100 10 -50 8 4 6 FORWARD VOLTAGE, V_F (volts) SPECTRAL OUTPUT POWER OUTPUT vs FORWARD CURRENT 100 1,000 80 POWER OUTPUT (% POWER OUTPUT, P₀ (mW) 100 60 40 RELATIVE 10 PULSE 10μs, 100Hz 20 0 850 900 WAVELENGTH, λ(nm) 100 1,000 FORWARD CURRENT, \= (mA) 800 950 1,000 10,000 750 10



750 Mitchell Road, Newbury Park, California 91320 Phone: (805) 499-0335, Fax: (805) 499-8108 Email: sales@optodiode.com, Website: www.optodiode.com

Revision February 26, 2013