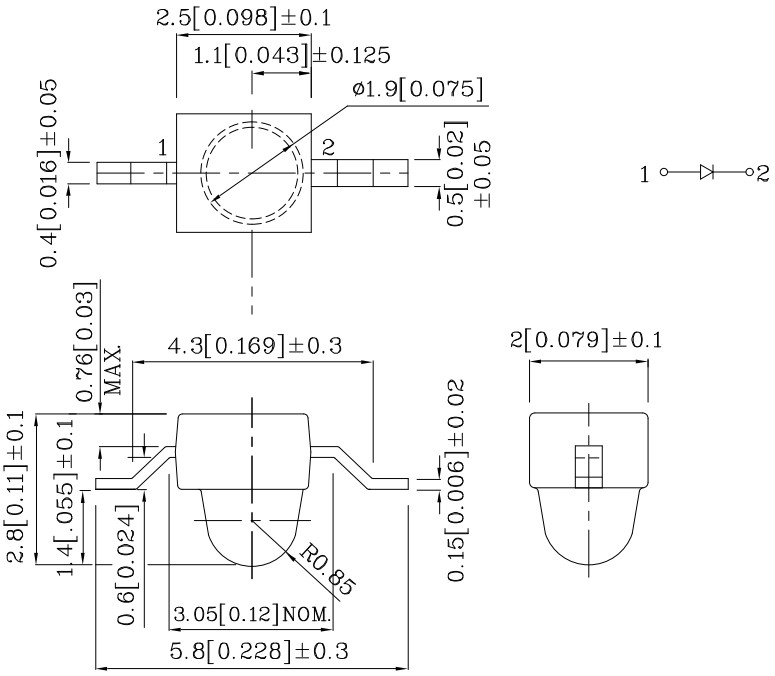
PRELIMINARY SPEC

Features

- SUBMINIATURE PACKAGE.
- WIDE VIEWING ANGLE.
- Z-BEND LEAD.
- LONG LIFE-SOLID STATE RELIABILITY.
- LOW PACKAGE PROFILE.
- PACKAGE : 1000PCS / REEL.
- MOISTURE SENSITIVITY LEVEL : LEVEL 3.
- RoHS COMPLIANT.



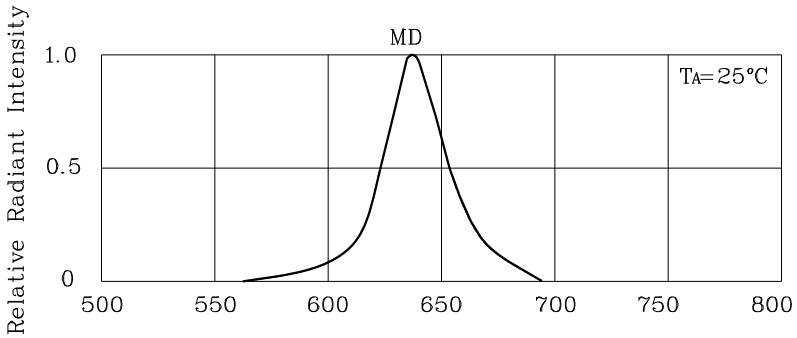
Notes:

1. All dimensions are in millimeters (inches).
2. Tolerance is ± 0.25(0.01") unless otherwise noted.
3. Specifications are subject to change without notice.

Absolute Maximum Ratings (T_A=25°C)		**MD (InGaAlP)**	**Unit**
Reverse Voltage	V_R	5	V
Forward Current	I_F	30	mA
Forward Current (Peak) 1/10 Duty Cycle 0.1ms Pulse Width	i_{FS}	185	mA
Power Dissipation	P_T	75	mW
Operating Temperature	T_A	-40 ~ +85	°C
Storage Temperature	Tstg	-40 ~ +85	

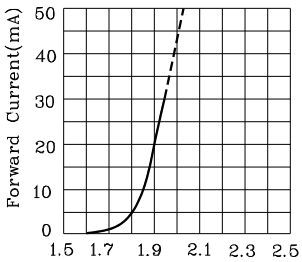
Operating Characteristics (T_A=25°C)		**MD (InGaAlP)**	**Unit**
Forward Voltage (Typ.) (I_F=20mA)	V_F	1.9	V
Forward Voltage (Max.) (I_F=20mA)	V_F	2.5	V
Reverse Current (Max.) (V_R=5V)	I_R	10	uA
Wavelength Of Peak Emission (Typ.) (I_F=20mA)	λ P	640	nm
Wavelength Of Dominant Emission (Typ.) (I_F=20mA)	λ D	628	nm
Spectral Line Full Width At Half-Maximum (Typ.) (I_F=20mA)	Δλ	27	nm
Capacitance (Typ.) (VF=0V, f=1MHz)	C	45	pF

Part Number	Emitting Color	Emitting Material	Lens-color	Luminous Intensity (IF=20mA) mcd		Wavelength nm λ P	Viewing Angle 2 θ 1/2
				min.	typ.		
ZMD46W-9	Red	InGaAlP	Water Clear	650	1590	640	20°

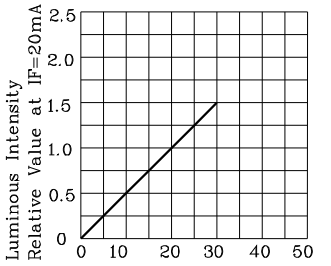


RELATIVE INTENSITY Vs. WAVELENGTH

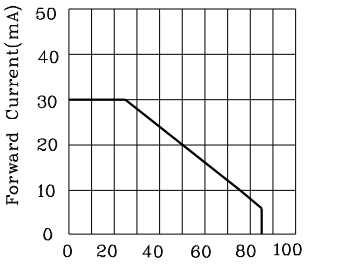
❖ **MD**



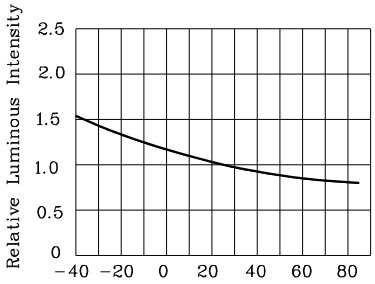
FORWARD CURRENT Vs.
FORWARD VOLTAGE



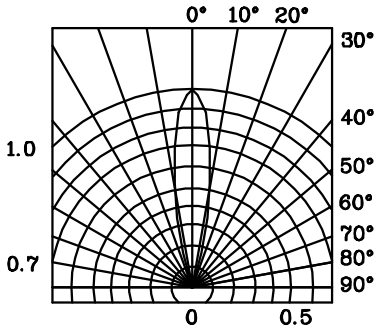
LUMINOUS INTENSITY Vs.
FORWARD CURRENT



FORWARD CURRENT
DERATING CURVE

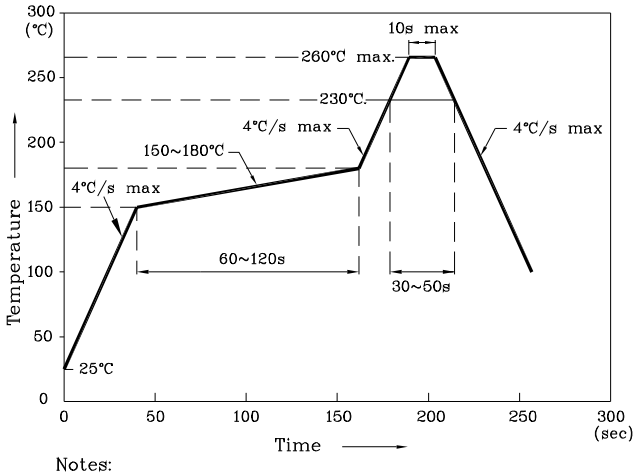


LUMINOUS INTENSITY Vs.
AMBIENT TEMPERATURE



SPATIAL DISTRIBUTION

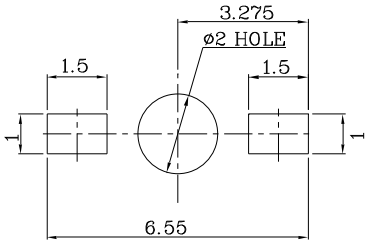
Reflow Soldering Profile For Lead-free SMT Process.



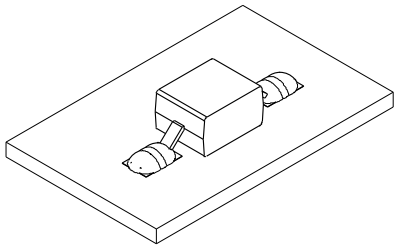
Notes:

1. Maximum soldering temperature should not exceed 260℃.
2. Recommended reflow temperature: 145℃-260℃.
3. Do not put stress to the epoxy resin during high temperatures conditions.

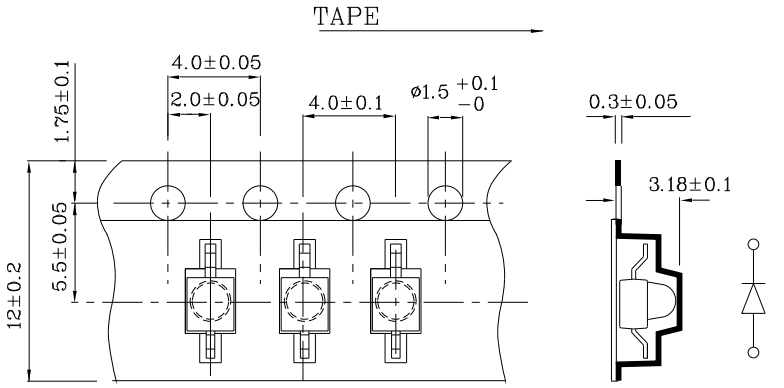
❖ **Recommended Soldering Pattern (Units : mm;Tolerance:± 0.1)**



❖ **The device has a single mounting surface. The device must be mounted according to the specifications.**



❖ **Tape Specification (Units : mm)**



Remarks:

If special sorting is required (e.g. binning based on forward voltage, Luminous intensity / luminous flux, or wavelength), the typical accuracy of the sorting process is as follows:

1. Wavelength: +/-1nm
2. Luminous Intensity / Luminous Flux: +/-15%
3. Forward Voltage: +/-0.1V

Note: Accuracy may depend on the sorting parameters.

PACKING & LABEL SPECIFICATIONS ZMD46W-9

