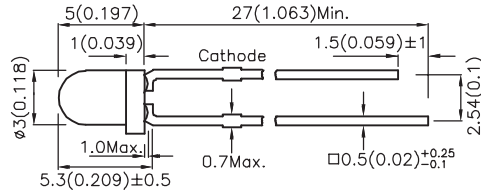


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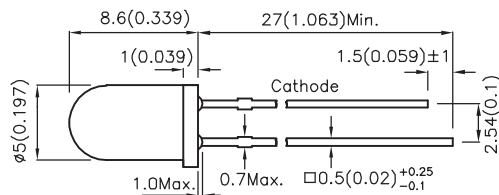
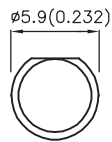
Part Number	Chip Structure	λ_{peak} (nm)	Po(mW/sr) $I_f=20\text{mA}, 50\text{mA}^*$		Viewing Angle 2 θ 1/2	Lens
			Min.	Typ.		

3mm



TNI30W	GaAs	940	3 *8	7 *14	50°	Water Clear
THI30W	GaAlAs	880	3 *5	15 *19	50°	Water Clear


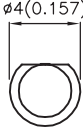
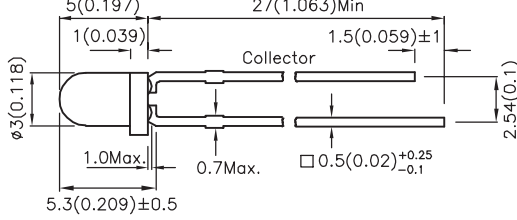
5mm


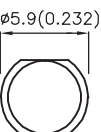
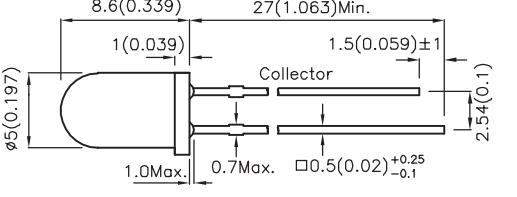


TNI12W	GaAs	940	8 *25	19 *49	20°	Water Clear
TNI12BF	GaAs	940	8 *25	19 *49	20°	Blue Transparent
THI12W	GaAlAs	880	6 *12	14 *24	20°	Water Clear
THI12W850	GaAlAs	850	12 *40	29 *89	20°	Water Clear

1. Dimension Unit: mm(inches), Tolerance: $\pm 0.25\text{mm}$ (0.01").
 2. Radiant intensity value and wavelength are in accordance with CIE127-2007 standards.
 3. We reserve the right to make changes at any time to enhance the design and / or performance of the product.



Part Number	Lens	Description
3mm		
		
RNI30W-1	Water Clear	3mm

5mm		
		
RNI12W	Water Clear	5mm

Electrical & Radiant Characteristics Ta =25°C

Symbol	Parameter	Part Number	Min.	Typ.	Max.	Unit	Test Condition
I _(ON)	On State Collector Current	RNI30W-1	0.3	0.8	-	mA	V _{CE} =5V, Ee=1mW/cm ² λ=940nm
		RNI12W	0.5	2.5			
V _{BR CEO}	Collector-to-Emitter Breakdown Voltage	-	30	-	-	V	I _C =100μA Ee=0mW/cm ²
V _{BR ECO}	Emitter-to-Collector Breakdown Voltage	-	5	-	-	V	I _E =100μA Ee=0mW/cm ²
V _{CE (SAT)}	Collector-to-Emitter Saturation Voltage	-	-	-	0.8	V	I _C =2mA Ee=20mW/cm ²
I _{CEO}	Collector Dark Current	-	-	-	100	nA	V _{CE} =10V Ee=0mW/cm ²
T _R	Rise Time (10% to 90%)	-	-	15	-	μs	V _{CE} =5V I _C =1mA R _L =1KΩ
T _F	Fall Time (90% to 10%)	-	-	15	-	μs	V _{CE} =5V I _C =1mA R _L =1KΩ



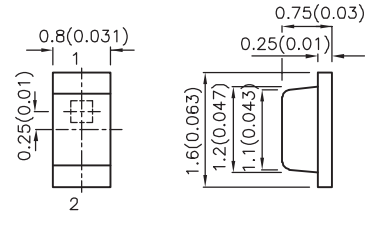
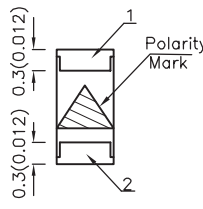
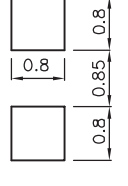

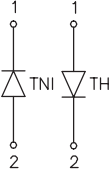
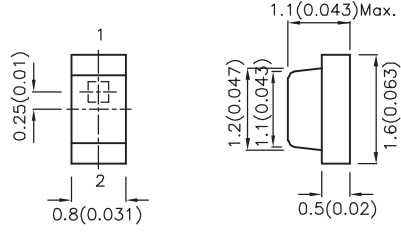
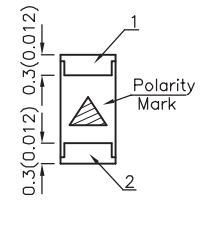
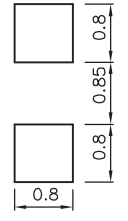
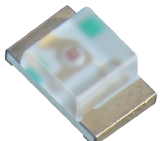

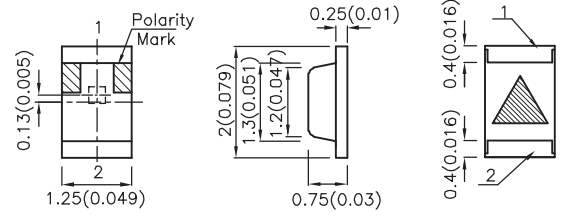
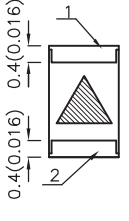
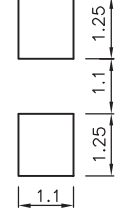
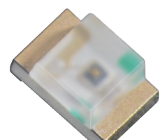
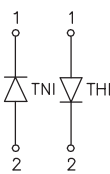
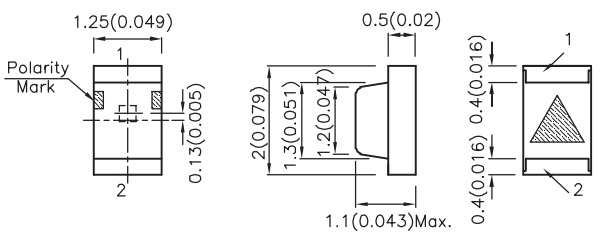
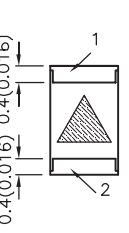
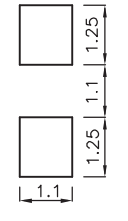
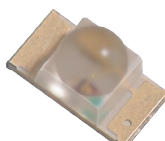

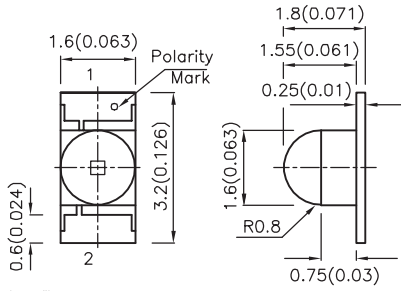
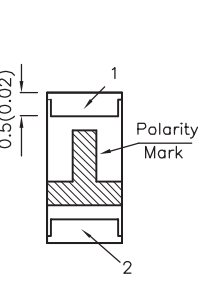
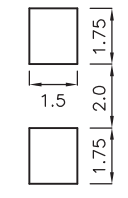
Absolute Maximum Rating Ta =25°C

Collector-to-Emitter Voltage	30V	Operating Temperature Range	-40°C ~ +85°C
Emitter-to-Collector Voltage	5V	Storage Temperature Range	-40°C ~ +85°C
Power Dissipation at (or below) 25°C Free Air Temperature	100mW	Lead Soldering Temperature(>5mm For 5sec)	260°C

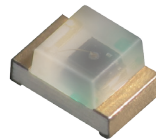

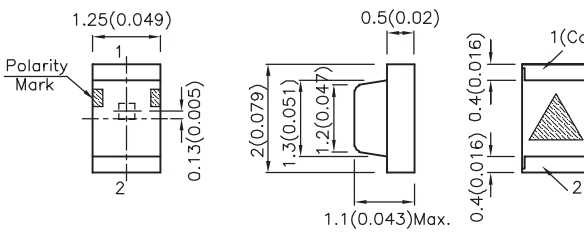
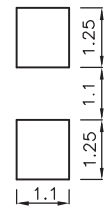

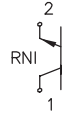
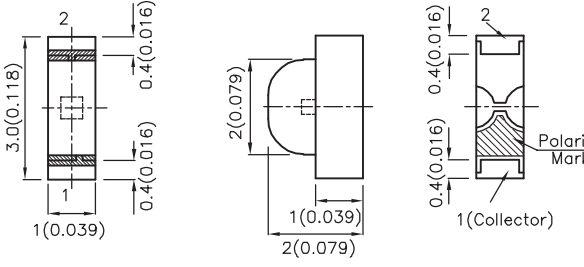
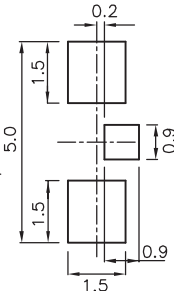
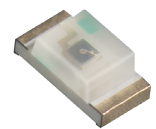
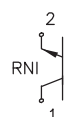
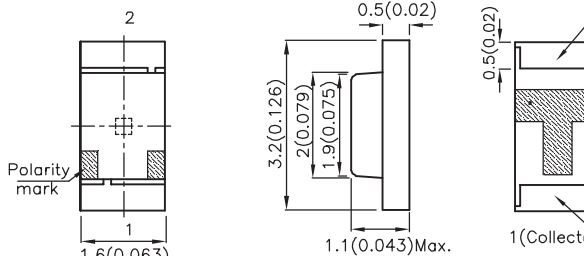
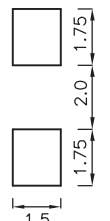
1. Dimension Unit: mm(inches), Tolerance: ±0.25mm (0.01").
 2. We reserve the right to make changes at any time to enhance the design and / or performance of the product.



SMD INFRARED EMITTING DIODE

Part Number	Chip Structure	λ_{peak} (nm)	Po(mW/sr) $I_f=20mA$		Viewing Angle 2 θ 1/2	Lens
			Min.	Typ.		
1.6x0.8x0.75mm (0603)     						
ZTNI53W-1	GaAs	940	0.8	1.8	150°	Water Clear
1.6x0.8x1.1mm (0603)     						
ZTNI53W	GaAs	940	0.8	1.8	150°	Water Clear
ZTHI53W	GaAlAs	880	0.8	1.3	150°	Water Clear
2.0x1.25x0.75mm (0805)     						
ZTNI54W-1	GaAs	940	0.8	1.8	160°	Water Clear
2.0x1.25x1.1mm (0805)     						
ZTNI54W	GaAs	940	0.8	1.8	160°	Water Clear
ZTHI54W	GaAlAs	880	0.8	1.3	160°	Water Clear
3.2x1.6x1.8mm (1206 Dome Lens)     						
ZTNI55W-3	GaAs	940	2	4.8	40°	Water Clear

1. Soldering Pattern Dimension Unit : mm Tolerance : ±0.1mm.
 2. Radiant intensity value and wavelength are in accordance with CIE127-2007 standards.
 3. We reserve the right to make changes at any time to enhance the design and / or performance of the product.

Part Number	Lens	Description	
<p>2.0x1.25x1.1mm (0805)</p>     <p>Dimension Unit: mm(inches), Tolerance : ±0.15(0.004")</p> <p>Recommended Soldering Pattern</p>	ZRNI54W	Water Clear	2.0x1.25x1.1mm
<p>3.0x2.0x1.0mm (Right Angle)</p>     <p>Dimension Unit: mm(inches), Tolerance : ±0.15(0.006")</p> <p>Recommended Soldering Pattern</p>	ZRNI56W ZRNI56BF	Water Clear Blue transparent	3.0x2.0x1.0mm 3.0x2.0x1.0mm
<p>3.2x1.6x1.1mm (1206)</p>     <p>Dimension Unit: mm(inches), Tolerance : ±0.2(0.008")</p> <p>Recommended Soldering Pattern</p>	ZRNI55W	Water Clear	3.2x1.6x1.1mm

Electrical & Radiant Characteristics $T_a = 25^\circ\text{C}$

Symbol	Parameter	Part Number	Min.	Typ.	Max.	Unit	Test Condition
$I_{(ON)}$	On State Collector Current	ZRNI54W	0.2	0.4	-	mA	$V_{CE}=5V, E_e=1mW/cm^2, \lambda=940nm$
		ZRNI56W	0.2	0.4			
		ZRNI56BF	0.1	0.3			
		ZRNI55W	0.2	0.4			
$V_{BR\ CE0}$	Collector-to-Emitter Breakdown Voltage	-	30	-	-	V	$I_c=100\mu A, E_e=0mW/cm^2$
$V_{BR\ EC0}$	Emitter-to-Collector Breakdown Voltage	-	5	-	-	V	$I_e=100\mu A, E_e=0mW/cm^2$
$V_{CE(SAT)}$	Collector-to-Emitter Saturation Voltage	-	-	-	0.8	V	$I_c=2mA, E_e=20mW/cm^2$
I_{CE0}	Collector Dark Current	-	-	-	100	nA	$V_{CE}=10V, E_e=0mW/cm^2$
T_R	Rise Time (10% to 90%)	-	-	15	-	μs	$V_{CE}=5V, I_c=1mA, R_L=1K\Omega$
T_F	Fall Time (90% to 10%)	-	-	15	-	μs	$V_{CE}=5V, I_c=1mA, R_L=1K\Omega$

Absolute Maximum Rating $T_a = 25^\circ\text{C}$

Collector-to-Emitter Voltage	30V	Operating Temperature Range	-40°C ~ +85°C
Emitter-to-Collector Voltage	5V	Storage Temperature Range	-40°C ~ +85°C
Power Dissipation at (or below) 25°C Free Air Temperature	100mW		

1. Soldering Pattern Dimension Unit : mm Tolerance : ±0.1mm.
2. We reserve the right to make changes at any time to enhance the design and / or performance of the product.

