

Inolux Technologies 0.50" Single Digit Numeric Display HNTS50 Series

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	*****	*****		HNTS50 Series
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DISCLAIMER

- The information contained herein is presented only as a guide for the applications of our products.

No responsibility is assumed by INOLUX for any infringements of intellectual property or other rights of the third parties which may result from its use.

- Inolux is continually effort to improve the quality of its products. Nevertheless, semiconductor devices in general can malfunction or fail due to their inherent electrical sensitivity and vulnerability to physical stress. It is the responsibility of the buyer, when utilizing INOLUX products, to comply with the standards of safety in making a safe design for the entire system, and to avoid situations in which a malfunction or failure of such INOLUX products cause loss of human life, bodily injury or damage to property.
- The INOLUX products listed in this document are intended for usage in general electronics (computer, personal equipment, office equipment, industrial robotics, domestic, etc...) These products are neither intended nor warranted for usage in equipment that requires extraordinarily high quality and/or reliability or a malfunction or failure of which may cause loss of human life or bodily injury.
- In developing your designs, please ensure that INOLUX products are used within specified operating ranges as set forth in the most recent INOLUX products specifications.
- Also, please keep in mind the precautions listed in this document.

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Orderable Information

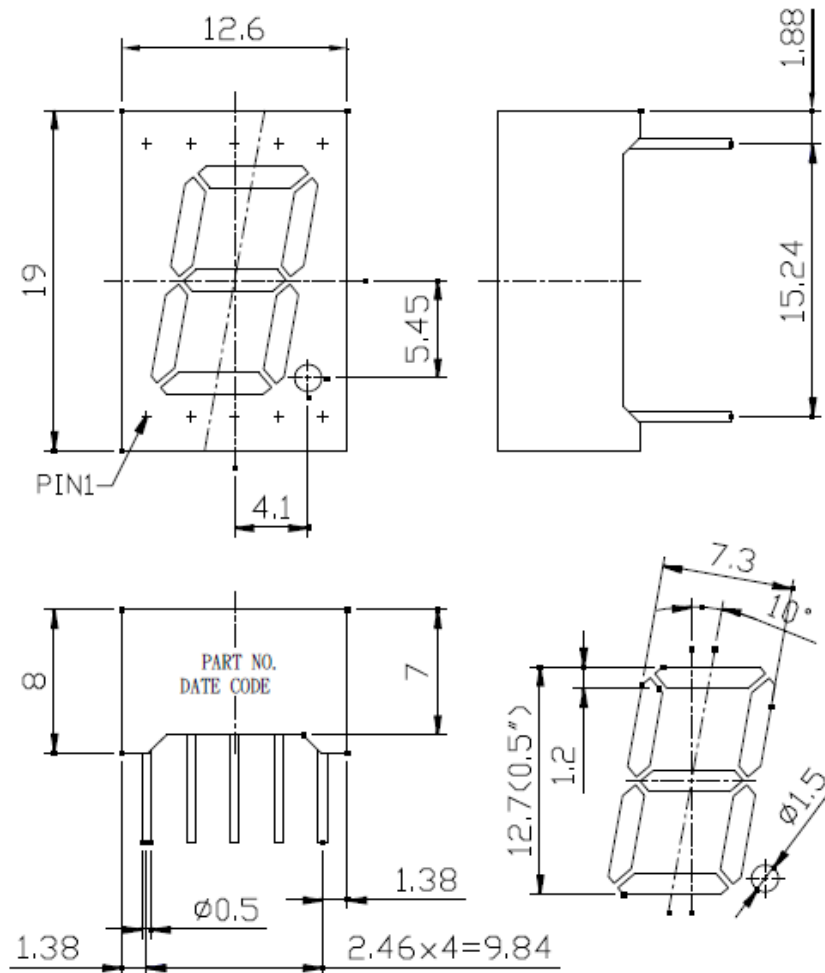
H N T S 50 X X X - X X X X

Series Name	Digit Height	Color Code	Polarity	Customer Code
HNTS H: Inolux Technologies N: Numeric T: Through Hole S: Single	50: 0.5" digit height	UB: 470nm InGaN Blue UTG: 525nm InGaN True Green UYG: 570nm AlInGaP Yellow Green UY: 590nm AlInGaP Yellow UA: 606nm AlInGaP Amber UR: 625nm AlInGaP Hyper Red USR: 639nm AlInGaP Super Red	CA: Common Anode CC: Common Cathode	XXXX: Customer specific code

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Features

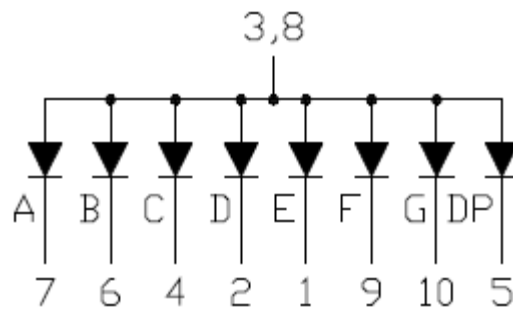
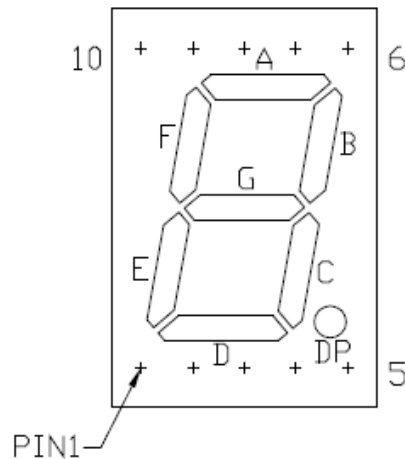
- 0.5" (12.7mm) Digit Height
- Through Hole Display
- Black Face , White Segment
- RoHS Compliant, Pb Free



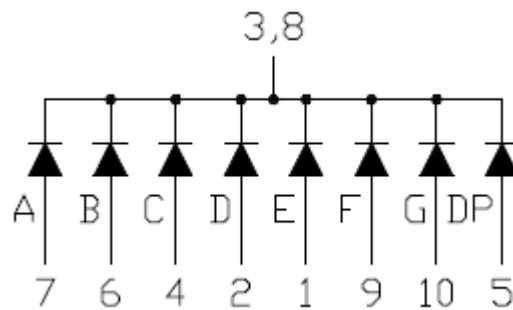
Note: Dimension is in millimeters. Tolerance is $\pm 0.25\text{mm}$ unless otherwise noted.

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Schematic Drawing



Common Anode



Common Cathode

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Product Characteristic

Absolute Maximum Rating

(T_a = 25°C)

Product	Emission Color	P _{AD} (mW)	I _{AF} (mA)	I _{PF} (mA)	V _R (V)	T _{OP} (°C)	T _{ST} (°C)	Derate From 25°C (mA/°C)
HNTS50UBCA/ HNTS50UBCC	Blue	120	30	100	5	-25 ~ +85	-25 ~ +85	0.4
HNTS50UTGA/ HNTS50UTGC	True Green	120	30	100	5	-25 ~ +85	-25 ~ +85	0.3
HNTS50UYGA/ HNTS50UYGC	Yellow Green	85	30	120	5	-25 ~ +85	-25 ~ +85	0.42
HNTS50UYA/ HNTS50UYC	Yellow	70	25	90	5	-25 ~ +85	-25 ~ +85	0.28
HNTS50UAA/ HNTS50UAC	Amber	70	25	90	5	-25 ~ +85	+25 ~ +85	0.33
HNTS50URA/ HNTS50URC	Hyper Red	70	25	90	5	-25 ~ +85	-25 ~ +85	0.33
HNTS50USRA/ HNTS50USRC	Super Red	70	25	90	5	-25 ~ +85	-25 ~ +85	0.33

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Electrical and Optical Characteristic
 $(T_a = 25^{\circ}\text{C})$

Product	Emission Color	I_F (mA)	V_F (V)		λ (nm)		I_V (mcd)	I_R (μA)
			Typ.	Max.	λ_d	$\Delta\lambda$	Typ.	Max
HNTS50UBCA/ HNTS50UBCC	Blue	20	3.2	4.0	470	30	80	10 ($V_R=8\text{V}$)
HNTS50UTGA/ HNTS50UTGC	True Green	20	3.2	4.0	525	30	160	10 ($V_R=8\text{V}$)
HNTS50UYGA/ HNTS50UYGC	Yellow Green	20	2.1	2.6	571	20	25	10 ($V_R=5\text{V}$)
HNTS50UYA/ HNTS50UYC	Yellow	20	2.0	2.6	590	20	60	10 ($V_R=5\text{V}$)
HNTS50UAA/ HNTS50UAC	Amber	20	2.0	2.6	606	35	60	10 ($V_R=5\text{V}$)
HNTS50URA/ HNTS50URC	Hyper Red	20	2.0	2.6	625	20	60	10 ($V_R=5\text{V}$)
HNTS50USRA/ HNTS50USRC	Super Red	20	2.0	2.6	639	20	35	10 ($V_R=5\text{V}$)

Luminous Intensity tolerance = +/- 15%

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Characteristic Curves for UB

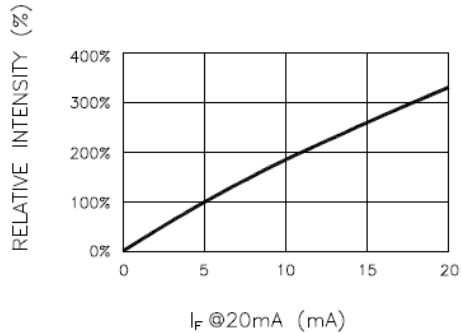


Fig.1 RELATIVE INTENSITY VS. FORWARD CURRENT

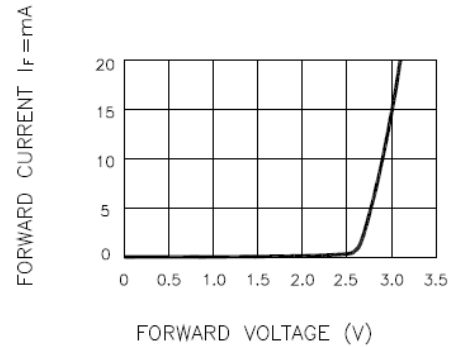


Fig.2 FORWARD CURRENT VS. FORWARD VOLTAGE

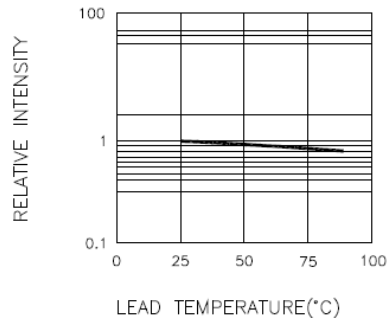


Fig.3 RELATIVE INTENSITY VS. LEAD TEMPERATURE
(PULSED 20 mA; 300us PULSE, 10ms PERIOD)

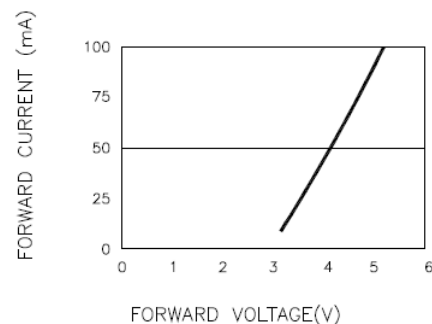


Fig.4 PEAK FORWARD VOLTAGE VS. FORWARD CURRENT
(100us TEST PULSE, 1% DUTY CYCLE)

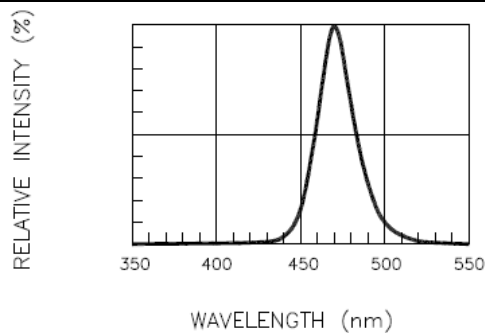


Fig.5 RELATIVE INTENSITY VS. WAVELENGTH

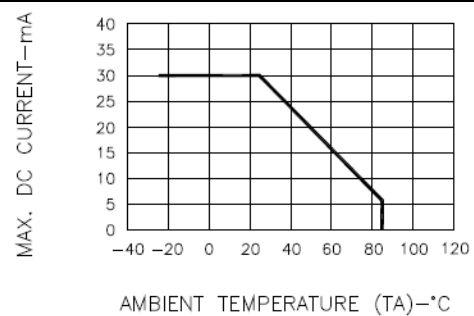


Fig.6 MAX. ALLOWABLE DC CURRENT
VS. AMBIENT TEMPERATURE

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Characteristic Curves for UTG

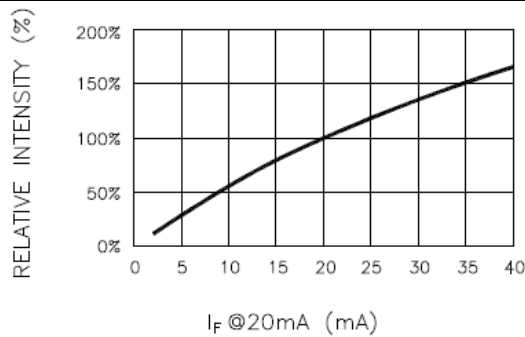


Fig.1 RELATIVE INTENSITY VS. FORWARD CURRENT

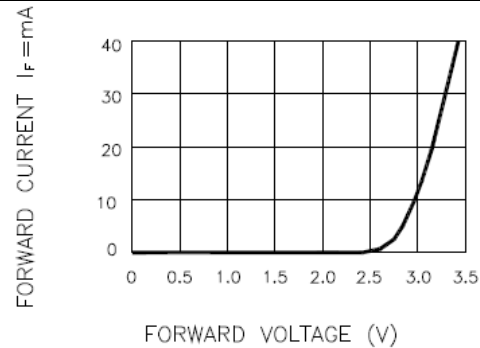


Fig.2 FORWARD CURRENT VS. FORWARD VOLTAGE

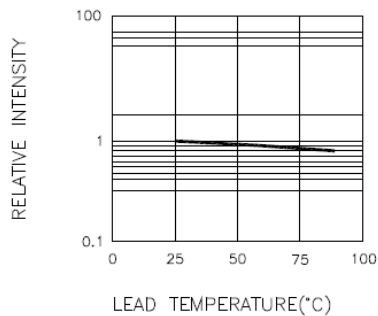


Fig.3 RELATIVE INTENSITY VS. LEAD TEMPERATURE
(PULSED 20 mA; 300us PULSE, 10ms PERIOD)

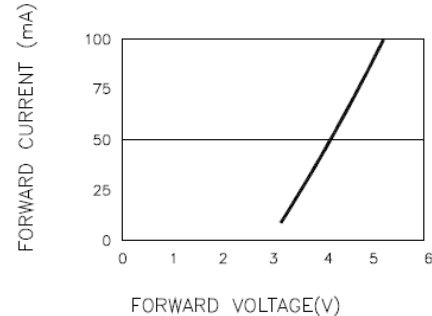


Fig.4 PEAK FORWARD VOLTAGE VS. FORWARD CURRENT
(100us TEST PULSE, 1% DUTY CYCLE)

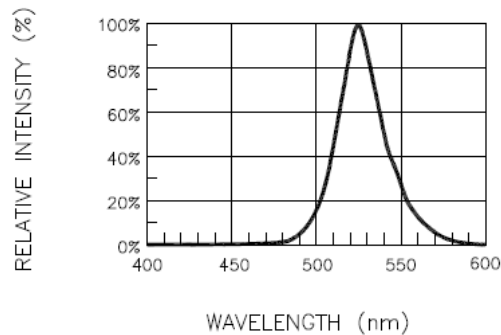


Fig.5 RELATIVE INTENSITY VS. WAVELENGTH

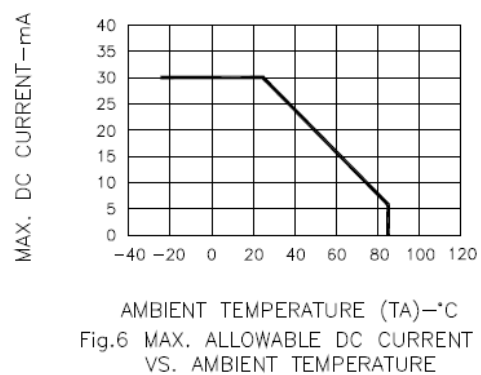


Fig.6 MAX. ALLOWABLE DC CURRENT
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Characteristic Curves for UYG

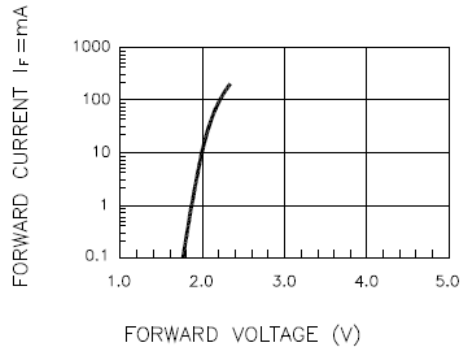


Fig.1 FORWARD CURRENT VS. FORWARD VOLTAGE

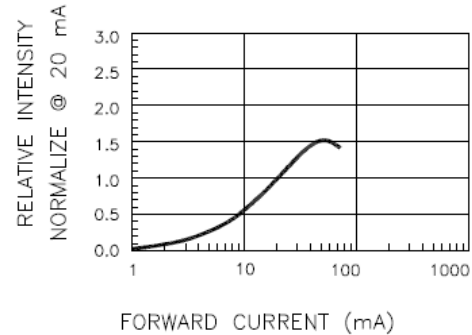


Fig.2 RELATIVE INTENSITY VS. FORWARD CURRENT

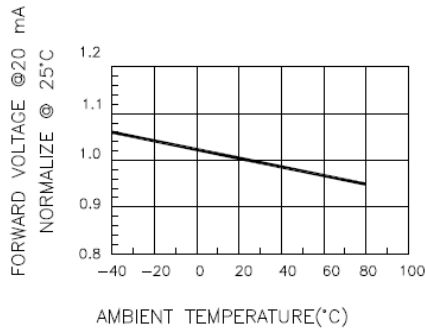


Fig.3 FORWARD VOLTAGE VS. TEMPERATURE

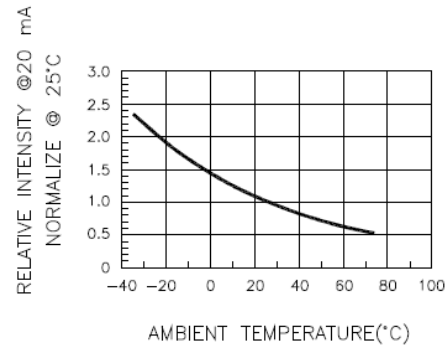


Fig.4 RELATIVE INTENSITY VS. TEMPERATURE

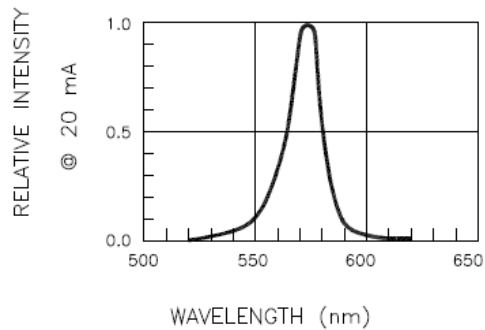


Fig.5 RELATIVE INTENSITY VS. WAVELENGTH

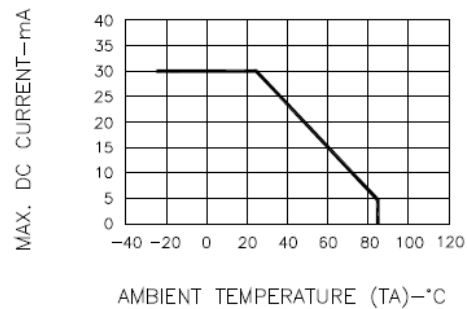


Fig.6 MAX. ALLOWABLE DC CURRENT VS. AMBIENT TEMPERATURE

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Characteristic Curves for UY

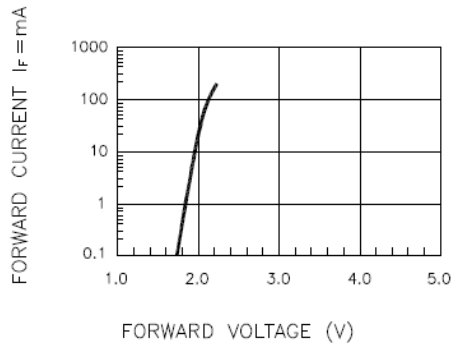


Fig.1 FORWARD CURRENT VS. FORWARD VOLTAGE

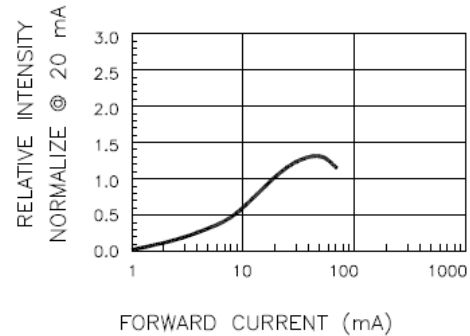


Fig.2 RELATIVE INTENSITY VS. FORWARD CURRENT

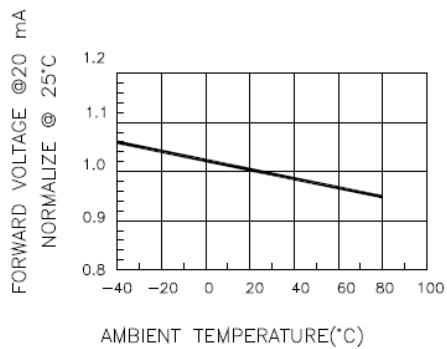


Fig.3 FORWARD VOLTAGE VS. TEMPERATURE

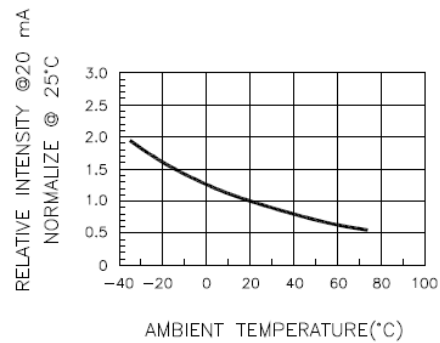


Fig.4 RELATIVE INTENSITY VS. TEMPERATURE

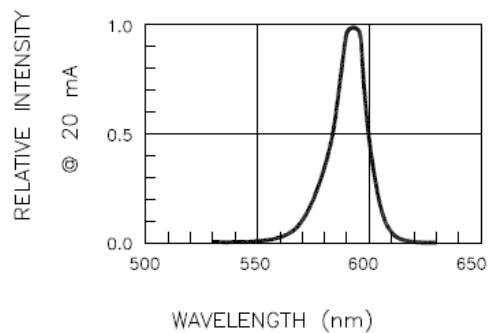


Fig.5 RELATIVE INTENSITY VS. WAVELENGTH

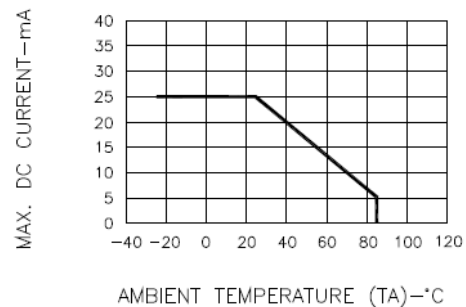


Fig.6 MAX. ALLOWABLE DC CURRENT
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Characteristic Curves for UA

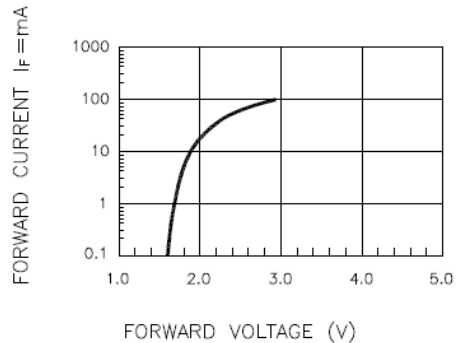


Fig.1 FORWARD CURRENT VS. FORWARD VOLTAGE

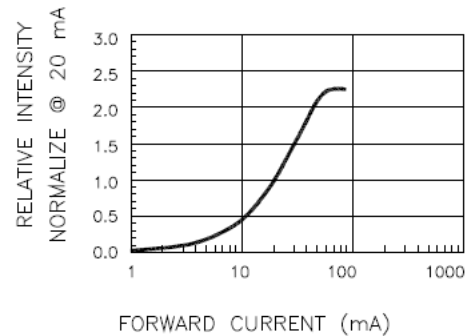


Fig.2 RELATIVE INTENSITY VS. FORWARD CURRENT

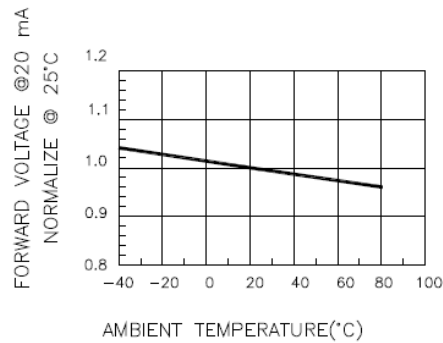


Fig.3 FORWARD VOLTAGE VS. TEMPERATURE

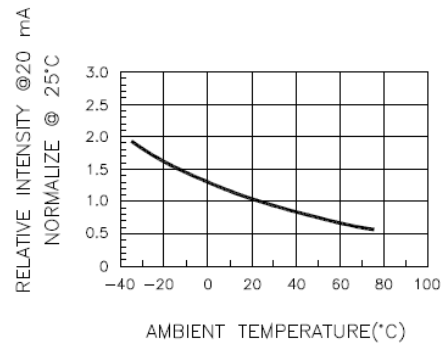


Fig.4 RELATIVE INTENSITY VS. TEMPERATURE

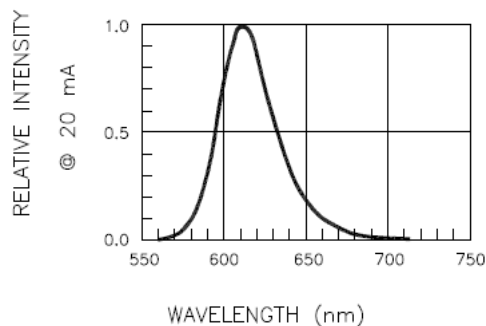


Fig.5 RELATIVE INTENSITY VS. WAVELENGTH

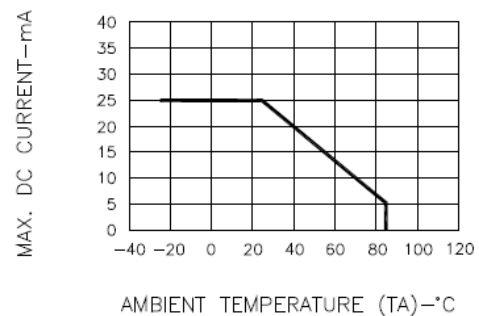


Fig.6 MAX. ALLOWABLE DC CURRENT
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Characteristic Curves for UR

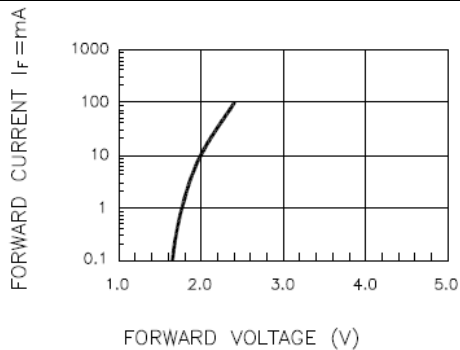


Fig.1 FORWARD CURRENT VS. FORWARD VOLTAGE

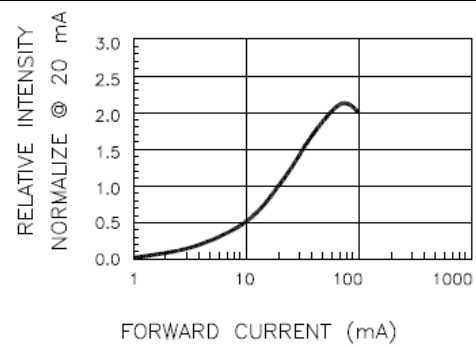


Fig.2 RELATIVE INTENSITY VS. FORWARD CURRENT

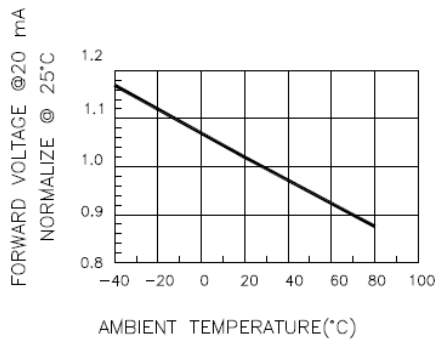


Fig.3 FORWARD VOLTAGE VS. TEMPERATURE

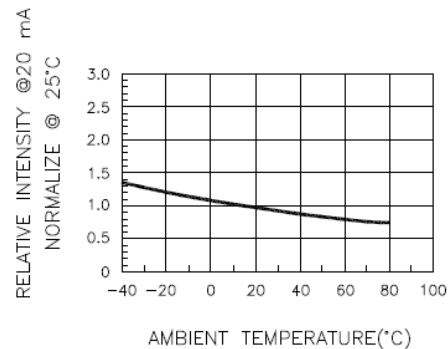


Fig.4 RELATIVE INTENSITY VS. TEMPERATURE

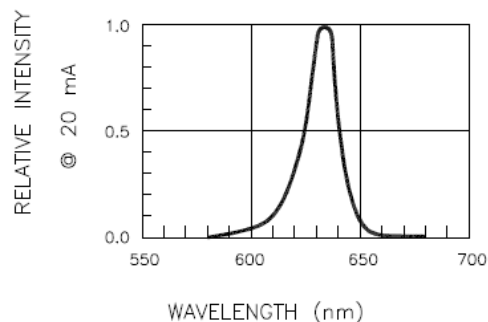


Fig.5 RELATIVE INTENSITY VS. WAVELENGTH

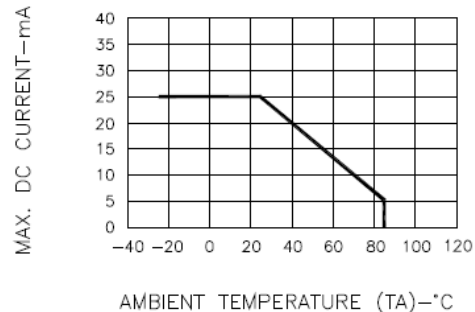


Fig.6 MAX. ALLOWABLE DC CURRENT
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Characteristic Curves for USR

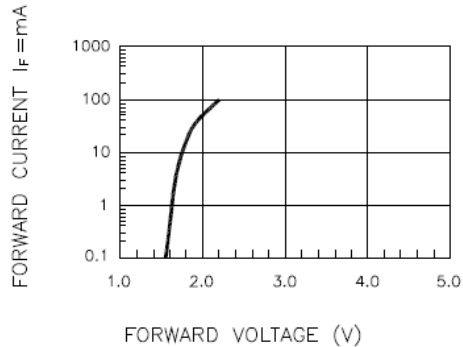


Fig.1 FORWARD CURRENT VS. FORWARD VOLTAGE

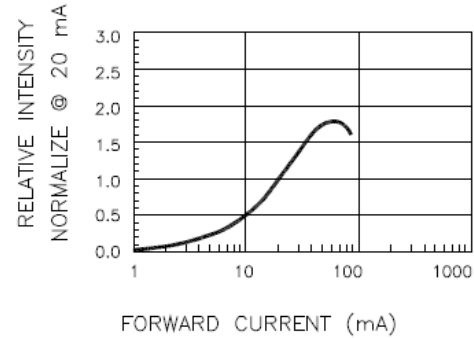


Fig.2 RELATIVE INTENSITY VS. FORWARD CURRENT

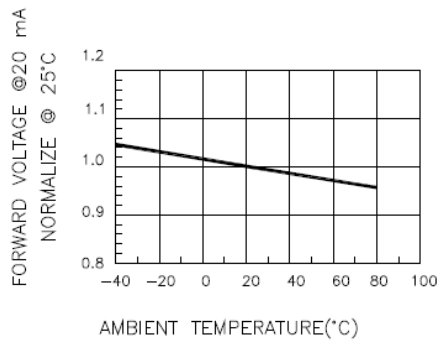


Fig.3 FORWARD VOLTAGE VS. TEMPERATURE

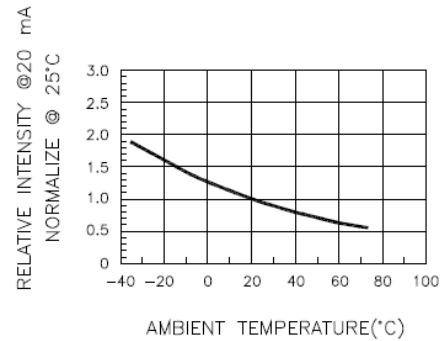


Fig.4 RELATIVE INTENSITY VS. TEMPERATURE

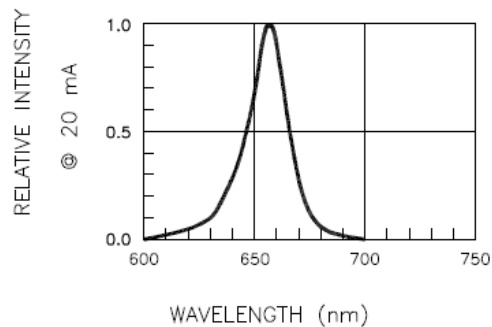


Fig.5 RELATIVE INTENSITY VS. WAVELENGTH

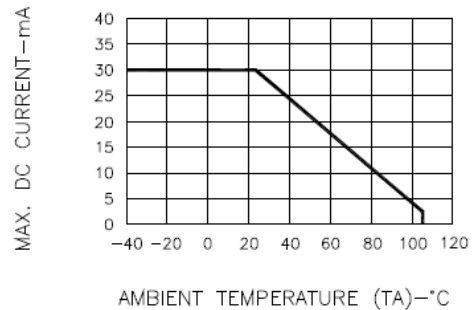
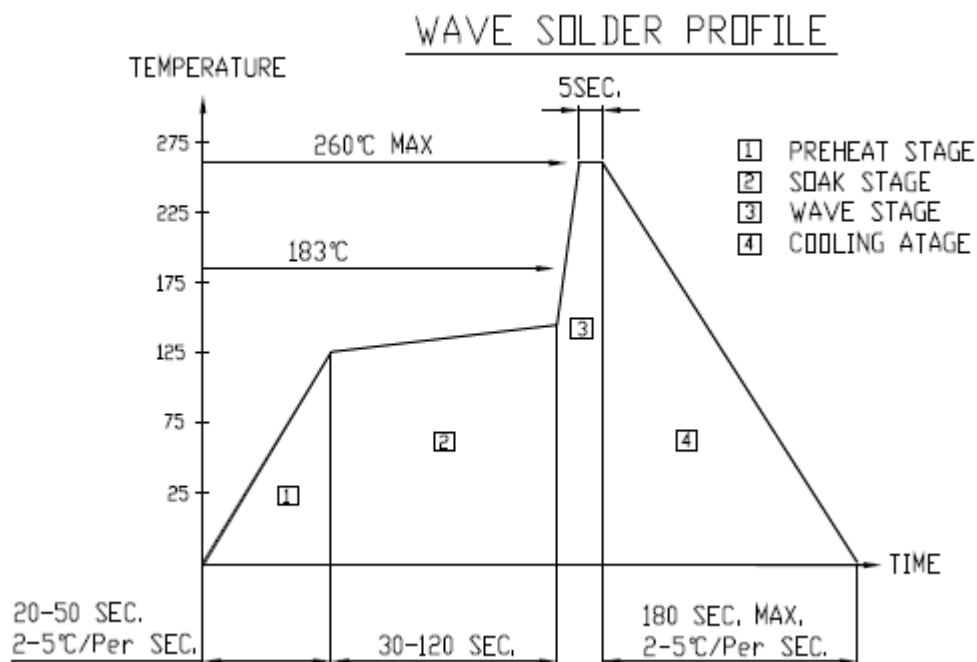


Fig.6 MAX. ALLOWABLE DC CURRENT VS. AMBIENT TEMPERATURE

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Reflow Soldering



Soldering Iron

Basic Spec is ≤ 4 sec. when 260°C (+10°C \rightarrow -1 second). Power dissipation of Iron should be less than 15W. Surface temperature should be under 236°C

Rework

Rework should be completed within 4 second under 245°C

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Revision History

Changes since last revision	Page	Version No.	Revision Date
Initial Release for HNTS50 Series		1.0	05-01-2013

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