

**QT-Brightek PLCC6 Series**

**PLCC6 White LED**

**Part No.: QBLP679-IWK-XX**

**XX = WW/NW/CW**

---

**Table of Contents:**

Introduction .....	3
Electrical / Optical Characteristic (T=25 °C) .....	4
Absolute Maximum Rating .....	4
Correlated Color Temperature Chart .....	6
Characteristic Curves.....	7
Solder Profile & Footprint.....	8
Packing .....	9
Labeling .....	10
Ordering Information .....	10
Revision History .....	11
Disclaimer .....	11

## Introduction

**Feature:**

- Yellow diffused lens
- Package in tape and reel
- Ultra bright PLCC6 White
- InGaN technology
- 120 degree viewing angle

**Description:**

This PLCC6 LEDs have a height profile of 1.60mm. Combination of high brightness output and robust package, this LED is ideal for architecture lighting, status indication, and general application

**Application:**

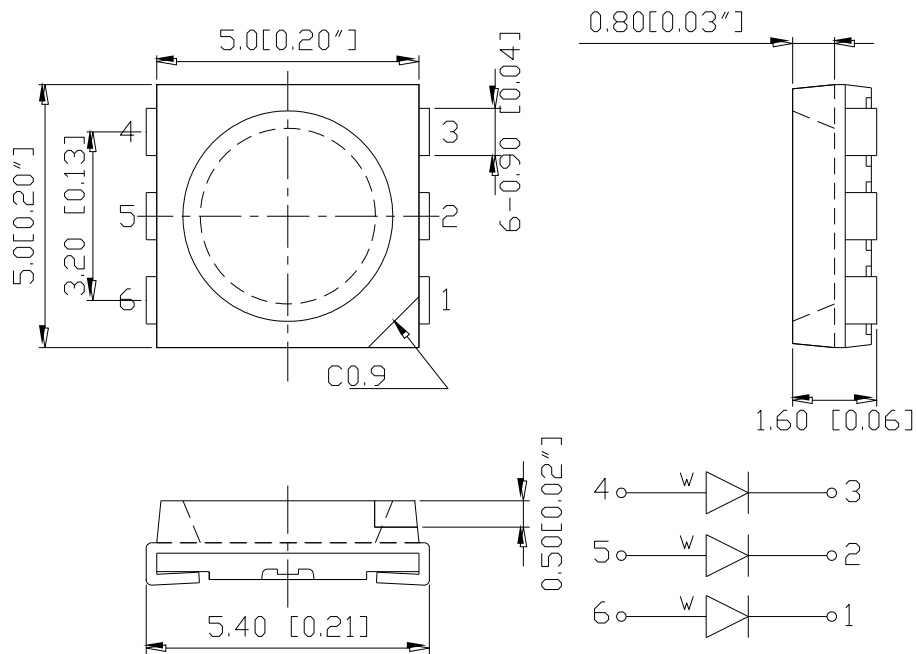
- Status indication
- Back lighting application
- Architecture lighting

**Certification & Compliance:**

- TS16949
- ISO9001
- RoHS Compliant



**Dimension:**



Units: mm / tolerance = +/-0.2mm

## Electrical / Optical Characteristic (T=25 °C)

Product	Color	I <sub>F</sub> (mA)*	V <sub>F</sub> (V)		CCT (K)			I <sub>V</sub> (mcd)	
			Typ.	Max.	Min.	Typ.	Max.	Min.	Typ.
QBLP679-IWK-WW	Warm White	60	3.2	3.6	2760	3000	3260	4600	6000
QBLP679-IWK-NW	Natural White	60	3.2	3.6	3640	4240	4746	4600	6000
QBLP679-IWK-CW	Cool White	60	3.2	3.6	5300	6020	7050	4600	6000

\*Total forward current for three dies

## Absolute Maximum Rating

Material	P <sub>d</sub> (mW)	I <sub>F</sub> (mA)	I <sub>FP</sub> (mA)**	V <sub>R</sub> (V)	T <sub>OP</sub> (°C)	T <sub>ST</sub> (°C)	T <sub>SO L</sub> (°C)***
InGaN	324	90	125	5	-40 to +80	-40 to +85	260

\*\*Duty 1/8 @ 1KHz

\*\*\*IR Reflow for no more than 10 sec @ 260 °C

## Forward Voltage V<sub>F</sub> @ I<sub>F</sub>=60mA

Bin	Min.	Max.	Unit
B	2.8	2.9	V
C	2.9	3.0	
D	3.0	3.1	
E	3.1	3.2	
F	3.2	3.3	
G	3.3	3.4	
H	3.4	3.5	
I	3.5	3.6	

## Luminous Intensity I<sub>V</sub> @ I<sub>F</sub>=60mA

Bin	Min.	Max.	Unit
21	4600	6000	mcd
22	6000	7800	
23	7800	9800	

Note:

Tolerance of measurement of forward voltage: ±0.1V

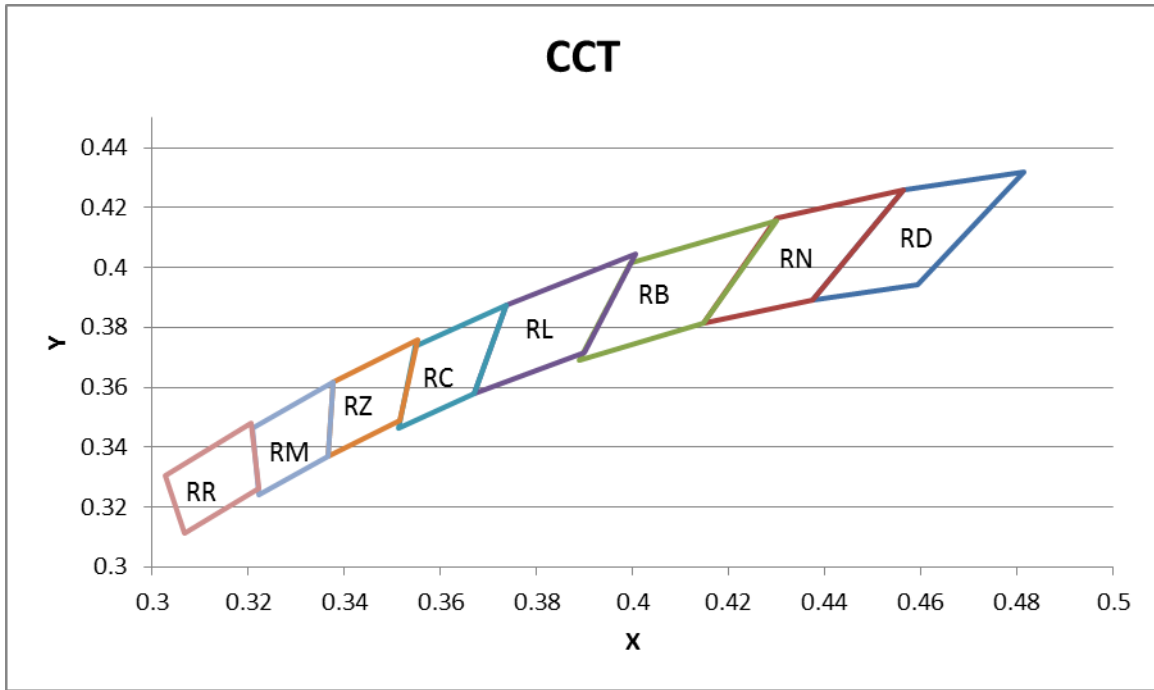
Tolerance of measurement of luminous intensity: ±15%

---

**Correlated Color Temperature (CCT) @ I<sub>F</sub>=60mA**

Bin	Min.	Max.	Unit
RN	2760	3260	K
RL	3640	4240	
RC	4240	4746	
RM	5300	6020	
RR	6020	7050	

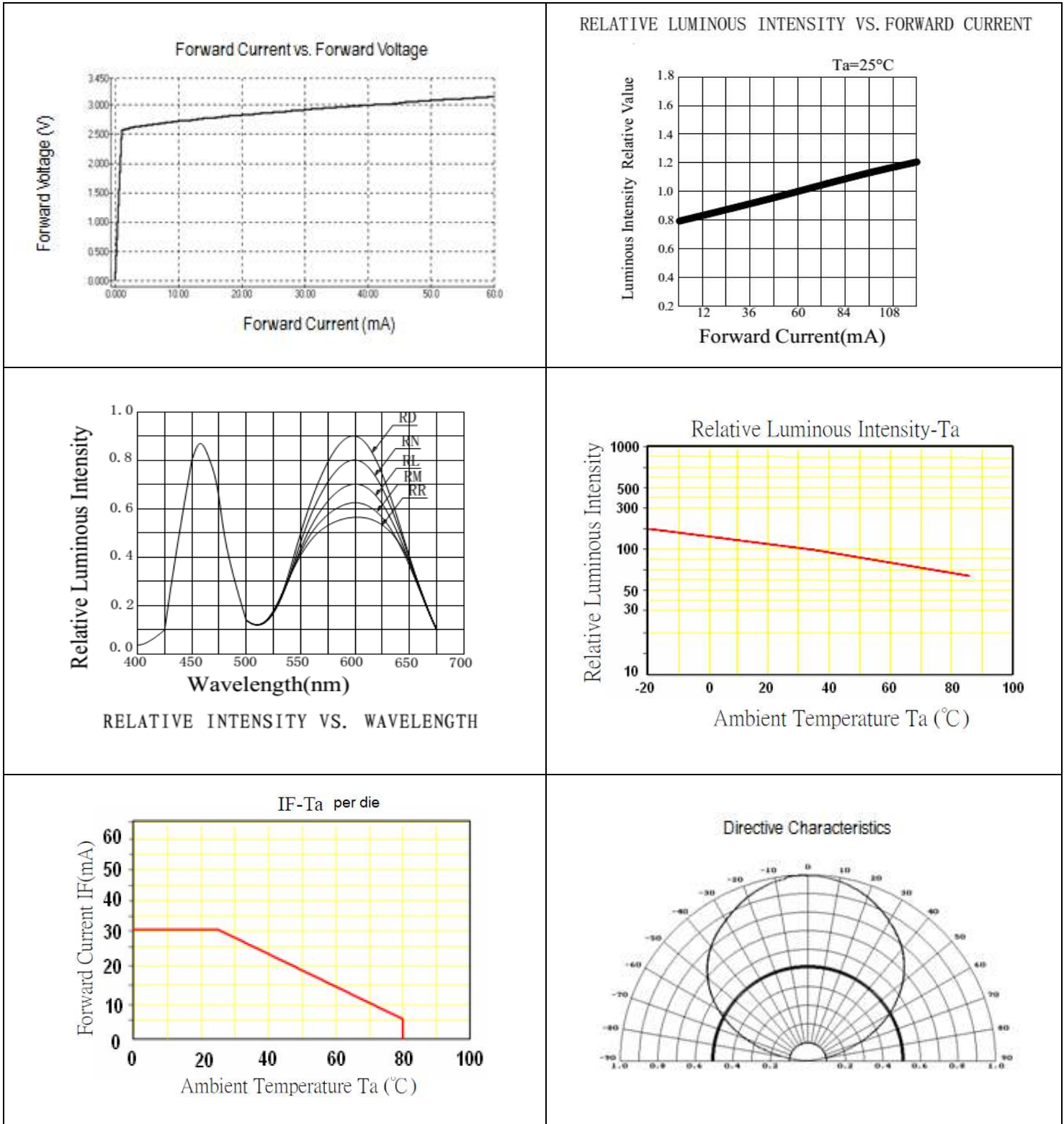
### Correlated Color Temperature Chart



Color Ranks @ I <sub>F</sub> =60mA							
RD		RN		RB		RL	
0.4813	0.4319	0.4562	0.426	0.4299	0.4156	0.4006	0.4044
0.4562	0.426	0.4299	0.4165	0.3996	0.4015	0.3736	0.3874
0.4373	0.3893	0.4147	0.3814	0.3889	0.369	0.367	0.3578
0.4593	0.3944	0.4373	0.3893	0.4147	0.3814	0.3898	0.3716
0.4813	0.4319	0.4562	0.426	0.4299	0.4156	0.4006	0.4044
RC		RZ		RM		RR	
0.3736	0.3874	0.3551	0.376	0.3376	0.3616	0.3205	0.3481
0.3548	0.3736	0.3376	0.3616	0.3207	0.3462	0.3028	0.3304
0.3512	0.3465	0.3366	0.3369	0.3222	0.3243	0.3068	0.3113
0.367	0.3578	0.3515	0.3487	0.3366	0.3369	0.3221	0.3261
0.3736	0.3874	0.3551	0.376	0.3376	0.3616	0.3205	0.3481

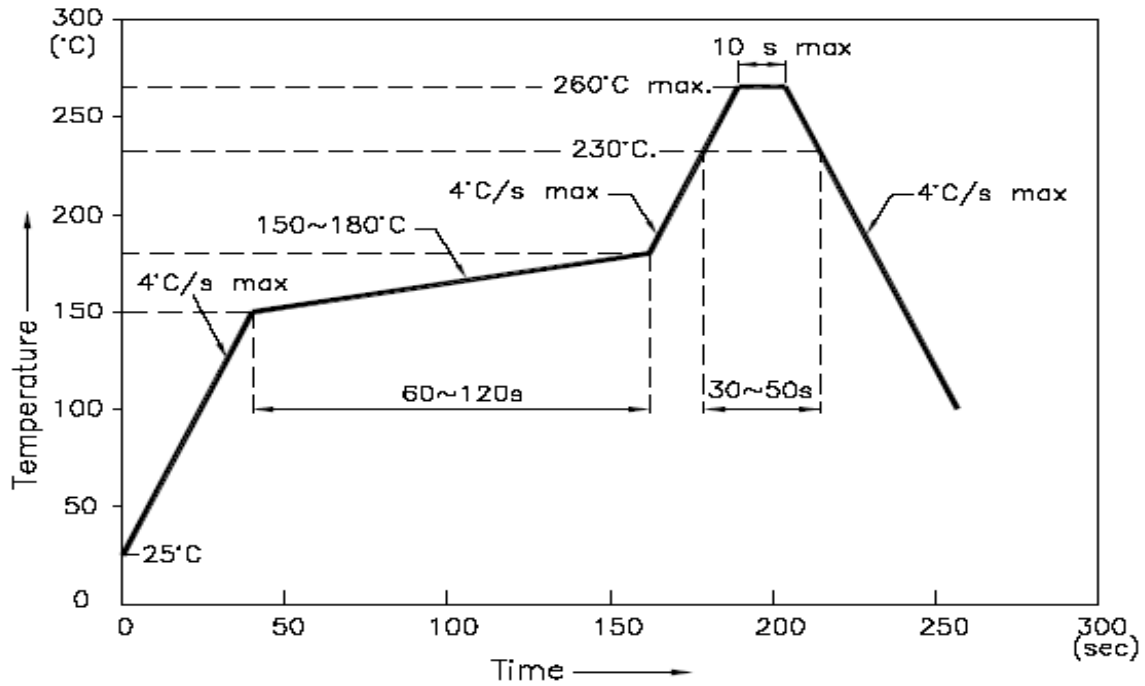
Note:  
Tolerance of measurement of Color Coordinates: ±0.01

**Characteristic Curves**

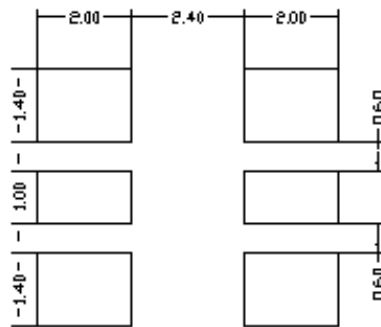


## Solder Profile & Footprint

- Recommended tin solder specifications: melting temperature in the range of 178~192 °C
- The recommended reflow soldering profile is as follows (temperatures indicated are as measured on the surface of the LED resin):



### Recommended Pad Layout



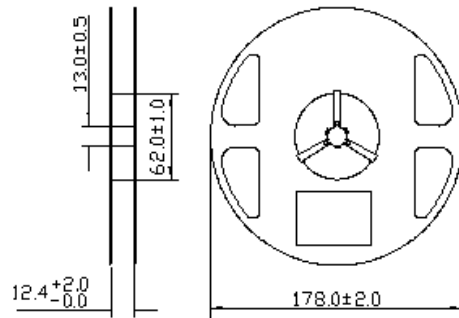
Units: mm

Tolerance: ±0.2mm



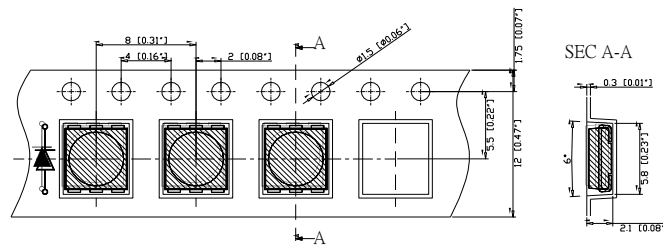
## Packing

Reel Dimension:



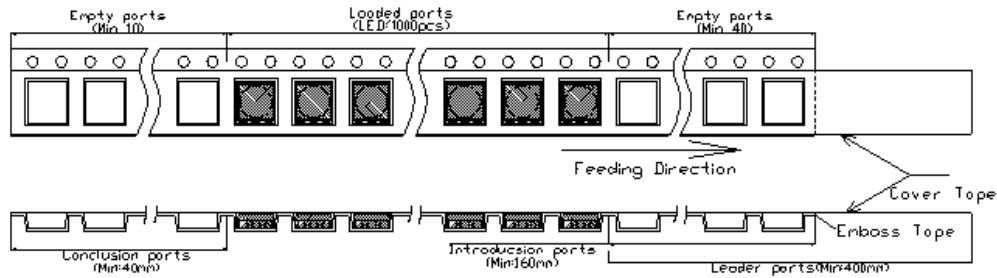
Unit: mm

Tape Dimension:

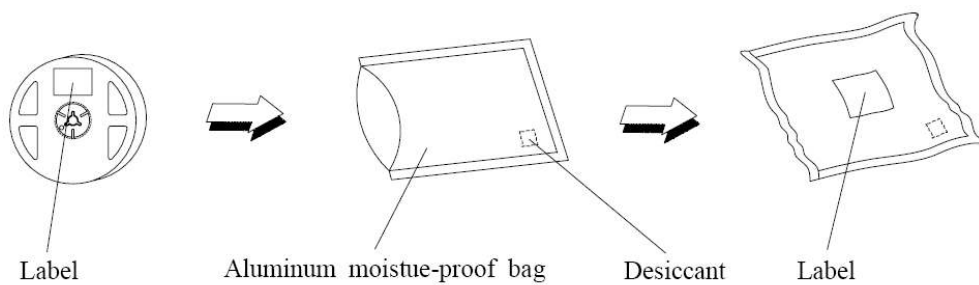


Unit: mm

Arrangement of Tape:



Packaging Specifications:



Product: QBLP679-IWK-XX	Date: July 10, 2014	Page 9 of 11
	Version# 2.2	

**Labeling****Part No:** \_\_\_\_\_**Customer P/N:** \_\_\_\_\_**Item:** \_\_\_\_\_**Q'ty:** \_\_\_\_\_**Vf:** \_\_\_\_\_**Iv:** \_\_\_\_\_**WI:** \_\_\_\_\_**Date:** \_\_\_\_\_**Made in China****Ordering Information**

Part #	Orderable Part #	Spec Range	Quantity per reel
QBLP679-IWK-WW	QBLP679-IWK-WW	Iv=6000mcd typ. / CCT: 2760-3260K @ I <sub>F</sub> =60mA	1,000 units
QBLP679-IWK-NW	QBLP679-IWK-NW	Iv=6000mcd typ. / CCT: 3640-4746K @ I <sub>F</sub> =60mA	1,000 units
QBLP679-IWK-CW	QBLP679-IWK-CW	Iv=6000 mcd typ. / CCT: 5300-7050K @ I <sub>F</sub> =60mA	1,000 units

Product: QBLP679-IWK-XX	Date: July 10, 2014	Page 10 of 11
	Version# 2.2	

## Revision History

Description:	Revision #	Revision Date
New Release of QBLP679-IWK	V1.0	09/28/2010
CCT updates	V1.1	02/15/2011
Amend CCT chart and label	V1.2	06/08/2011
Add Warm white specification	V1.3	10/31/2011
Amend CCT and brightness	V1.4	12/07/2011
Updated part number	V1.5	02/06/2012
Update Format	V1.6	03/15/2012
Add the spec of Natural White	V2.0	04/09/2012
Update drawing and spec	V2.1	11/26/2013
Update luminous intensity bin	V2.2	07/10/2014

## Disclaimer

QT-BRIGHTTEK reserves the right to make changes without further notice to any products herein to improve reliability, function or design. QT-BRIGHTTEK does not assume any liability arising out of the application or use of any product or circuit described herein; neither does it convey any license under its patent rights, nor the rights of others.

## Life Support Policy

QT-BRIGHTTEK's products are not authorized for use as critical components in life support devices or systems without the express written approval of QT-BRIGHTTEK. As used herein:

1. Life support devices or systems are devices or systems which, (a) are intended for surgical implant into the body, or (b) support or sustain life, and (c) whose failure to perform when properly used in accordance with instructions for use provided in the labeling, can be reasonably expected to result in a significant injury of the user.
2. A critical component in any component of a life support device or system whose failure to perform can be reasonably expected to cause the failure of the life support device or system, or to affect its safety or effectiveness.

Product: QBLP679-IWK-XX	Date: July 10, 2014	Page 11 of 11
	Version# 2.2	