

**QT-Brightek PLCC6 Series**

**PLCC6 White LED**

**Part No.: QBLP679E-IWK-XX**

**XX = WW/NW/CW**

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## Introduction

**Feature:**

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

**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:**

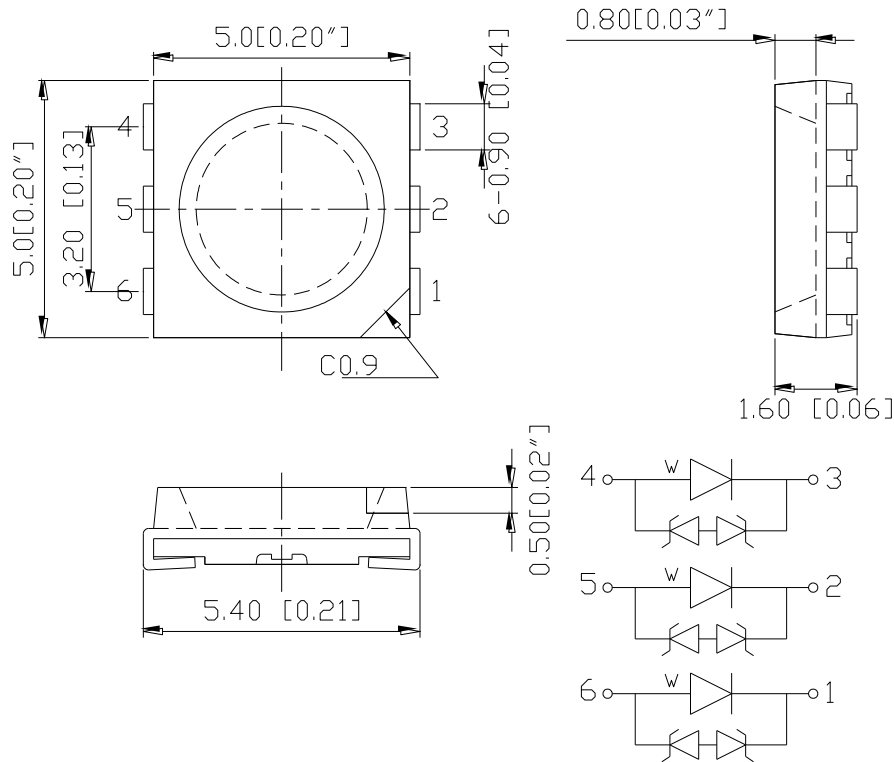
- Status indication
- Back lighting application
- Architecture lighting

**Certification & Compliance:**

- TS16949
- ISO9001
- RoHS Compliant



**Dimension:**



Units: mm / tolerance = +/-0.2mm

**Electrical / Optical Characteristic (Ta=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.
QBLP679E-IWK-WW	Warm White	60	3.1	3.6	2760	3000	3260	3600	6000
QBLP679E-IWK-NW	Natural White	60	3.1	3.6	3640	4240	4746	3600	6000
QBLP679E-IWK-CW	Cool White	60	3.1	3.6	5300	6020	7050	3600	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>SOL</sub> (°C)***	ESD (V)
InGaN	324	90	125	5	-40 to +80	-40 to +85	260	HBM 12000

\*\*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
20	3600	4600	mcd
21	4600	6000	
22	6000	7800	
23	7800	9800	

Note:

Tolerance of measurement of forward voltage: ±0.05V

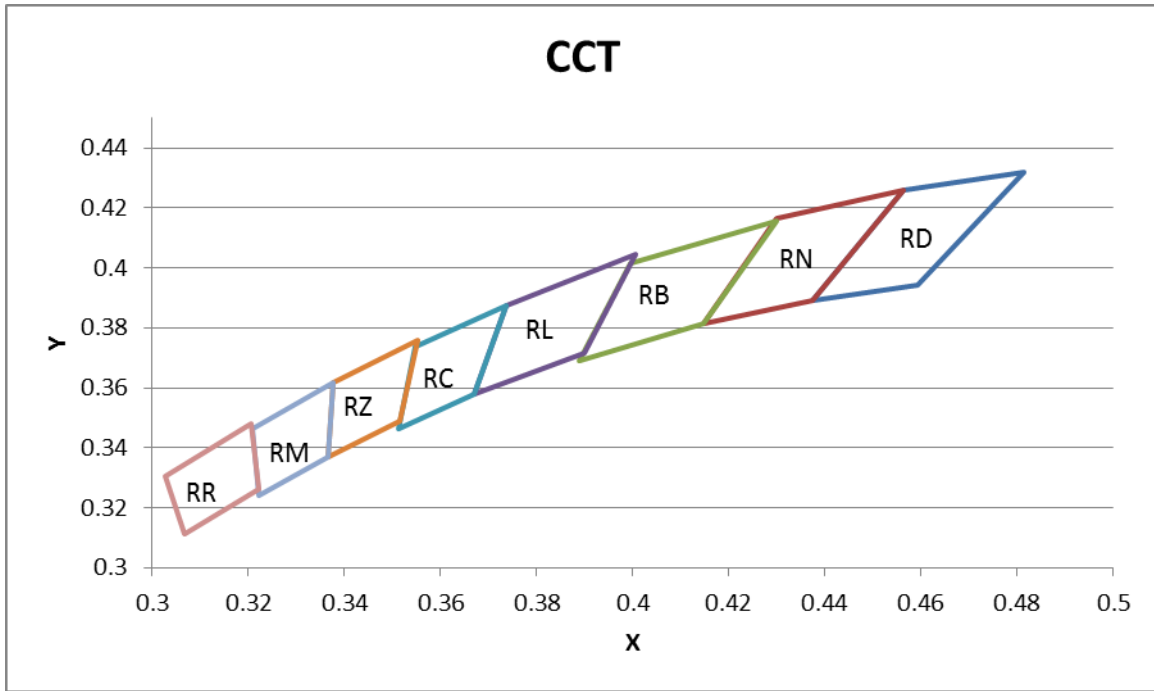
Tolerance of measurement of luminous intensity: ±15%

All parameters are measured by QT-Brigtek instrument

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

Color	Bin	Min.	Max.	Unit
Warm White (WW)	RN	2760	3260	K
Natural White (NW)	RL	3640	4240	
	RC	4240	4746	
Cool White (CW)	RM	5300	6020	
	RR	6020	7050	

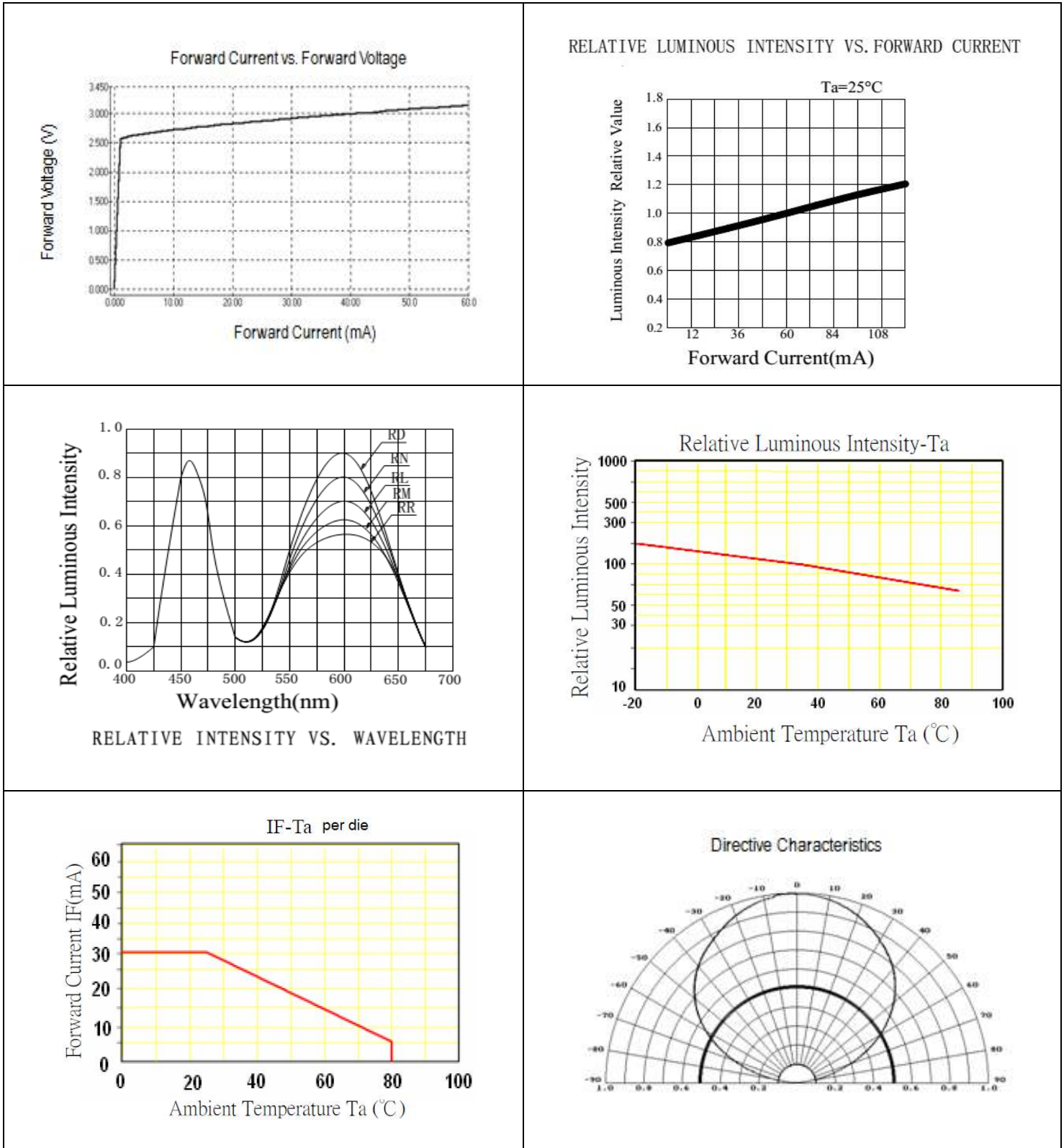
## Correlated Color Temperature Chart



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

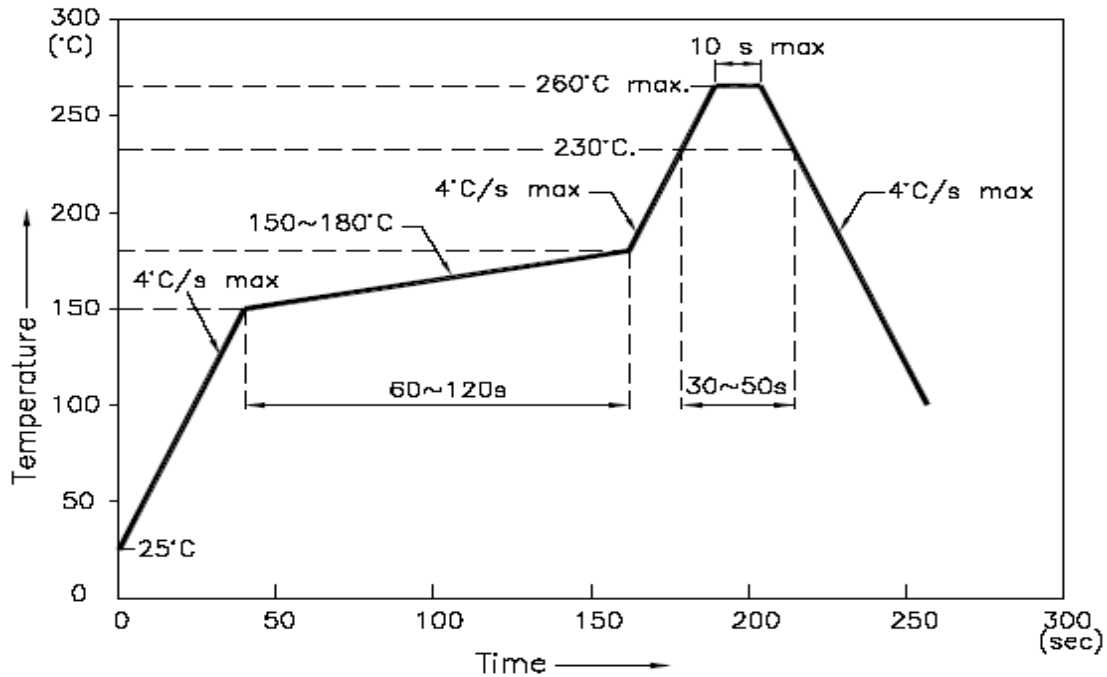
Note:  
 Tolerance of measurement of Color Coordinates: ±0.01  
 All parameters are measured by QT-BrigtheK instrument

**Characteristic Curves**

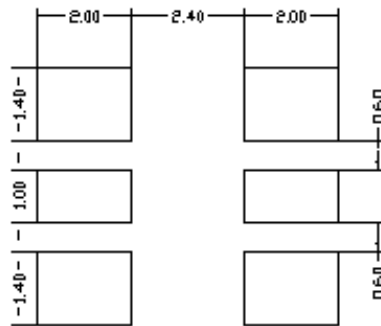


## Solder Profile & Footprint

- 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



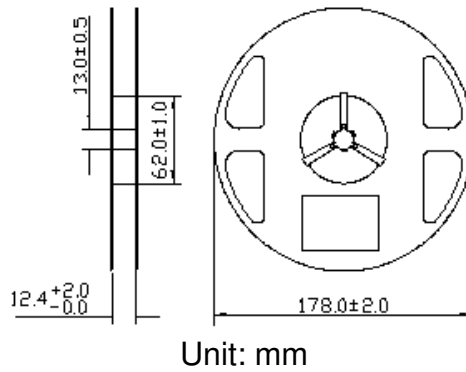
Units: mm

Tolerance: ±0.2mm

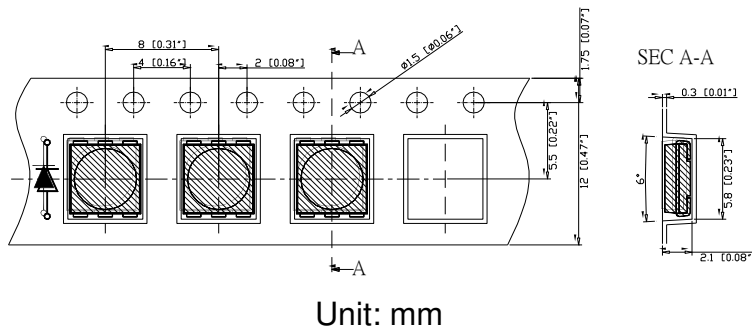


## Packing

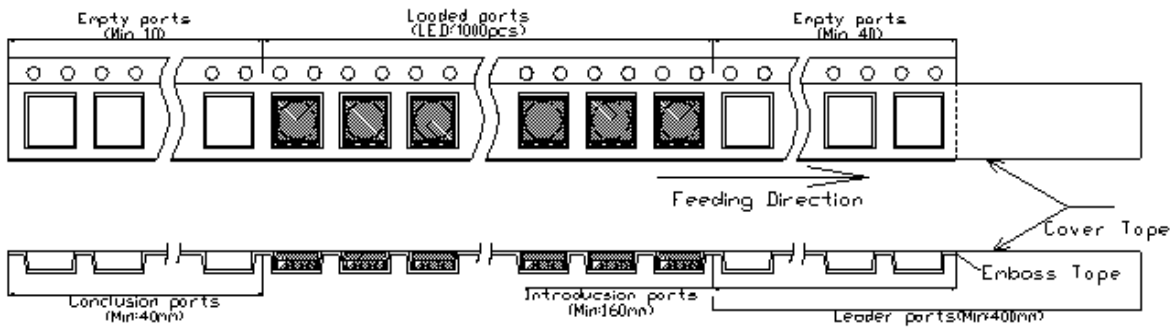
Reel Dimension:



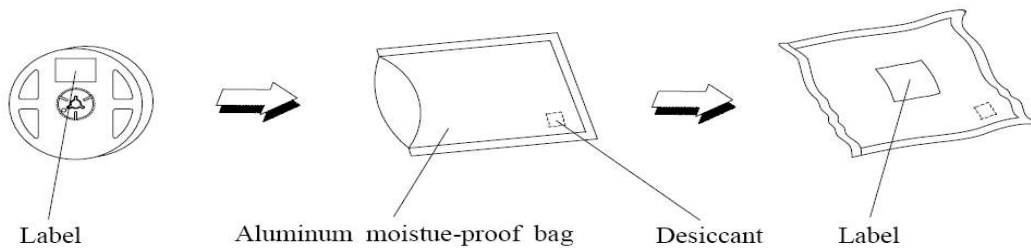
Tape Dimension:



Arrangement of Tape:



Packaging Specification:



**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
QBLP679E-IWK-WW	QBLP679E-IWK-WW	Iv=6000 mcd typ. / CCT: 2760-3260K @ I <sub>F</sub> = 60mA	1,000 units
QBLP679E-IWK-NW	QBLP679E-IWK-NW	Iv=6000 mcd typ. / CCT: 3640-4746K @ I <sub>F</sub> =60mA	1,000 units
QBLP679E-IWK-CW	QBLP679E-IWK-CW	Iv=6000 mcd typ. / CCT: 5300-7050K @ I <sub>F</sub> =60mA	1,000 units

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## Revision History

Description:	Revision #	Revision Date
New Release of QBLP679E-IWK	V1.0	2/15/2012
Update format	V1.1	04/09/2012
Update spec and binning	V2.0	09/10/2013
Update drawing and spec	V2.1	11/26/2013
Information update	V2.2	03/20/2014

## Disclaimer

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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.