

HeadLamp Dong Feng CA2016 Golden



Dong Feng Headlamp series delivers unique brilliant light with outstanding efficiency and elegant design. It's able to meet requirements of output and stability due to it's developed and tested to withstand extreme environment conditions and wide range of temperature change. It also provides distinct optical performance and uniform light pattern. With Dong Feng's HeadLamp series, you will start to experience and enjoy the excellent adventure during driving time.

Features

- Excellent Brightness: 350lm@ 1A
- Low thermal resistance
- Color: According to ECE/SAE

Applications

- Exterior Automotive Lighting
- Daytime Running Light
- High Beam/ Low Beam for headlight
- Fog Lamp

Ordering Information

 $\frac{2}{X1}$
 $\frac{D}{X2}$
 $\frac{F1}{X3-X4}$
 $\frac{04}{X5-X6}$
 $\frac{GD}{X7-X8}$
 $\frac{XX}{X9-X10}$
 $\frac{F11}{X11-X13}$
 $\frac{XXX}{X14-X16}$

X1 Type		X2 Emitter Series		X3-X4 Emitter Series		X5-X6 Emitter Power		X7-X8 Emitting Color	
Code	Type	Code	Type	Code	Type	Code	Type	Code	Type
2	Emitter	D	Dong Feng	F1	1Chip	04	4W	GD	Golden

X9-X10 Internal Code		X11-X13 PCB Board		X14-X16 Series No.			
Code	Type	Code	Type	Code	Type		
-	-	F11	CA2016	xxx	-		

Type	Luminous Intensity IF = 1000mA IV [lm]	Ordering Code
CA2016	350	2DF104GD49F11001

Maximum Ratings

Parameter	Symbol	Values	Unit
DC Forward Current (TS = 25°C)	IF	-	mA
Peak Pulsed Current; (tp≤5ms, Duty cycle=50%)	I _{pulse}	2000	mA
Thermal Resistance	-	3	°C/W
Reverse Voltage ^[1]	V _R	Note1	V
LED Junction temperature	T _j	150	°C
Operating temperature	T _{opr}	-40~+105	°C
Storage temperature	T _{stg}	-40~+125	°C
HBM ESD Sensitivity	V _B	8000	V

NOTE — LEDs are not designed to drive in reverse bias.

Proper current derating must be observed to maintain junction temperature below the maximum.

Characteristics (TS = 25 °C; IF = 1000 mA)

Parameter		Symbol	Values	Unit
Luminous Flux	(typ.)	-	350	lm
Viewing angle	(typ.)	2ϕ	120	°
Forward voltage	(typ.)	V_F	3.2	V

NOTE — 2ϕ is the off-axis angle where the luminous intensity is half of the axial luminous intensity.

Brightness Groups (TS = 25 °C)

Group	(min.) Luminous Intensity Iv [lm] @1000mA	(max.) Luminous Intensity Iv [lm] @1000mA	(min.) Calculated Luminous Intensity Iv [lm] @1500mA
B0	280	315	380
C0	315	355	430
D0	355	400	487

NOTES — 1. The luminous flux performance is guaranteed within published operating conditions.

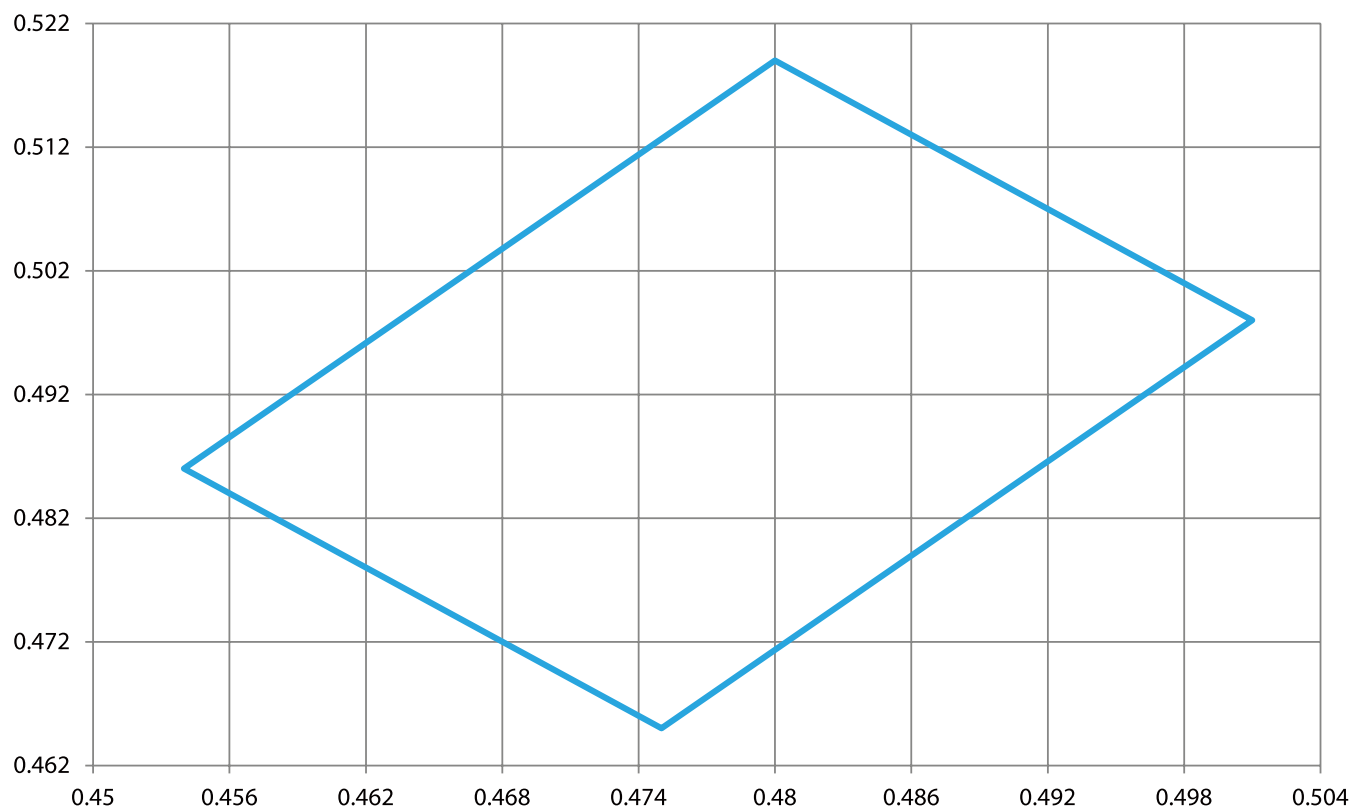
2. Flux is measured with accuracy of $\pm 10\%$.

Forward Voltage Groups (TS = 25 °C; IF = 1000 mA)

Group	(min.) VF [V]	(max.) VF [V]
V31	3.00	3.25
V32	3.25	3.50
V33	3.50	3.75

NOTE — Forward voltage measurement allowance is $\pm 0.1V$.

Chromaticity Coordinate Groups

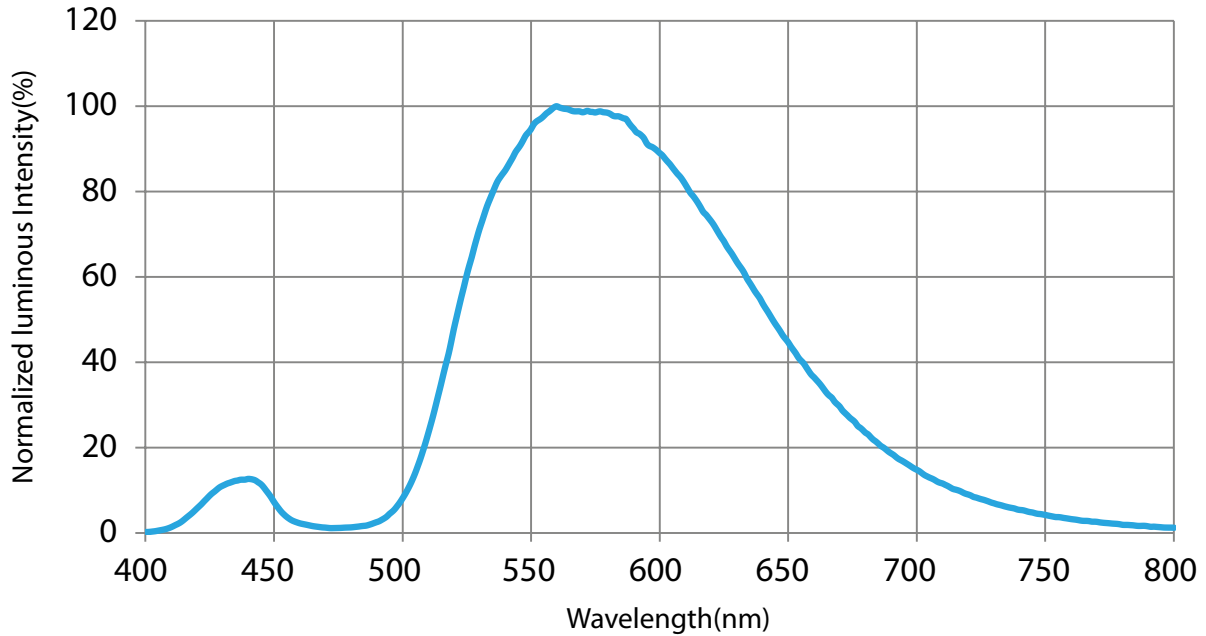


Color Chromaticity Groups

Group	Cx	Cy
	0.454	0.486
	0.480	0.519
-	0.501	0.498
	0.475	0.465
	0.454	0.486

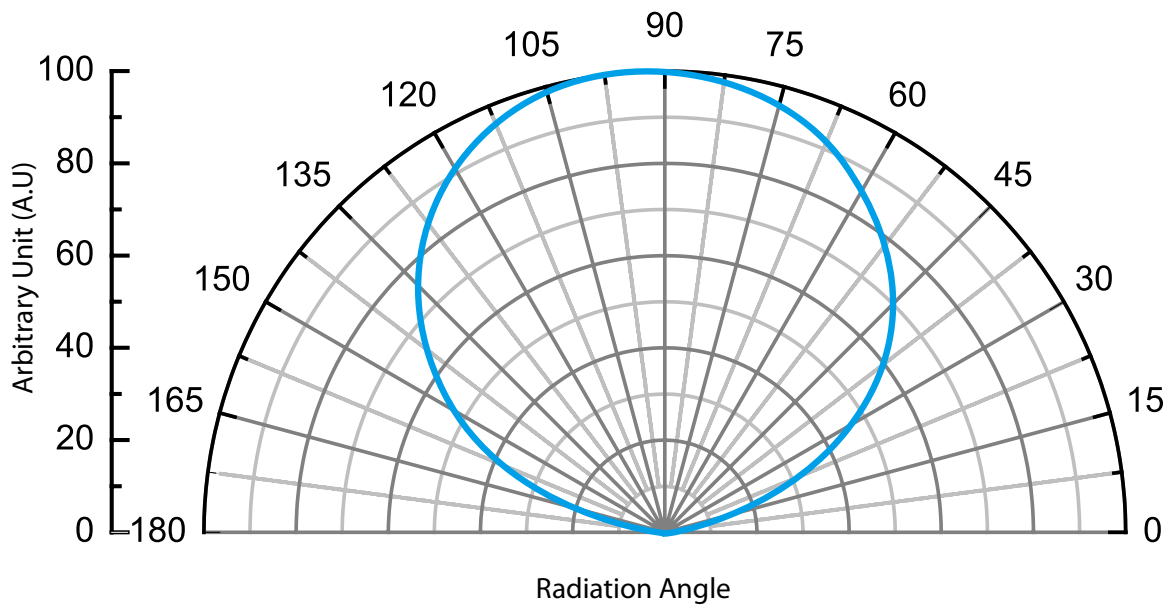
Relative Spectral Emission - $V(\lambda)$ = Standard eye response curve

$I_{rel} = f(\lambda)$; $TS = 25^\circ C$; $IF = 1000mA$



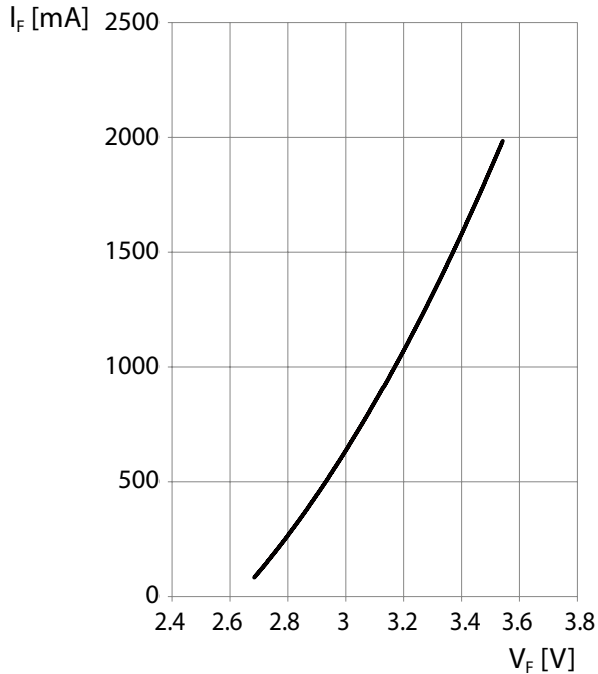
Radiation Characteristics

$I_{rel} = f(\lambda)$; $TS = 25^\circ C$



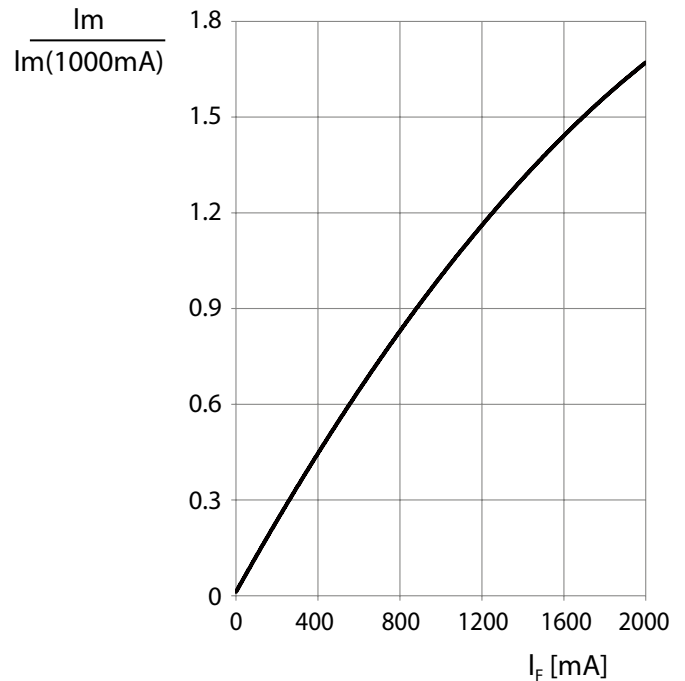
Forward Current

$$I_F = f(V_F); T_S = 25^\circ\text{C}$$



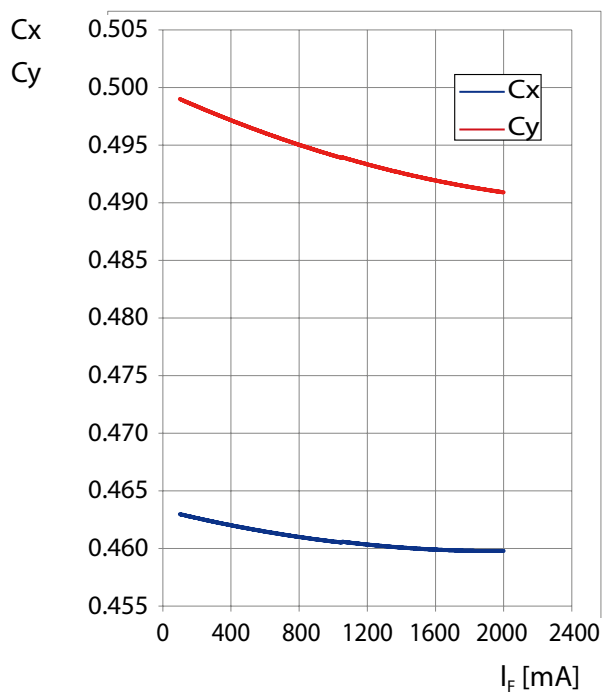
Relative Luminous Intensity

$$I_V/I_V(1000\text{mA}) = f(I_F); T_{\text{Board}} = 25^\circ\text{C}$$



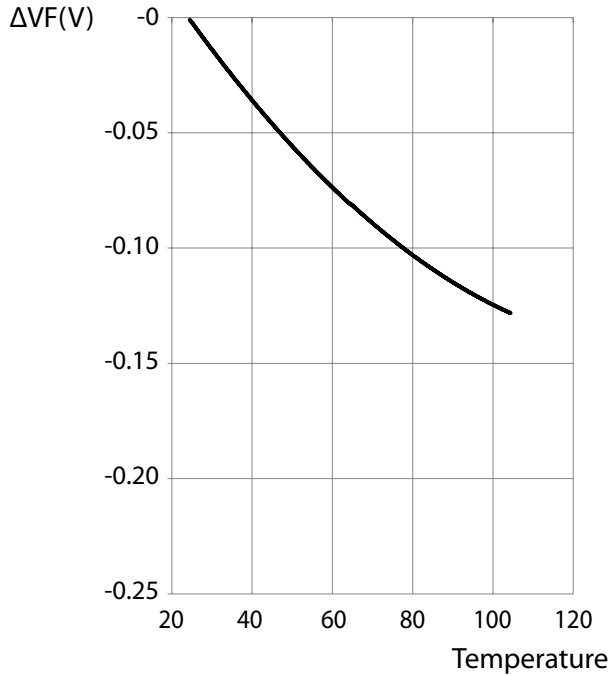
Chromaticity Coordinate Shift

$$C_x, C_y = f(I_F); T_S = 25^\circ\text{C}$$



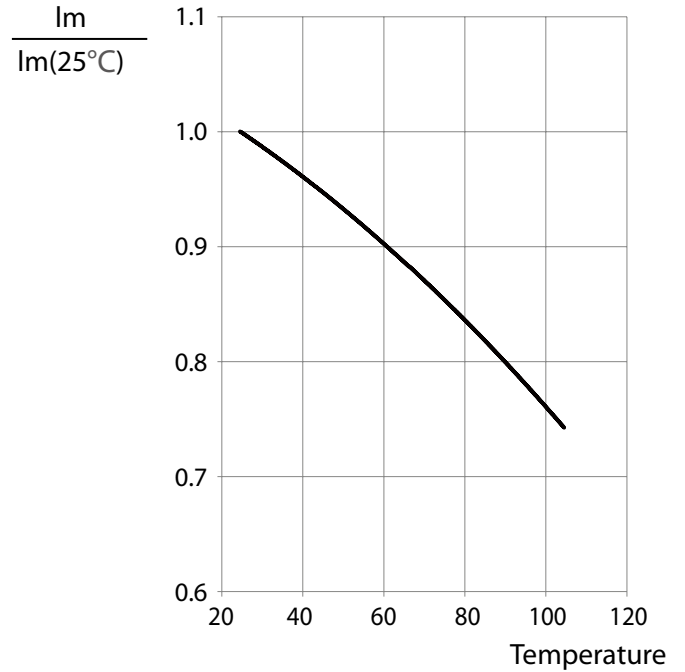
Relative Forward Voltage

$$\Delta VF = VF - VF(25^\circ C) = F(T_j); IF = 1000mA$$



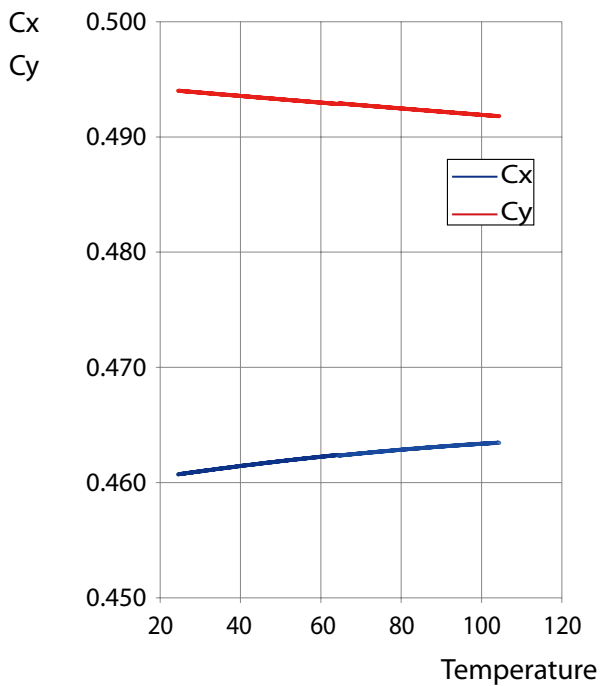
Relative Luminous Intensity

$$IV/IV(25^\circ C) = f(T_j); IF = 1000mA$$



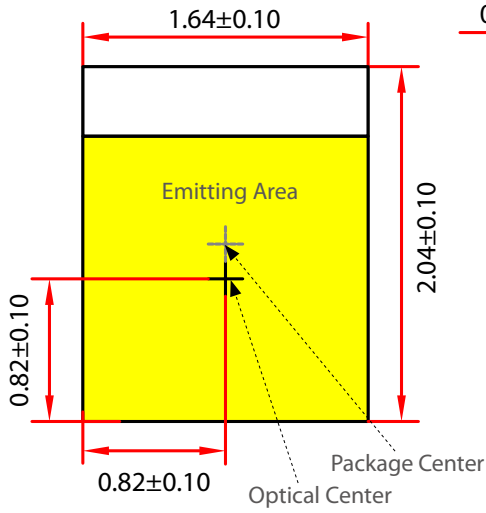
Chromaticity Coordinate Shift

$$Cx, Cy = f(IF); IF = 1000mA$$

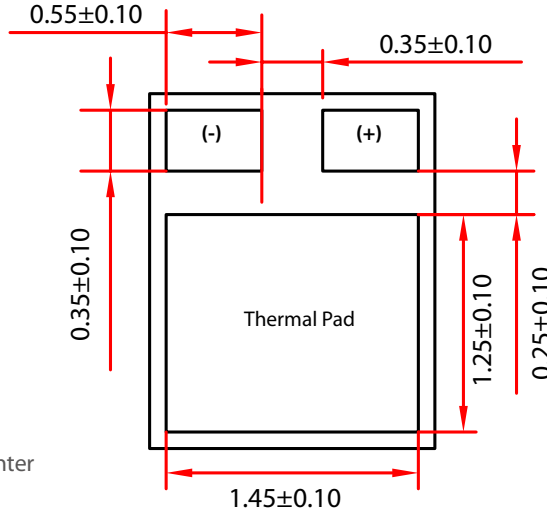


Mechanical Dimensions

Component

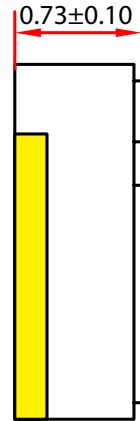


Top View



Bottom View

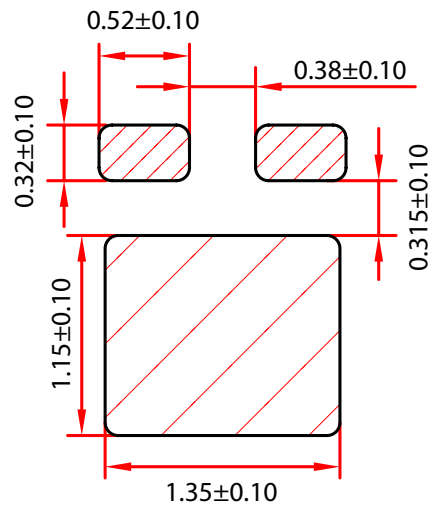
Notes:
1. Unit: mm.
2. Tolerance: ± 0.1 mm



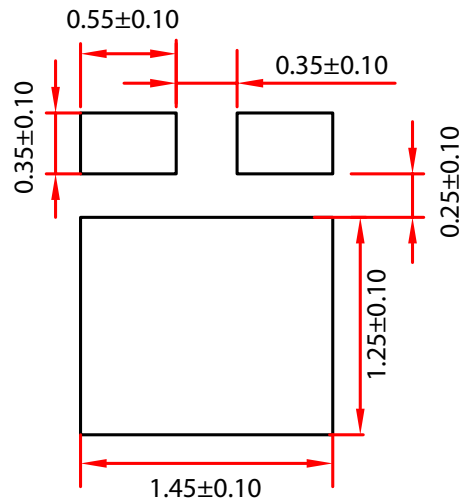
Side View

Stencil

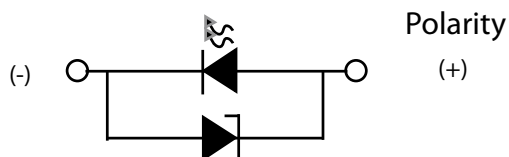
• Shaded Area Is Open



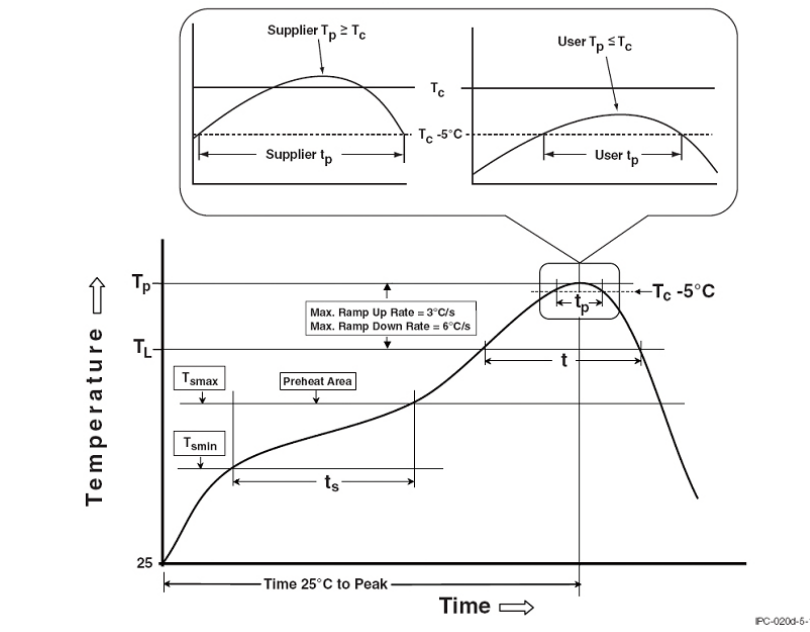
Solder Pad



Circuit



Reflow Profile



Parameter	Symbol	Pb-Free (SnAgCu) Assembly			Unit
		Minimum	Recommendation	Maximum	
Preheat and Soak temperature (T _{smin} to T _{smax})	T _s	150	150~200	200	°C /s
Time t _s (T _{smin} to T _{smax})	t _s	60	-	120	s
Ramp-up rate to peak (T _{smax} to T _p)	-	-	-	3	°C /s
Liquidus temperature	T _L		217		°C
Time above liquidus temperature	t _L	60	-	150	s
Peak temperature	T _p	255	-	260	°C
Time** within 5°C of the specified classification temperature	t _p	-	30	-	s
Average ramp-down rate (T _p to T _{smax})	-	-	-	6	°C /s
Time 25°C to peak temperature	-	-	-	8	min

Notes:

- * Tolerance for peak profile temperature (T_p) is defined as a supplier minimum and a user maximum.
- ** Tolerance for time at peak profile temperature (t_p) is defined as a supplier minimum and a user maximum.

HS and China RoHS compliants product



符合歐盟 RoHS 指令的要求；

中國的相關法規和標準，不含有毒有害物質或元素。