

Specification

SAW04A0A

Preliminary specification

SSC		Customer
Drawn	Approval	Approval

SAW04A0A

Description

The Acriche series of devices are designed for ease of implementation and readily connect to AC sources emitting very high flux while avoiding power losses associated with AC to regulated DC conversion.



Acriche is a long-lasting, environmentally friendly semiconductor light source that can be attached either directly to AC voltages, or as with the A4, to a simple diode bridge (see "Basic Connection" in this document).

Acriche's thermal management exceeds other power LED solutions incorporating state-of-the-art SMD technology, thermal path design, and materials.

Whether designing a spot light or tiled array the Acriche A4 is an ideal light source for general purpose illumination applications.

This application note provides binning and labeling information of A4 series. It includes the A4 bins for luminous flux, color coordinates and correlated color temperature for white.

Features

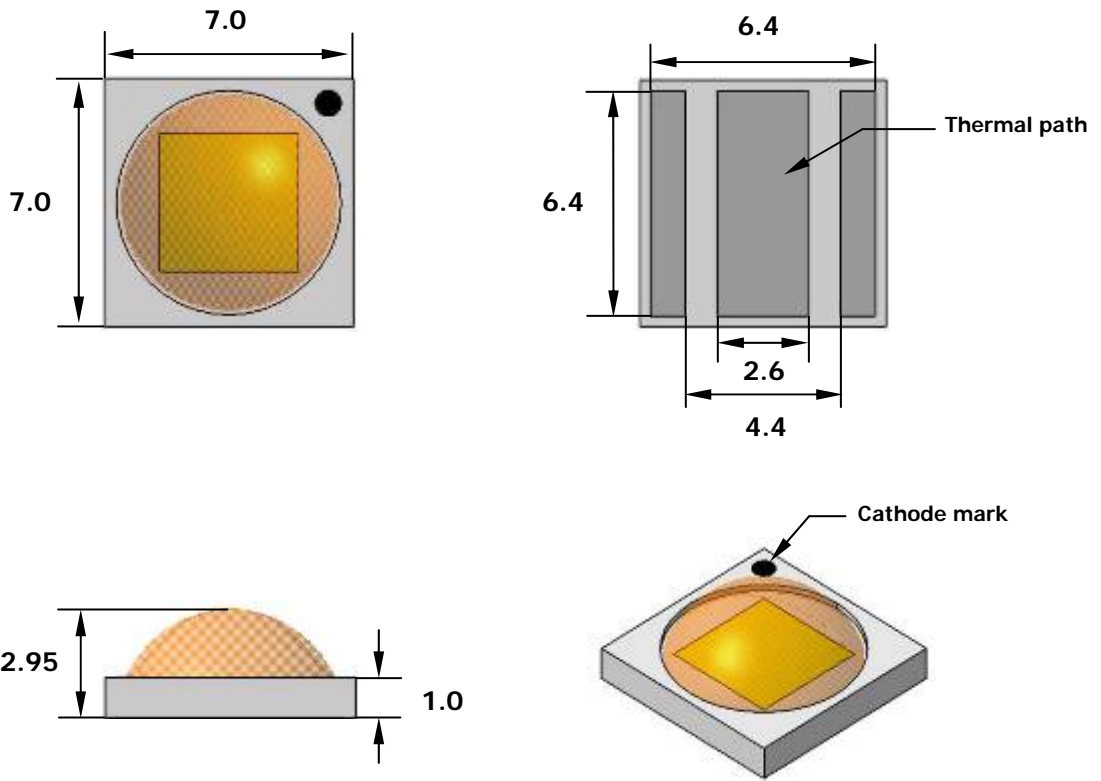
- Connect directly in AC power
- Power Saving
- Long Life Time
- Simple BOM
- Miniaturization
- Low thermal resistance
- SMT solderability
- Lead Free product
- RoHS compliant

Applications

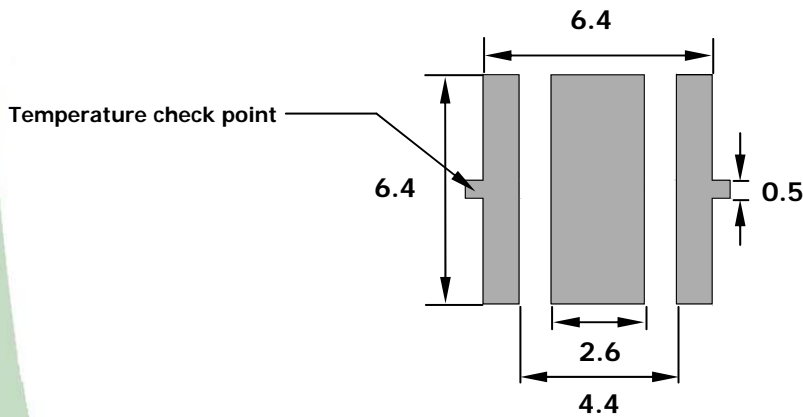
- Architectural lighting
- Residential lighting
- Task lighting
- Decorative / Pathway lighting

Mechanical dimensions

1. Outline dimensions



2. Recommended PCB solder pad



* Notes :

- [1] All dimensions are in millimeters. (Tolerance : ± 0.2)
- [2] Scale : none
- [3] The appearance and specifications of the product may be changed for improvement without notice
- [4] Electrically neutral thermal path

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Optical and thermal characteristics

1. Cool white

1-1 Electro-Optical characteristics at 55V[RMS] Ta=25°

Parameter	Symbol	Value			Unit
		Min	Typ	Max	
Luminous Flux ^[1]	Φ_V ^[2]		78	-	lm
Correlated Color Temperature ^[4]	CCT	-	6300	-	K
CRI	R _a		74	-	-
Operating Current	I _{opt}	-	20	-	mA [RMS]
Power Dissipation	P _D	0.83			W
Operating Frequency	Freq	50 / 60			Hz
Thermal resistance	R _{th}	13			°C/W
View Angle	2 θ 1/2	134			deg.

1-2 Absolute Maximum Ratings

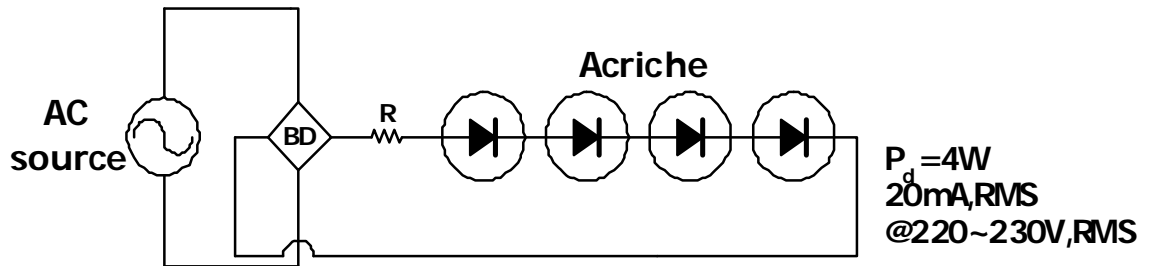
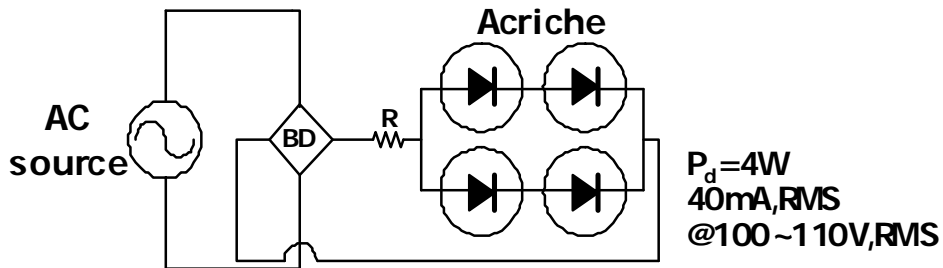
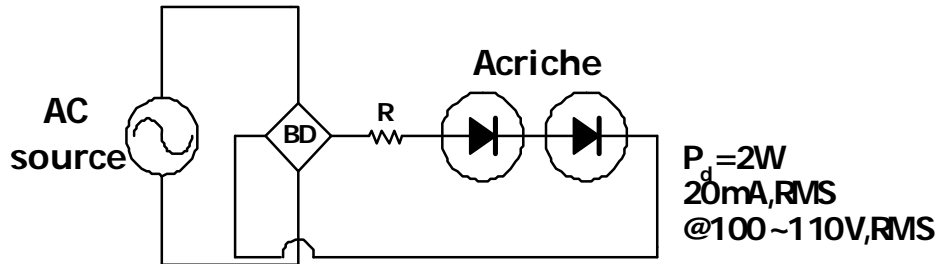
Parameter	Symbol	Value	Unit
Operating Voltage	V _{opt} ^[5]	63	V [RMS]
Power Dissipation	P _D	1.4	W
Junction Temperature	T _J	125	°C
Operating Temperature	T _{opr}	-30 ~ +85	°C
Storage Temperature	T _{stg}	-40 ~ +120	°C
ESD Sensitivity	-	±6,000V HBM	-

* Notes :

- [1] Acriche series maintains a tolerance of ±10% on flux and power measurements.
- [2] Φ_V is the total luminous flux output as measured with an integrated sphere.
- [3] Illuminance is measured at 50cm distance
- [4] Correlated Color Temperature is derived from the CIE 1931 Chromaticity diagram.
CCT ±5% tester tolerance
- [5] 'Operating Voltage' doesn't indicate the maximum voltage which customers use, but it means tolerable voltage according to the voltage variation rate by one's country.
It is recommended that the temperature of solder pad should be below 70°C.

Operating instructions

1. Basic connections of SAW04A0A for AC source



* Notes :

- [1] A4 series need bridge diode and external resistor.
- [2] The tolerance of current is $\pm 5\%$ on each resistance rank.
- [3] For more information about A4 connection, refer to the AX42XX Bin & Labeling.

