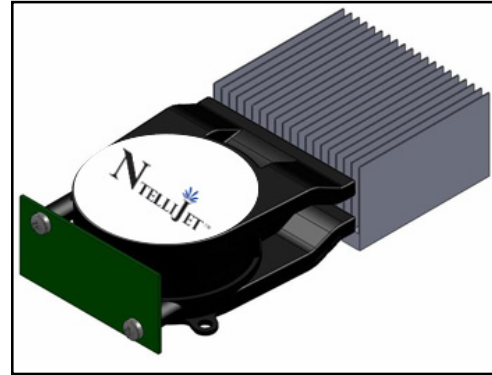


Dual Nozzle Cooler with Heatsink

Features/Benefits

- Thermal loads from 18 to nearly 33W
- Low acoustic sound sensitive applications
- Ultra-low power
- Very low profile applications
- 100,000 hours L10 life at 50°C



Overview

Ntelligence™ fan-less air moving technology provides the most reliable active cooling solution available today. The Low Profile Ntelligence™ cooling modules have been developed by JARO Thermal to be integrated with a wide array of thermal needs.

Specifications

Parameter	Θs-a ¹²³	SPL (dBA) ⁴	TDP ⁵ (W)	Power W (5V) ⁶	Power W (12V) ⁶
Dual Nozzle – High Performance, 33W Cooler	1.2	35	33	1.5	1.7
Dual Nozzle – Standard, 27W Cooler	1.5	28	27	1.2	1.4
Dual Nozzle – Low Power, 21W Cooler	1.9	25	21	0.9	1.05
Dual Nozzle – Low Acoustic, 18W Cooler	2.2	16	18	0.5	0.6

Parameter – All Modules	Min	Typ	Max	Units	Conditions
Voltage ⁶	4.75		5.25	VDC	150mV max ripple p-p
Power Lead					Power (5V – Red wire) Ground (Black wire)
Operating Temperature	0		60	°C	
Storage Temperature	-40		75	°C	
Storage Altitude			15K	m	Above Sea Level
Relative Humidity (operating)	5		95	%	Non-condensing
Weight			180	gr	With heat sink
Agency Certifications					CE, UL, RoHS
Reliability ⁷			100K	hrs	L10 @ 50°C

¹ In fully open air or well vented fixtures from 25C to 50C in full on condition with Cu heatsink. Thermal data is given as a reference only. Actual performance may vary by application.

² Thermal resistance is measured from the bottom middle of the heat sink, with a heat source at least 15cm², to ambient air measured at the inlet to the Ntelligence™.

³ Ntelligence™ is suitable for enclosed fixtures but thermal performance will vary depending on the enclosure

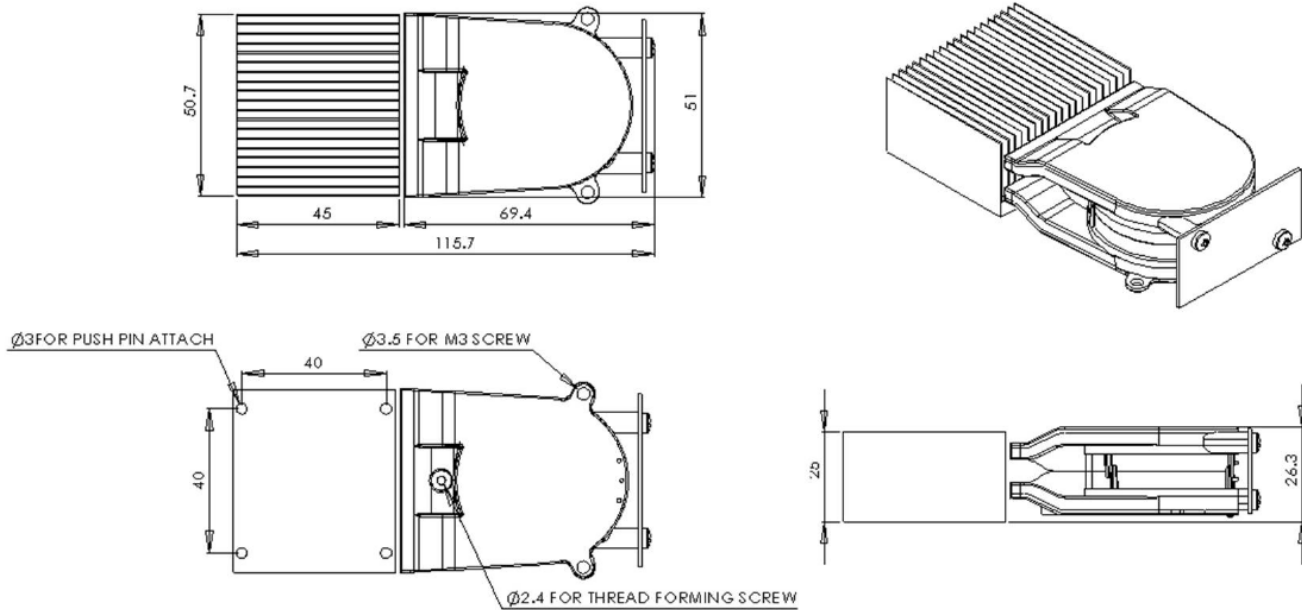
⁴ Per ISO 7779

⁵ Total Design Power based on a 40°C delta in temperature

⁶ See JARO Design Guide for detailed power requirements

⁷ L10 is the life for which 90% of a group of modules will meet or exceed the specification

Mechanical drawing



All dimensions in mm.

Part Numbers

Dual Nozzle Chip Cooler	
NJ-DN0533	Dual Nozzle Cooler, 5V – Standard, 33W Cooler
NJ-DN0527	Dual Nozzle Cooler, 5V – HP, 27W Cooler
NJ-DN0518	Dual Nozzle Cooler, 5V – LA 18W Cooler
NJ-DN0521	Dual Nozzle Cooler, 5V – LP 21W Cooler
NJ-DNAL	Dual Nozzle Cooler, Heatsink, Al
NJ-DNCU	Dual Nozzle Cooler, Heatsink, Cu

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