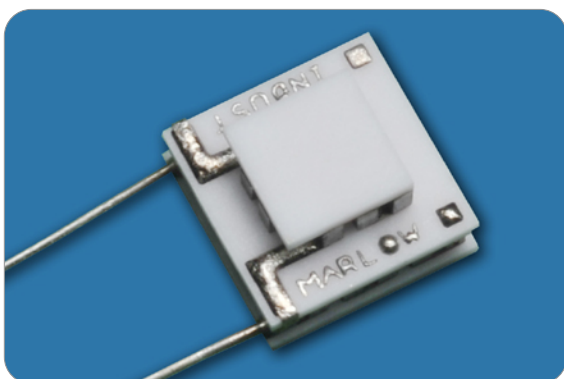




marlow industries, inc.®  
Subsidiary of II-VI INCORPORATED

# TECHNICAL DATA SHEET



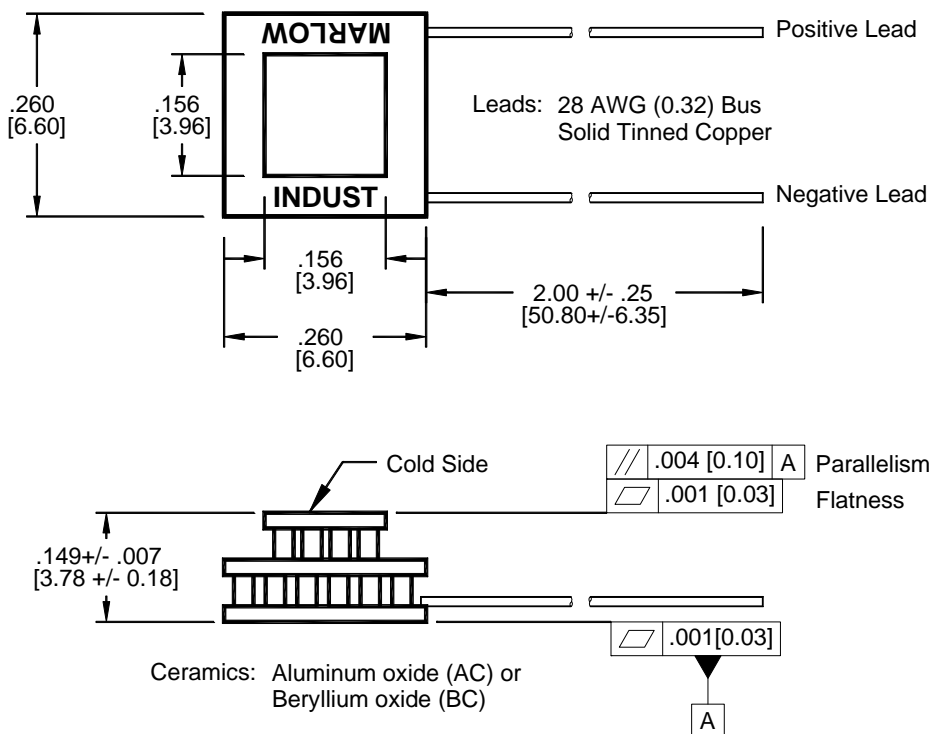
## NL2021T

Thermoelectric Cooler  
RoHS EU Compliant

### TYPICAL PERFORMANCE VALUES

Hot Side Temperature (°C)	27°C	50°C
Δ Tmax (°C-dry N <sub>2</sub> ):	83	94
Qmax (watts):	0.92	1.02
Imax (amps):	1.4	1.3
Vmax (vdc):	2.0	2.1
AC Resistance (ohms):	1.32	--

### MECHANICAL CHARACTERISTICS



#### Beryllium Oxide Handling Precautions

Beryllium oxide can be toxic only when dust, mist, or fumes containing particles small enough to enter the lungs are inhaled. For the user, precautions required are to avoid grinding, machining or pulverizing the material by mechanical, thermal, or chemical processing.  
marlow industries, inc.®

NOTE: "MARLOW INDUST" stamp is shown on BC ceramics only, and not shown on AC ceramics.

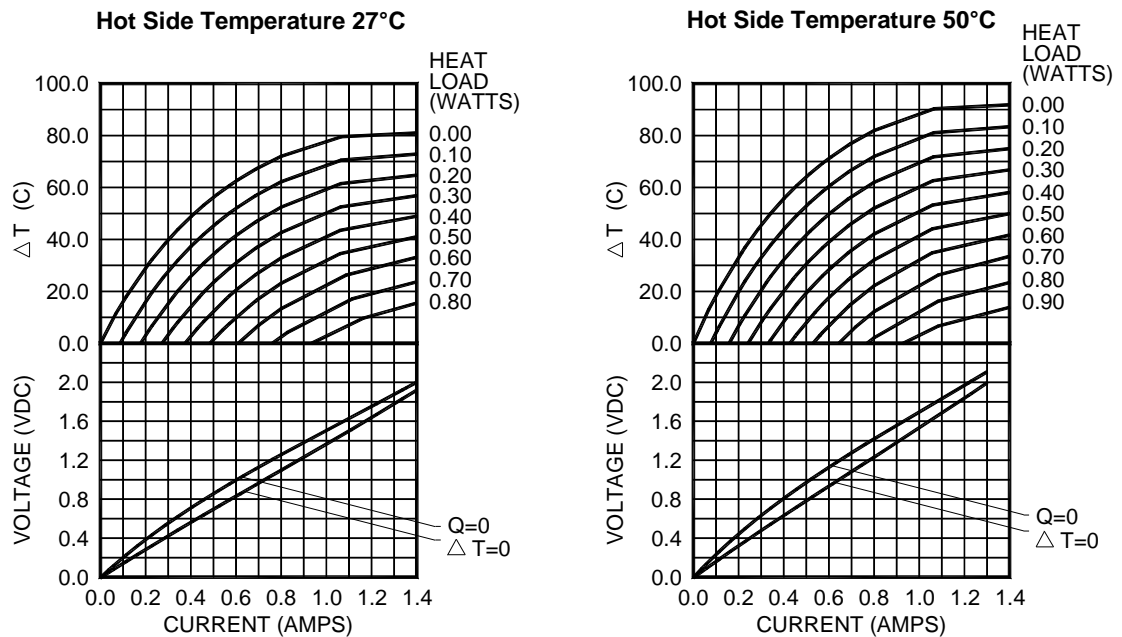
### ORDERING OPTIONS

Model Number	Description
NL2021T-01	both surfaces are metallized
NL2021T-02	hot side exterior is metallized
NL2021T-03	no metallization

### AVAILABLE MODIFICATIONS

Pretinned metallized ceramic surface(s) with 117°C solder.  
Thermistor mounted on edge of cold side ceramic. (Calibration available.)  
Elevated temperature burn-in with test data provided.

ENVIRONMENT: ONE ATMOSPHERE DRY NITROGEN



For performance information in a vacuum or with hot side temperatures other than 27°C or 50°C, consult one of our Applications Engineers.

Installation

Recommended mounting methods: Bonding with thermal epoxy or soldering with metallized ceramics. For additional information, please refer to our TEC Installation Guide.

Operation Cautions

For maximum reliability, storage and operation below 85°C in a non-condensing environment is recommended. To minimize thermal stress, use linear/proportional temperature control or a similar method rather than an ON/OFF method.

CONTACT US:

For customer support or general questions please contact a local office below or consult our website for distributor information.

Marlow Industries, Inc.  
 10451 Vista Park Road  
 Dallas Texas 75238-1645  
 214-340-4900 (tel)  
 214-341-5212 (fax)  
 www.marlow.com

Marlow Industries Europe GmbH  
 Brunnenweg 19-21  
 64331 Weiterstadt  
 Germany  
 Tel.: +49 (0) 6150 5439 - 403  
 Fax: +49 (0) 6150 5439 - 400  
 info@marlow-europe.eu

II-VI Japan Inc.  
 WBG Marive East 17F  
 2-6 Nakase, Mihama-ku  
 Chiba-Shi, Chiba 261-7117  
 Japan  
 81 43 297 2693 (tel)  
 81 43 297 3003 (fax)  
 center@ii-vi.co.jp  
 www.ii-vi.co.jp

II-VI Singapore Pte., Ltd.  
 Blk. 5012, Techplace II  
 #04-07 & 05-07/12, Ang Mo Kio Ave. 5  
 Singapore 569876  
 (65) 6481 8215 (tel)  
 (65) 6481 8702 (fax)  
 info@ii-vi.com.sg  
 www.ii-vi.com.sg

Marlow Industries China, II-VI  
 Technologies Beijing  
 A subsidiary of II-VI Incorporated  
 Rm 202, 1# Lize 2nd Middle Road  
 Wangjing, Chaoyang District  
 Beijing 100102 China  
 010-64398226 ext 105 (tel)  
 010-64399315 (fax)  
 info@iivibj.com