OEM CW & PULSED LASER DIODE DRIVER

- **Output Current up to 50 Amps**
- **Compliance Voltage up to 45 V**
- **Output Pulse Width ≤50 µs to CW**
- **1500 W max Average Output Power**
- **High Efficiency up to 97 %**
- **RoHS Compliant**

DESCRIPTION:

AMI's Model 789 OEM CW and Pulsed Laser Diode Driver is a highly efficient, current regulated buck converter to provide a programmable current to a floating laser emitter diode load. The output current is adjustable up to 50 Amps for both pulsed and CW applications and capable of driving laser compliance voltages up to 45 Volts. Various protections are built-in including open circuit, short circuit, adjustable current limit, and temperature monitoring. The PCB is mounted on an aluminum plate that acts to spread and sink heat. Because of the exceptionally high efficiency, the driver cooling arrangements required are minimal. The compact footprint provides a high-power density with capability to drive loads up to 1500 W average power and 2.25 kW peak power for pulsed operation with adequate cooling. Multiple units can be connected in parallel for higher output current applications. Contact AMI today to discuss your application requirements.

SPECIFICATIONS:

	Model 789			
PARAMETER	**Min.**	**Typical**	**Max.**	**Units**
INPUT				
Power	+12	-	+55	VDC
Current	-		55	A
Current Control (Scaling = 9.8 A/V)	0.5	-	5.0	V
OUTPUT				
Current	10.0	-	50.0	A
Compliance Voltage	8.0	-	45	V
Pulse width	50	-	CW	µs
Duty Cycle (1500 W Average Power Limit)	0	-	100	%
Modulation Bandwidth (-3dB, 10 A to 50 A swing)	0	-	30	kHz
Rise time at 50 A (10% to 90%, load dependent)	-	15	-	µs
Fall time at 50 A (90% to 10%, load dependent)	-	20	-	µs
Current Stability (8hrs, 25°C)	-	-	+/-0.2	%
Ripple Current (25 Vin, 12.5 Vout, 45 A)	-	0.2	-	% RMS
Operating Temperature	-20	-	+63	°C
Storage Temperature	-20	-	+85	°C

Specifications are subject to change without notice.

APPLICATIONS:

Direct Illumination Applications, Pump Driver for Fiber Lasers

CE RoHS ISO 9001 CERTIFIED

MADE IN USA

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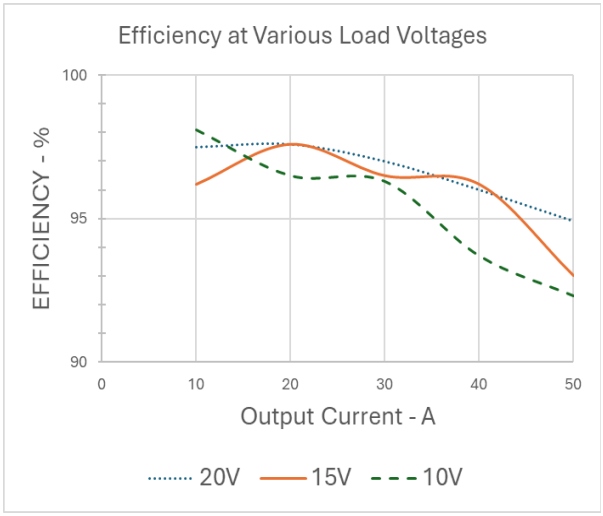
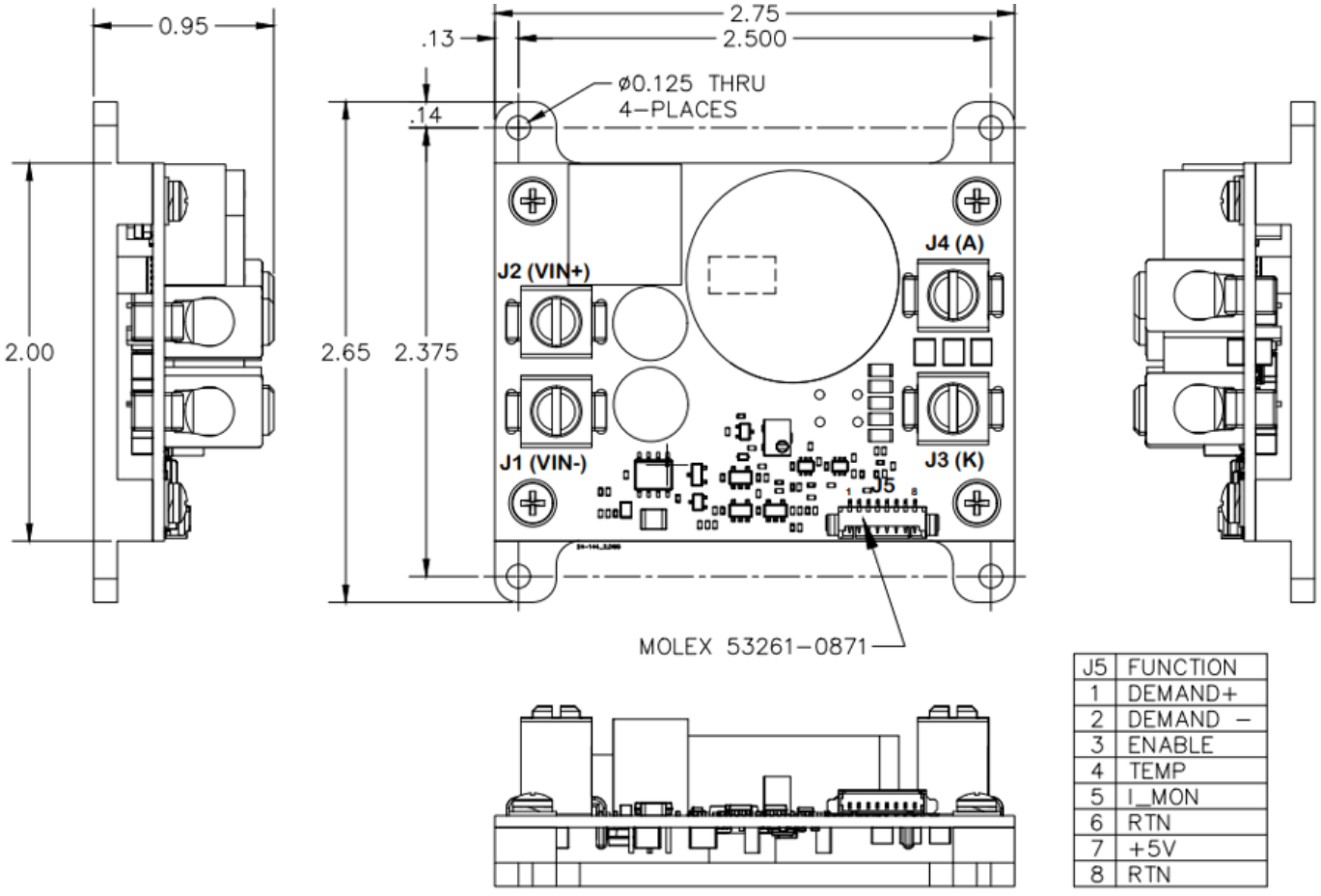
Protection:	Open circuit, short circuit, adjustable current limit, temperature monitoring
Connections:	Power Input: #6-14 AWG Screw Terminal Box Clamp Power Output: #6-14 AWG Screw Terminal Box Clamp Control/Interface: 8-Pin (Molex PicoBlade P/N 53261-0871)
Timing:	Enable propagation delay: < 20 µs Disable propagation delay: < 2 µs
Cooling:	PCB mounted on aluminum plate to mount to external heatsink. Forced air is required at higher power loads to keep magnetics cool. At 25°C ambient, up to 450W output with no additional heatsinking or airflow; up to 1000 W with 400 LFM airflow.
Size:	2.75" x 2.65" x 0.95"
Weight:	5.0 oz.



MECHANICAL OUTLINE DRAWING



J5	FUNCTION
1	DEMAND+
2	DEMAND –
3	ENABLE
4	TEMP
5	I_MON
6	RTN
7	+5V
8	RTN