



# MSTronic Co., Ltd.

2F, 12, Gongshang Rd., Wugu District, New Taipei City, 248 Taiwan

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## **MIT-20G-2456DBNN**

### **DC/DC 802.3bt Gigabit PoE Injector**

#### SPECIFICATION

#### 1. INPUT :

- 1.1 Input Voltage: 18Vdc to 36Vdc Normal = 24V
- 1.2 Input Current: 3.65A at 24Vdc @ Full Load

#### 2. OUTPUT :

- 2.1 Output Voltage & Current:

OUTPUT	+56V1
Max. load	1.25A
Power	70W
Min. Load	0A
Load reg. %	5%
Line reg. %	1%
Ripple %	1%
Noise %	1%

TOTAL POWER : 70W

Note 1: Noise bandwidth is from DC to 20Mhz. Ripple & Noise is measured by Paralleling a 0.1uF metalize capacitor on the test point.

- 3. EFFICIENCY : 80% min at Full Load , 18Vdc ~ 36Vdc Input Voltage

#### 4. PROTECTION

- 4.1 Short Circuit Protection

Output Short GND Terminal will not damage the Power Supply and will Auto-Reset.

- 4.2 Input with Fuse Protection.

- 4.3 Safety Standard : meet IEC/EN62368-1

- 4.4 EMC : meet FCC Class B , IEC/EN55032 Class B

- 4.5 Over Current : 110% ~ 130% @All DC Input F.L

- 4.6 Input Reverse Protection-----NO Work



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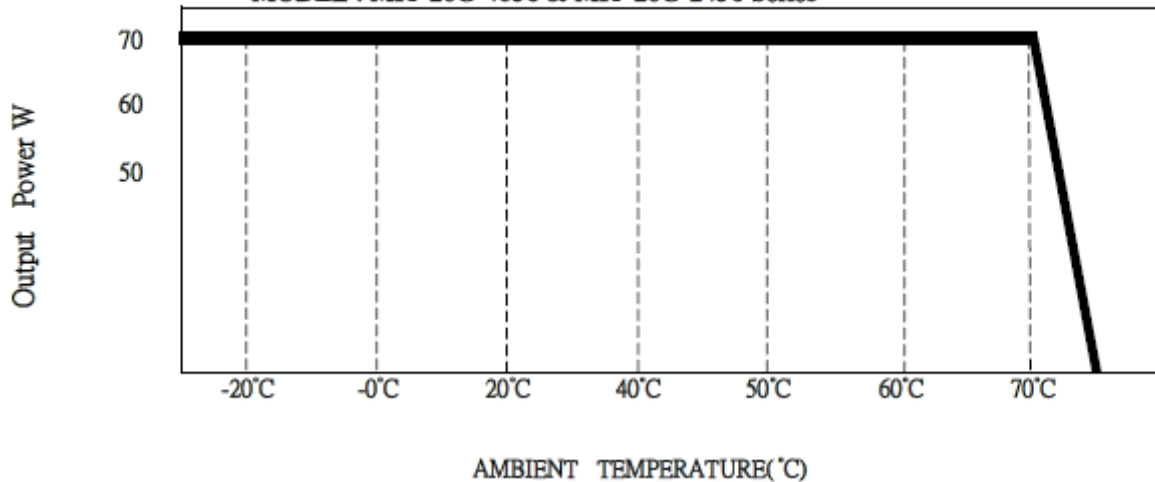
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## 5. GENERAL DESCRIPTION

- 5.1 Operation Temperature: -40 - +70 Degree
- 5.2 Storage Temperature: -40 - +85 Degree
- 5.3 Operation Humidity: 5% - 90%
- 5.4 Cooling: Free air cooling
- 5.5 SIZE : 125\*72\*38 (L)\*(W)\*(H) unit: m/m
- 5.6 DIN rail mountable : DIN rail clip kit optioned

### RATING TEMPERATURE LIMITS AND OUTPUT POWER RANGE

MODEL : MIT-20G-4856 & MIT-20G-2456 Series



## 6. RJ45 Pin Assignment : @1000M

RJ-45 Input (Data Only)			RJ-45 Output (Data & Power)	
Pin	Symbol	Description	Symbol	Description
1	BI_DA+	Data Pair A+	-Vdc + BI_DA+	power(-)+Data Pair A+
2	BI_DA-	Data Pair A-	-Vdc + BI_DA-	power(-)+Data pair A-
3	BI_DB+	Data Pair B+	+Vdc + BI_DB+	power(+)+Data Pair B+
4	BI_DC+	Data Pair C+	+Vdc + BI_DC+	power(+)+Data Pair C+
5	BI_DC-	Data Pair C-	+Vdc + BI_DC-	power(+)+Data Pair C-
6	BI_DB-	Data Pair B-	+Vdc + BI_DB-	power(+)+Data Pair B-
7	BI_DD+	Data Pair D+	-Vdc + BI_DD+	power(-)+Data Pair D+
8	BI_DD-	Data Pair D-	-Vdc + BI_DD-	power(-)+Data Pair D-

Note :

1. the model is isolated design,



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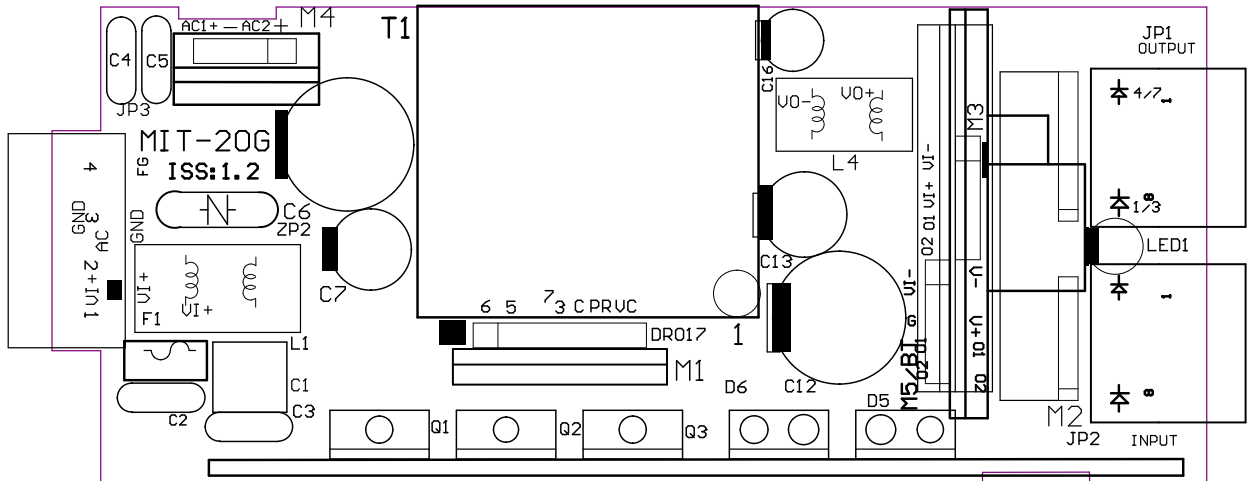
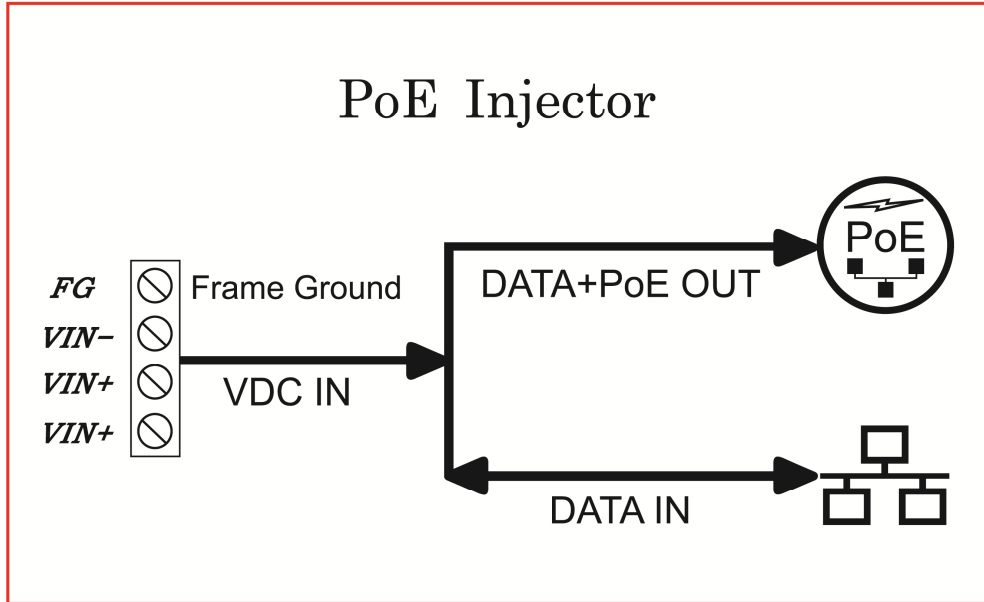
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## 7. INPUT CONNECTION:





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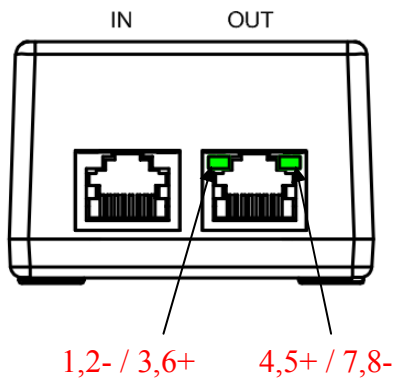
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## 8. Indicators :

- 8.1 the LED on top cover light GREEN when Power Ready
- 8.2 the LEDs on right RJ45 light GREEN when powering to 802.3at PD, the left LED ON means the data pairs powering, the right LED ON means the spare pairs powering. If no valid PD be connected, the two LEDs light off.



Note 1: the data pairs (pin 1236) and spare pairs (pin 4578) with individual 802.3at PSE detection, each PSE with valid output, the model will offer 70W maximum.

- 8.3. 802.3BT :

LTC4291-1/LTC4292

LTC4291-1/LTC4292

## APPLICATIONS INFORMATION

Table 1. IEEE-Specified Power Allocations, Single-Signature PD

PD CLASS	PSE OUTPUT POWER	ALLOCATED CABLING LOSS	PD INPUT POWER
1	4W	0.16W	3.84W
2	6.7W	0.21W	6.49W
3	14W	1W	13W
4	30W	4.5W	25.5W
5	45W	5W	40W
6	60W	9W	51W
7	75W	13W	62W
8	90W	18.7W	71.3W

Table 4. Typical Auto Mode Power On Thresholds, Single-Signature PD

CLASS	PER-CHANNEL		PER-PORT
	$I_{CUT-2P}$	$I_{LIM-2P}$	$P_{CUT-4P}$
1	94mA	425mA	5.43W
2	150mA	425mA	8.69W
3	338mA	425mA	19.5W
4	638mA	850mA	36.4W
5	581mA	850mA	52.7W
6	731mA	850mA	70.0W
7	825mA	1063mA	87.4W
8	975mA	1167mA	96.6W

Table 5. Typical Auto Mode Power On Thresholds, Dual-Signature PD

CLASS	PER-CHANNEL		
	$I_{CUT-2P}$	$I_{LIM-2P}$	$P_{CUT-2P}^*$
1	94mA	425mA	5.43W
2	150mA	425mA	8.69W
3	338mA	425mA	19.5W
4	638mA	850mA	36.4W
5	975mA	1167mA	48.3W

\*A per-port  $P_{CUT-4P}$  threshold holds the sum of  $P_{CUT-2P}$  for each powered channel.



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## 9. SPEC. of SURGE/LIGHTNING

### PROTECTION

**TVS Diode Arrays (SPA<sup>®</sup>Diodes)**  
Lightning Surge Protection- SP4022 Series



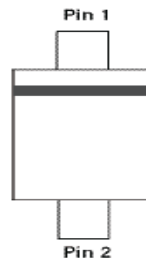
SP4022 Series 1.3pF, 15A Discrete TVS Diode



#### Description

The SP4022 series integrates low capacitance steering diodes with one or two avalanche breakdown diodes for unidirectional or bidirectional protection, respectively, to protect against ESD and lightning induced surge events. These devices can safely absorb up to 15A per IEC 61000-4-5 2<sup>nd</sup> Edition ( $t_p=8/20\mu s$ ) without performance degradation and a minimum  $\pm 30kV$  ESD per IEC61000-4-2 International Standard. The low loading capacitance and high surge capability make it ideal for protecting telecommunication ports such as xDSL and other high voltage, high speed legacy interfaces.

#### Pinout



Cathode polarity for unidirectional only

#### Features

- ESD, IEC 61000-4-2,  $\pm 30kV$  contact,  $\pm 30kV$  air
- EFT, IEC 61000-4-4, 40A (5/50ns)
- Lightning, IEC 61000-4-5 2<sup>nd</sup> Edition, 15A ( $t_p=8/20\mu s$ )
- Low capacitance of 1.3pF (@  $V_R=0V$ )
- Low leakage current
- Unidirectional and Bidirectional configuration
- Small SOD323 package fits 0805 footprints
- AEC-Q101 qualified
- Halogen free, Lead free, and RoHS compliant
- Moisture Sensitivity Level (MSL-1)



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**CYGWAYON**  
*Let's make electronics safer!*

**WS24DLC-B**

Order Code: WS24DLC-B

Transient Voltage Suppressor

## Features

- 500 Watts Peak Pulse Power per Line ( $t_p = 8/20\mu s$ )
- Bidirectional Configuration
- Protects One Power or I/O Port
- Low Clamping Voltages
- Ultra Low Capacitance: 1.0 pF Typical

## IEC COMPATIBILITY (EN61000-4)

- IEC 61000-4-2 (ESD)  $\pm 30kV$  (air),  $\pm 30kV$  (contact)
- IEC 61000-4-4 (EFT) 40A (5/50ns)
- IEC 61000-4-5(Lightning) 9A (8/20 $\mu s$ )

## Mechanical Characteristics

- Molded JEDEC SOD-323 package
- Weight 10 milligrams (Approximate)
- Flammability rating UL 94V-0
- 8mm Tape and Reel Per EIA Standard 481
- Device Marking: Marking Code
- RoHS Compliant

## Applications

- Ethernet - 10/100/1000 Base T
- Cellular Phones
- Handheld - Wireless Systems
- Personal Digital Assistant (PDA)
- USB Interface





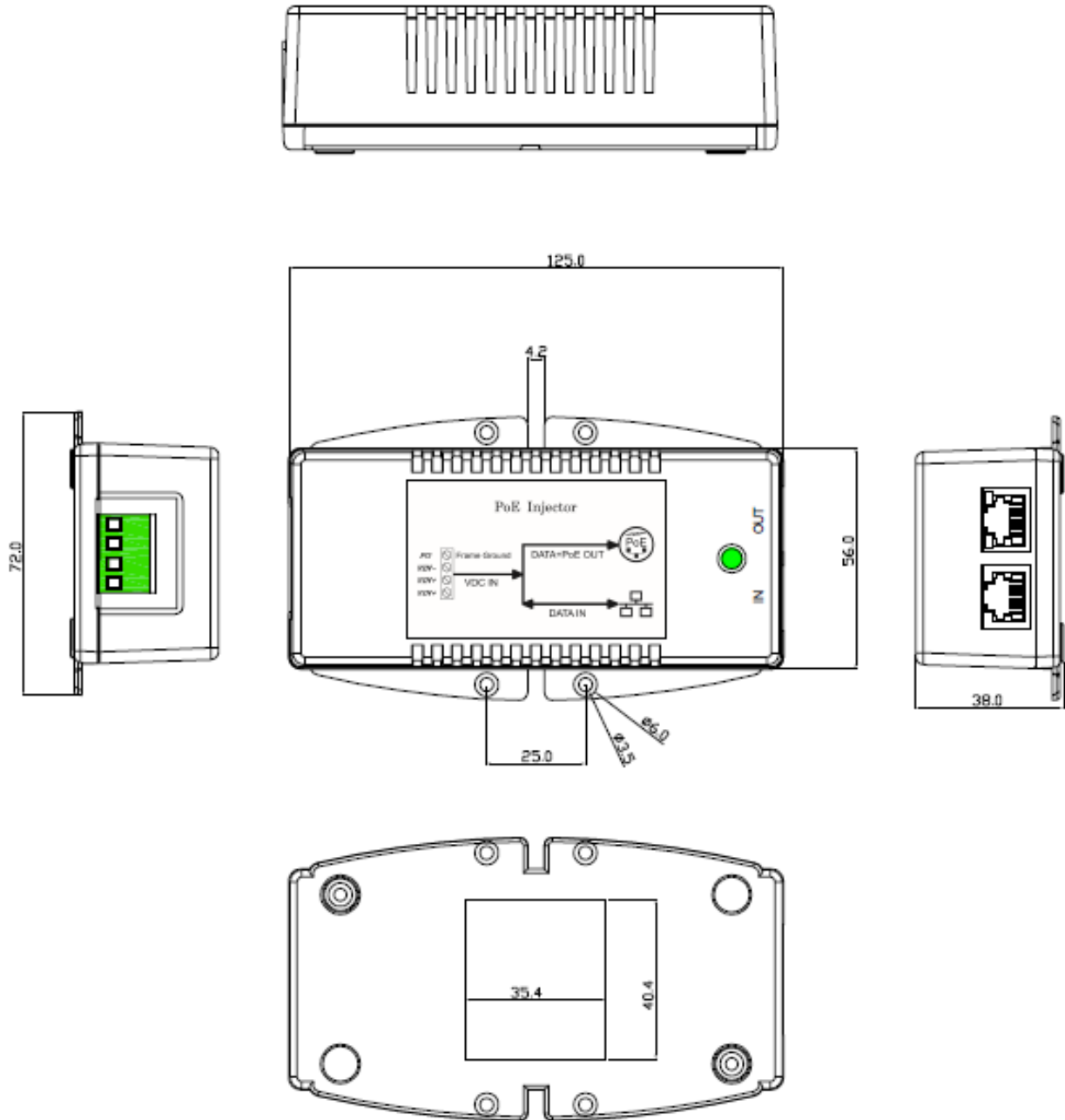
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