## DESCRIPTION

24V, 30W PD(Powered Device) Integrated Module (Isolation Type)

FEATURES

- Fully supports IEEE802.3af/at
- Small Single In-Line (SIL) package size –57.3mm (L) x 14mm (H)
- Input Voltage Range 44V to 57V
- Support PoE applications in both of Fast / Gigabit Ethernet environments.
- Short Circuit Protection
- Over-temperature Protection
- Programmable Classification (Default:Class 4)
- High Efficiency
- Isolation level 1.5KVrms.
- Easy Installation and Low Cost (Isolation Type, Minimum External Devices required)
- Low Output Ripple and Noise
- Adjustable Output Voltage
- 1500Vrms Isolation (Input-Output)

Product List

| Part Number	Nominal Output Voltage / Current	Maximum Output Power	Nominal Input Voltage
DP5300-5V	5Vdc / 4A	20W@ 25° C	48Vdc
DP5405	5Vdc / 4-5A	25W @ 25°C	48Vdc
DP5300-12V	12Vdc / 2A	24W @ 25°C	48Vdc
DP5300-24V	24Vdc/1A	24W @ 25°C	48Vdc
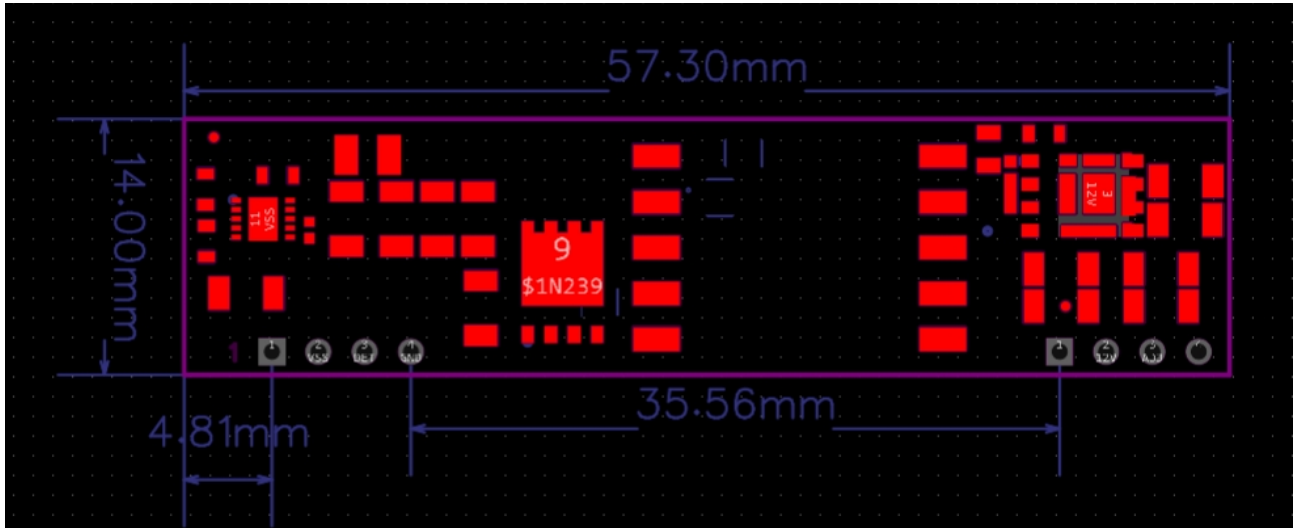
PIN ASSIGNMENT

| 1	VIN+	**POE Direct Input +**. This pin connects to the positive (+) output of the POE input bridge rectifiers.
2	VIN-	**POE Direct Input -**. This pin connects to the negative (-) output of the POE input bridge rectifiers.
3	AT Detect Output	**AT Detect Output.** This pin indicates if an IEEE802.3at PSE is supplying power to the DP5300;
4	NC	**Internal Connection.** Do not connect to this pin.
5	-VDC	**Negative DC Output.** This pin provides the negative regulated output from the Ag5300 and is internally connected to pin 8.
6	+VDC	**Positive DC Output.** This pin provides the positive regulated output from the DP5300.
7	ADJ	**Output Adjust.** The output voltage can be adjusted from its nominal value, by connecting an external resistor from this pin to either the +VDC pin or the -VDC pin.
8	-VDC	**Negative DC Output.** This pin provides the negative regulated output from the Ag5300 and is internally connected to pin 5.

TYPICAL SYSTEM DIAGRAM
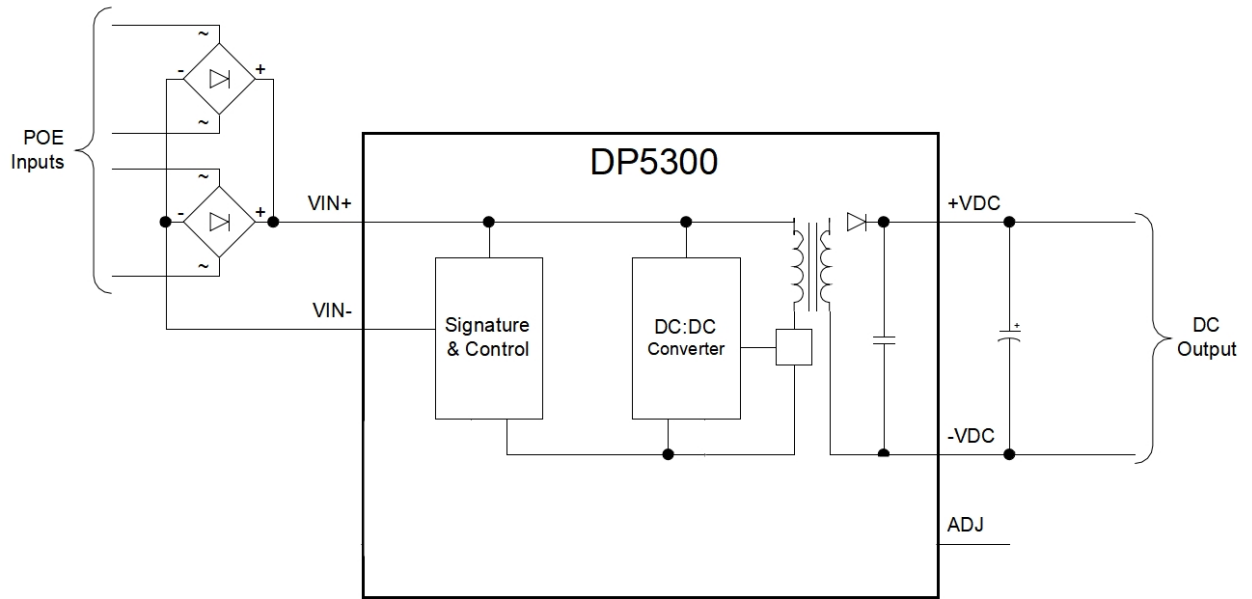
TYPICAL APPLICATION
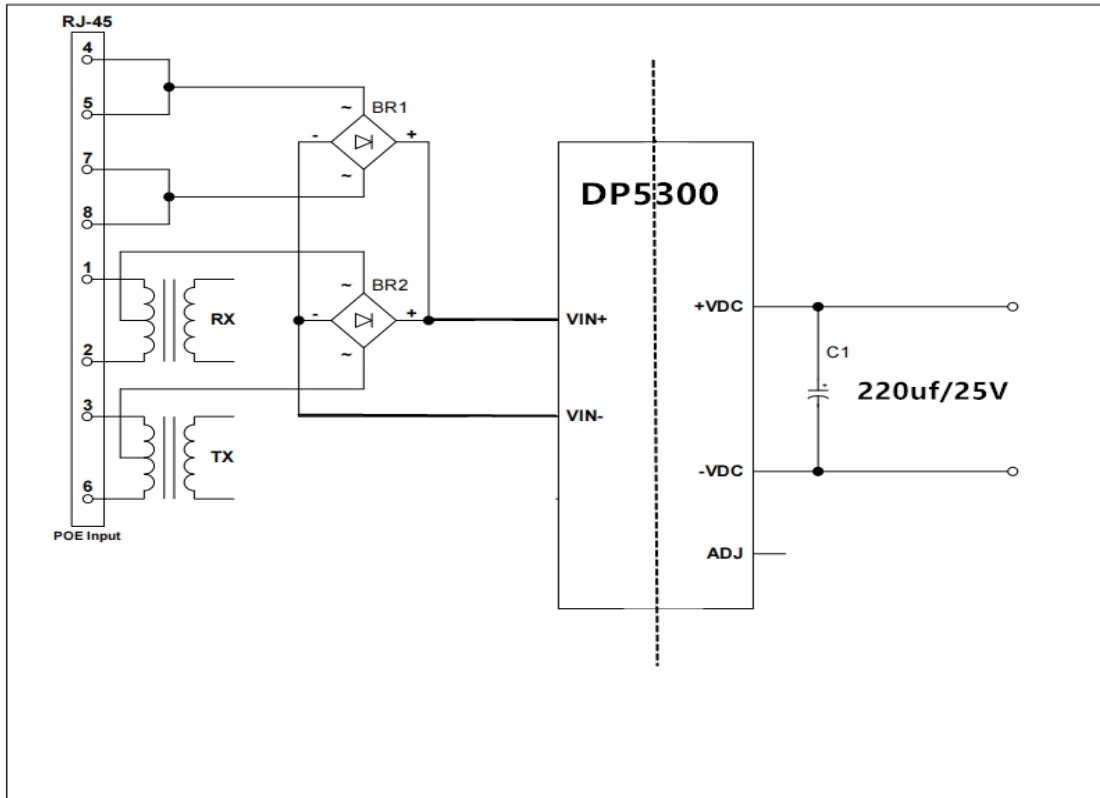
Add 20uf / 25V capacitance at the output,This will reduce the ripple and noise to typically **140mVp-p**. 24V@1A.
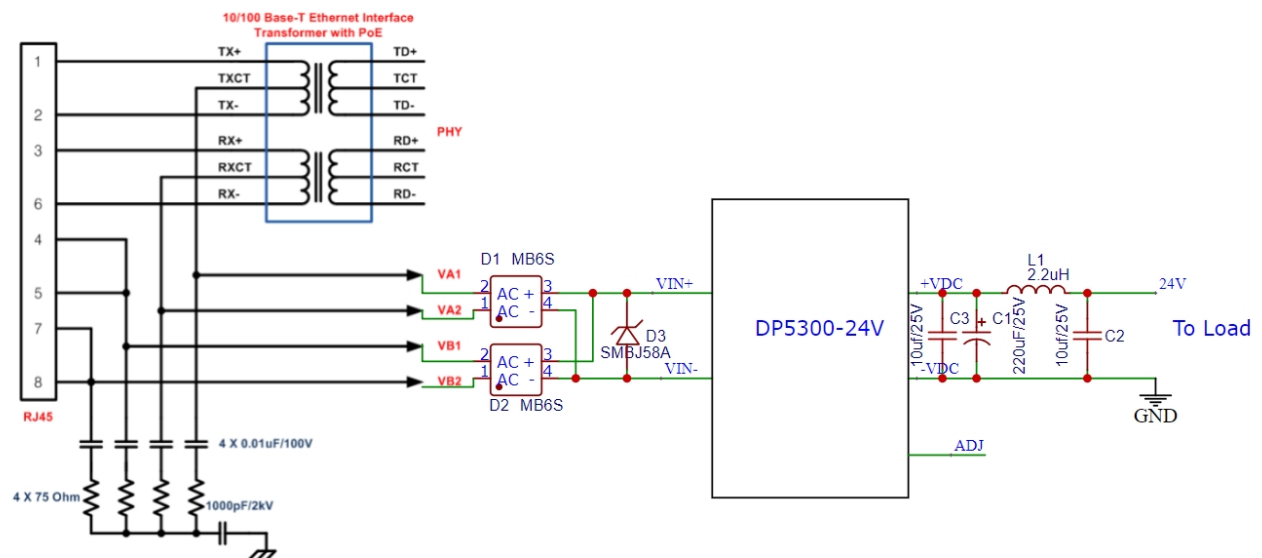
optional external lc filter for lower ripple and noise,This will reduce the ripple and noise to typically **40mVp-p**. 24V@1A.

TEST DATA

Model	Input Voltage	Input Current	Output Voltage	Output Current	Efficiency	Ripple Output Noise	
	V	mA	V	A	%	mVp-p	ms
DP5300 -24V	50.8	652	24	1.25	90.58%	340	
	50.83	521	24	1	90.63%	285	140
	50.86	417	24	0.8	90.53%	250	
	50.91	262	24	0.5	89.97%	190	
	50.93	162	24	0.3	87.27%	150	
	50.97	12	24	0	0.00%		

ELECTRICAL SPECIFICATIONS

| No.	Parameter	Symbol	Min	Typical values	Max	Unit
1	Input Voltage	Vin	38	48	57	V
2	output voltage	+VDC	23.5	24	24.2	V
3	output Current	PWR	0.01	1	1.25	A
4	Isolation Voltage	VISO		1.5		KV
5	Ripple Output Noise	VRN		140*		mVp-p
6	Storage Temperature	Tj	-40	25	85	℃
7	Operating Temperature	Tstg	-40	25	80	℃

*Add 20uf / 25V capacitance at the output,This will reduce the ripple and noise to typically **140mVp-p**. 24V@1A
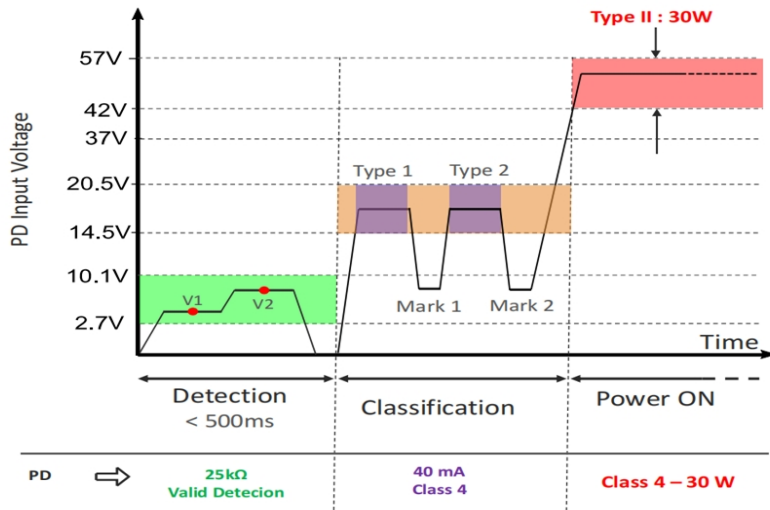
1. Power Delivery in PoE Systems
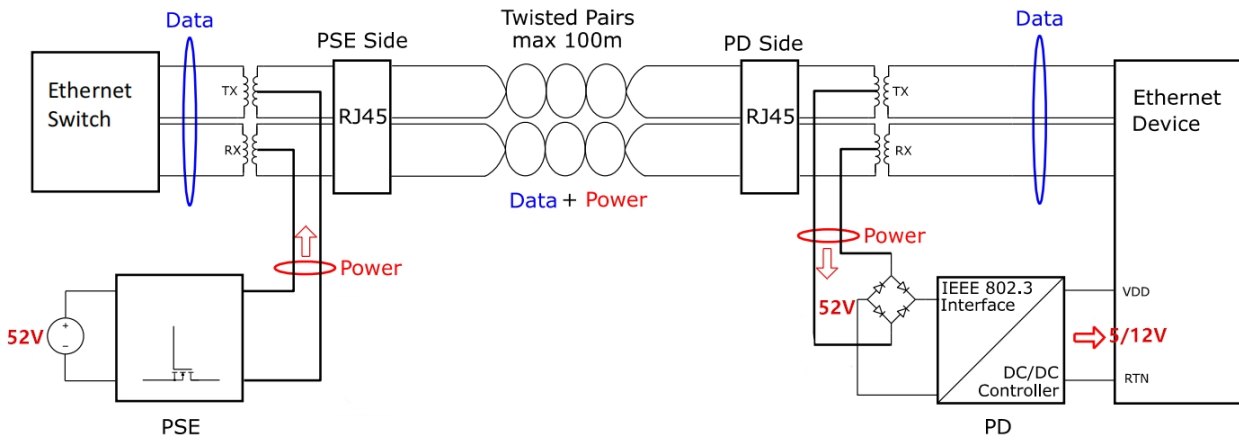
	Type 1 802.3af			Type 2 802.3at	Type 3 802.3bt		Type 4 802.3bt	
Power Class	Class 1	Class 2	Class 3	Class 4	Class 5	Class 6	Class 7	Class 8
Power from PSE	4 W	7 W	15.4 W	30 W	45 W	60 W	75 W	90 W
Power delivered to PD	3.84 W	6.49 W	13 W	25.5 W	40 W	51 W	62 W	71.3 W

2. Establishing PoE Connection – Type 1 (IEEE 802.3af/PoE)
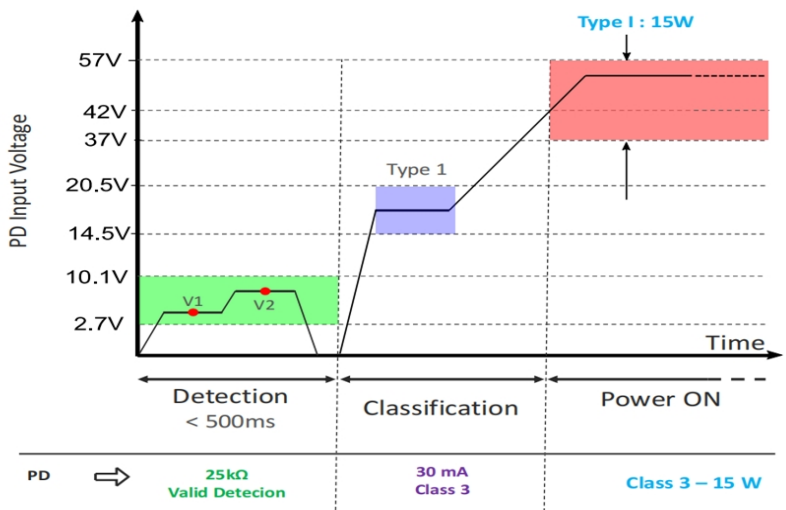
3. Establishing PoE Connection – Type 2 (IEEE 802.3at/PoE+)

4. Establishing PoE Connection – Type 3 and 4 (IEEE 802.3bt)