

1. Description

EDEA 30 series is a new generation of DC-DC power module, with standard 2" x 1" package and applying advanced potting technology. Offers input voltage ranges 28V, 36V and 100Vdc and output voltages from 3.3V to 54Vdc, max power 30W. Featured with high reliability, high efficiency, different protections, etc. It is widely used in industrial, telecommunication, transportation and high reliability applications.

- 30W isolated output
- Input voltage range: 28, 36, 100Vdc (4:1)
- Line regulation: $\pm 0.5\%$ max
- Load regulation: $\pm 0.5\%$ max
- Output trimming: $\pm 10\%$
- Input under voltage protection
- Output overvoltage protection
- Over temperature protection
- Disable/Enable control
- No minimum load required



2. Part Number (Figure 1)

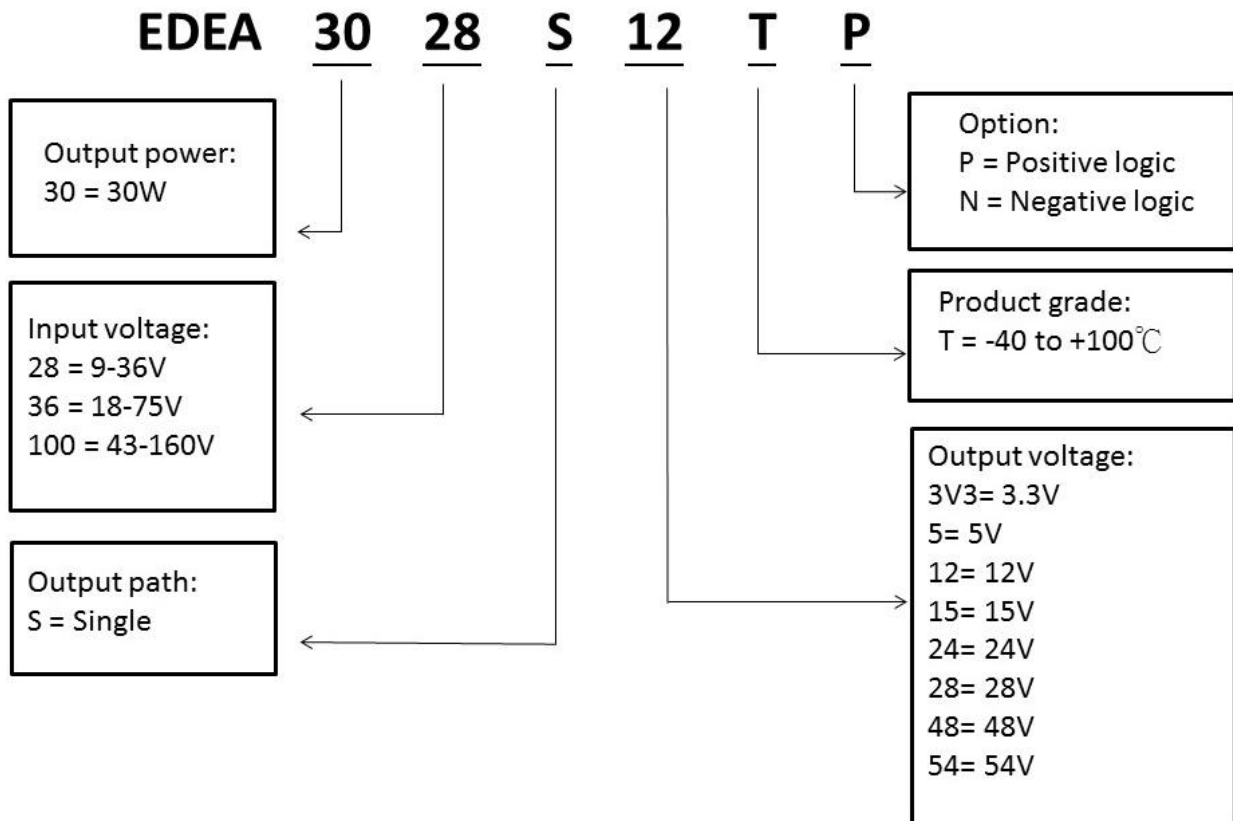
Model	Input voltage range	Output voltage	Output current	Efficiency	Typical ripple noise
EDEA3028S3V3TP	9-36Vdc	3.3Vdc	8A	88%	100mV
EDEA3028S5TP	9-36Vdc	5Vdc	6A	88%	100mV
EDEA3028S12TP	9-36Vdc	12Vdc	2.5A	89%	150mV
EDEA3028S15TP	9-36Vdc	15Vdc	2A	90%	150mV
EDEA3036S3V3TP	18-75Vdc	3.3Vdc	8A	88%	100mV
EDEA3036S5TP	18-75Vdc	5Vdc	6A	89%	100mV
EDEA3036S12TP	18-75Vdc	12Vdc	2.5A	90%	150mV
EDEA3036S15TP	18-75Vdc	15Vdc	2A	91%	150mV
EDEA3036S48TP	18-75Vdc	48Vdc	625mA	88%	500mV
EDEA30100S3V3TP	43-160Vdc	3.3Vdc	8A	88%	100mV
EDEA30100S5TP	43-160Vdc	5Vdc	8A	88%	100mV
EDEA30100S12TP	43-160Vdc	12Vdc	2.5A	90%	150mV
EDEA30100S15TP	43-160Vdc	15Vdc	2A	90%	150mV
EDEA30100S24TP	43-160Vdc	24Vdc	1.25A	89%	500mV
EDEA30100S28TP	43-160Vdc	28Vdc	1.07A	89%	500mV
EDEA30100S48TP	43-160Vdc	48Vdc	625mA	89%	500mV
EDEA30100S54TP	43-160Vdc	54Vdc	555mA	89%	500mV

Remarks: 1. All specifications are typical at nominal line, full load at 25°C unless otherwise noted.

2. For other output voltages, please consult manufacturer.



Part Number Configuration



3. General Specifications

3.1 Input characteristics

Parameter		Min	Typical	Max	Unit	Remarks/Conditions
Input voltage range	28V	9	28	36	Vdc	
	36V	18	36	75	Vdc	
	100V	43	100	160	Vdc	A 22uF E-Cap is recommended to add to the input terminal.
Input under-voltage Lockout	28V		7.5		Vdc	Turn on 9V
	36V		16		Vdc	Turn on 18V
	100V		40		Vdc	Turn on 43V
Input over-voltage shutdown	28V			40	Vdc	
	36V			80	Vdc	
	100V			168	Vdc	
ON/OFF Remote control(Positive logic)			+2.5		Vdc	Or open circuit, normal output
			+0.8		Vdc	Or short circuit, no output

**3.2 Output characteristics**

Parameter	Min	Typical	Max	Unit	Remarks/Conditions
Output voltage setpoint			±1.00	%	At 25°C, line/load regulation within limit
Line regulation			±0.50	%	Full range, 100% load
Load regulation			±0.50	%	Typical input, 25-100% load
Output voltage trim range	-10		+10	%	Output power ≤ Max output power, Output current ≤ Max output current
Output over voltage protection	110		150	%Vout	Auto recovery
Ripple+noise (p-p)		Refer to figure 1			Typical input, typical output, BW=20 MHz, Output parallel a 47μF E-cap
Transient response		Single, 25% step load change	500	μs	di/dt=100mA/1μs, Tc=25°C, load change=0.5 I _o max to 0.75 I _o max and 0.75 I _o max to 0.5 I _o max

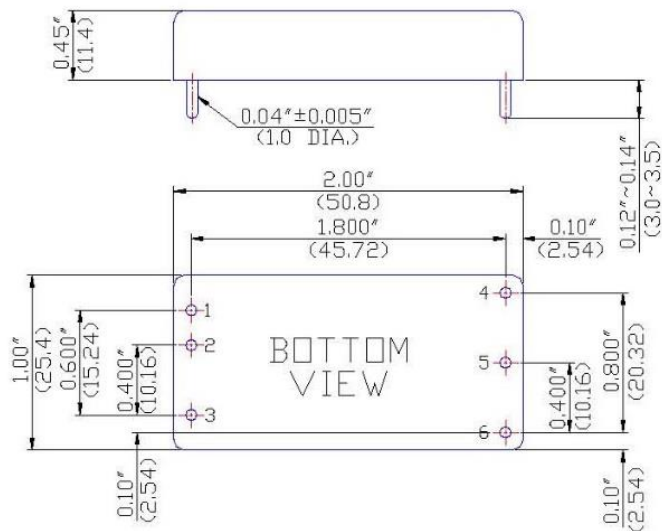
3.3 Feature Characteristics

Parameter	Min	Typical	Max	Unit	Remarks/Conditions
Switching frequency		350		KHz	Full range
Efficiency		Refer to figure 1			Typical input, typical output, full load, Tc=25°C
Over temperature protection		110		°C	Non-latching shutdown protection, measured at case/baseplate
Over temperature recover	105		107	°C	Recover turn on
EMI/RFI	EN55022 level A/B (With external input filter)				

3.4 General characteristics

Parameter		Min	Typical	Max	Unit	Remarks/Conditions
Isolation voltage	Input to output		2250		Vdc	100Vin range
	Input to Output		1500		Vdc	28Vin and 36Vin range
Isolation resistance		100			MΩ	Relative humidity 90%, under standard atmospheric pressure, 500Vdc
MTBF			TBD		H	Typical input, typical output, Tc=25°C
Operating temperature		-40		+100	°C	T grade
Storage temperature		-55		+125	°C	Ambient temperature
Relative humidity		5		95	%	Non-condensing
Storage humidity		5		95	%	Non-condensing
Dimension		50.8*25.4*11.4			mm	Length*width*height
Weight		30			g	

3.5 Mechanical drawing and pinouts (Unit in in(mm))





Remarks:

Tolerance : x.xx ±0.02in (±0.5mm) , x.xxx ±0.010in (±0.25mm)

Pin assignment

Pin no.	Function
1	+Input
2	-Input
3	ON/OFF remote control
4	+Output
5	-Output
6	Trim