

## 1. Description

EDEA 20 series is a new generation of DC-DC power module, with standard 2" x 1" package and applying advanced potting technology. Offering input voltage ranges 28V, 36V and 100Vdc and output voltages from 3.3V to 48Vdc, max power 20W. Featured with high reliability, high efficiency, different protections, etc. It is widely used in industrial, telecommunication, transportation and high reliability applications.

- 20W isolated output
- Input voltage range: 28, 36, 100Vdc
- 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



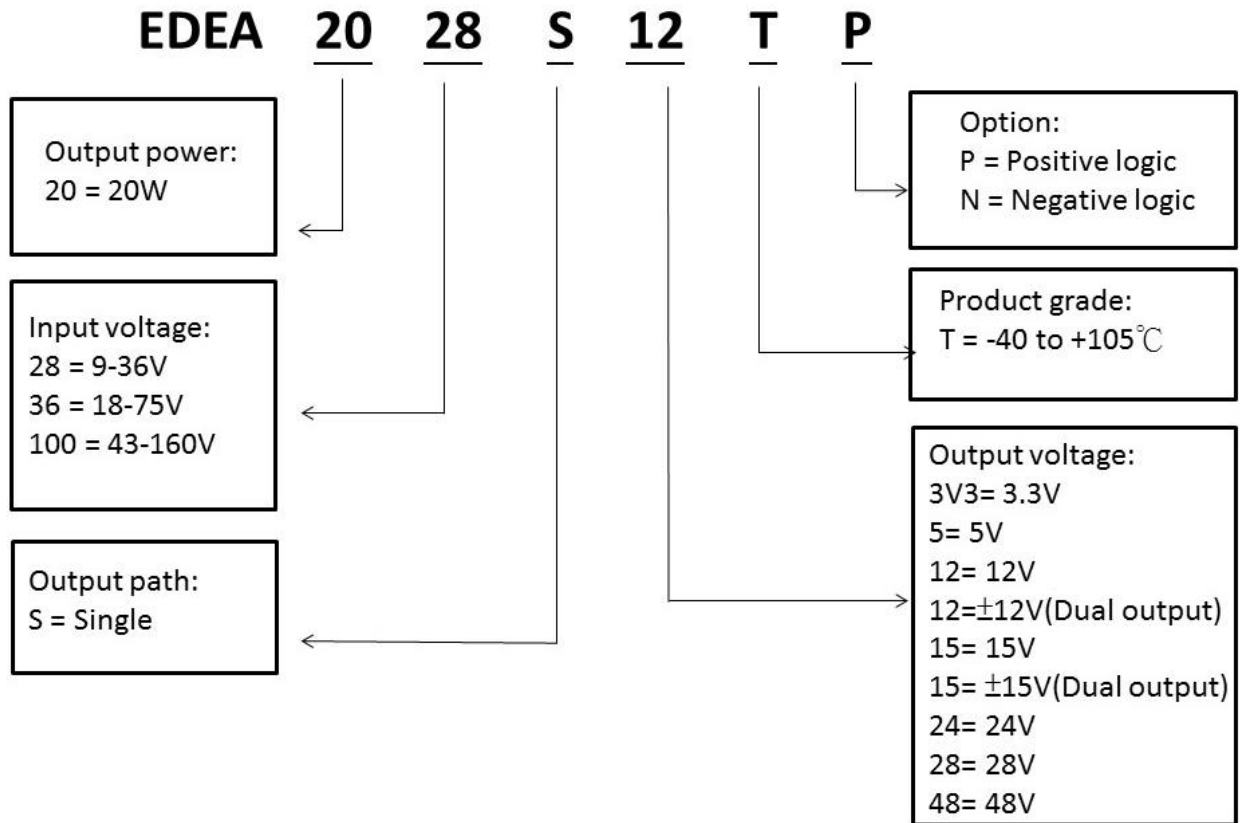
## 2. Part Number (Figure 1)

Model	Input voltage range	Output voltage	Output current	Efficiency	Typical ripple noise
EDEA2028S3V3TP	28Vdc	3.3Vdc	5500mA	86%	100mA
EDEA2028S5TP		5Vdc	4000mA	88%	100mA
EDEA2028S12TP		12Vdc	1670mA	87%	100mA
EDEA2028S15TP		15Vdc	1330mA	87%	100mA
EDEA2028S24TP		24Vdc	835mA	87%	200mA
EDEA2028S48TP		48Vdc	420mA	87%	200mA
EDEA2028D12TP		$\pm 12$ Vdc	$\pm 835$ mA	87%	100mA
EDEA2028D15TP		$\pm 15$ Vdc	$\pm 665$ mA	87%	100mA
EDEA2036S3V3TP	36Vdc	3.3Vdc	5500mA	86%	100mA
EDEA2036S5TP		5Vdc	4000mA	88%	100mA
EDEA2036S12TP		12Vdc	1670mA	88%	100mA
EDEA2036S15TP		15Vdc	1330mA	88%	100mA
EDEA2036S24TP		24Vdc	835mA	88%	200mA
EDEA2036S48TP		48Vdc	420mA	88%	200mA
EDEA2036D12TP		$\pm 12$ Vdc	$\pm 835$ mA	88%	100mA
EDEA2036D15TP		$\pm 15$ Vdc	$\pm 665$ mA	88%	100mA
EDEA20100S3V3TP	100Vdc	3.3Vdc	5500mA	86%	100mA
EDEA20100S5TP		5Vdc	4000mA	87%	100mA
EDEA20100S12TP		12Vdc	1670mA	88%	100mA
EDEA20100S15TP		15Vdc	1330mA	88%	100mA
EDEA20100D12TP		$\pm 12$ Vdc	$\pm 835$ mA	88%	100mA
EDEA20100D15TP		$\pm 15$ Vdc	$\pm 665$ mA	88%	100mA



Remarks: 1. 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 16V
	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	115		130	%Vout	Auto recovery
Ripple+noise (p-p)		Refer to figure 1			Typical input, typical output, BW=20 MHz, Output parallel a 47μF ceramic-cap
Transient response		Single, 25% step load change	250	μs	di/dt=100mA/1μs, Tc=25°C, load change=0.5 Io max to 0.75 Io max and 0.75 Io max to 0.5 Io max

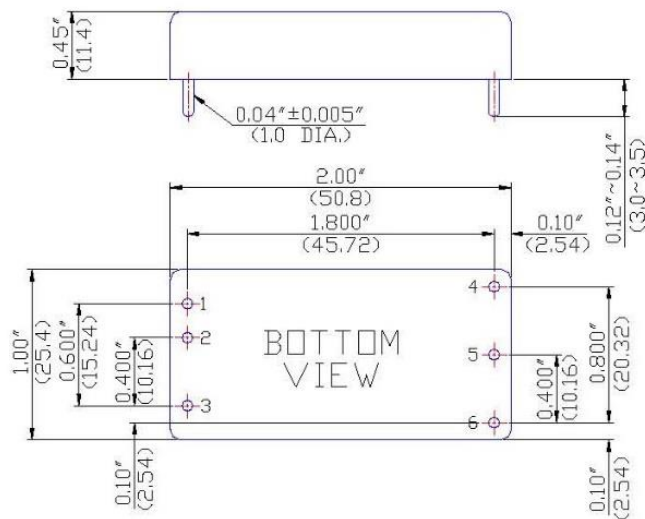
**3.3 Feature Characteristics**

Parameter	Min	Typical	Max	Unit	Remarks/Conditions
Switching frequency		400		KHz	Full range
Efficiency		Refer to figure 1			Typical input, typical output, full load, Tc=25°C
Over temperature protection		105		°C	Non-latching shutdown protection, measured at case/baseplate
Over temperature recover	102		105	°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		1600		Vdc	
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 baseplate temperature
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 ±0.04in ( ±1.0mm ) , x.xxx ±0.010in ( ±0.25mm )

**Pin assignment**

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