



### 3.6DABT\_S12RP series

3.6W - Single Output - Isolated & Regulated  
IGBT dedicated DC-DC converter

## DC-DC Converter 3.6 Watt

- + Efficiency up to 80%
- + Temperature range: -40°C~+85°C
- + Up to 12,000VDC isolation
- + Short circuit protection (SCP)
- + RoHS Compliance
- + Industry standard pinout
- + Output over-voltage protection
- + IGBT dedicated regulated DC-DC converter

The 3.6DABT\_S12RP is a series of converters for IGBT drivers, offering 3.6W rated output power. Adopting electromagnetism isolation technology, this model has the characteristics of ultra high isolation. It has the function of input under voltage protection and output short circuit protection, and can be widely used in:

1. General inverter
2. AC servo drive system
3. Electric welding machine
4. Uninterruptible power supply (UPS)



Common specifications	
Short circuit protection:	Continuous, automatic recovery
Temperature rise at full load:	30°C TYP (Ta=25°C)
Cooling:	Free air convection
Operation temperature range:	-40°C – +85°C
Storage temperature range:	-55°C – +125°C
Pin welding resistance temperature:	300°C MAX, 1.5mm from case for 10 sec
Storage humidity range:	< 95%
Case material:	Black flame-retardant and heat-resistant plastic [UL94-V0]
MTBF:	>500,000 hours
Dimensions:	51.50 * 26.50 * 12.00 mm
Weight:	24g

Output specifications						
Item	Test condition	Min	Typ	Max	Units	
Output current	I <sub>o</sub> , Vin=15VDC	15		150	mA	
Output voltage	Full load, Vin = 15VDC	21.6	24	26.4	VDC	
Output voltage accuracy	See tolerance envelope graph					
Line regulation	Full load		±1.2	±1.5	%	
Load regulation	10% to 100% load		±8	±10	%	
Temperature drift coefficient	100% load			±0.03	%/°C	
Ripple & Noise*	20MHz Bandwidth		120	200	mVp-p	
Switching frequency	Full load, nominal input		280		KHz	

\*Test ripple and noise by "parallel cable" method.

Input specifications						
Item	Test condition	Min	Typ	Max	Units	
Input under voltage protection	full load		12		VDC	
Input filter	Capacitor					
Hot plug	Unavailable					

Isolation specifications						
Item	Test condition	Min	Typ	Max	Units	
Isolation voltage	Input-Output, tested for 1 min. and leakage current less than 1mA	12000			VDC	
Isolation resistance	Input-Output, test at 500VDC	1000			MΩ	
Isolation capacitance	Input/Output, 1MHz/0.1V		3.0		pF	

**Note:**

1. The lead connecting the power supply module and IGBT driver should be as short as possible during use;
2. The output filtering capacitor should be as close as possible to the power supply module and IGBT driver;
3. The peak of the IGBT driver gate drive current is high, so low internal resistance electrolytic capacitor is recommended to be used for the power supply module output filter capacitor;
4. The average output power of the driver must be lower than that of the power supply module;
5. The maximum capacitive load offered was tested at nominal input voltage and full load;
6. Unless otherwise noted, all specifications are measured at Ta = 25°C, humidity <75%, nominal input voltage and rated output load.
7. All index testing methods in this datasheet are based on our Company's corporate standards;
8. The performance parameters of the product models listed in this manual are as above, but some parameters of non-standard model products may exceed the requirements mentioned above. Please contact our technicians directly for specific information;
9. We can provide product customization service;
10. Specifications are subject to change without prior notice.

**Example:**

**3.6DABT\_1524S12RP**  
**3.6 = 3.6 Watt; D = DIP15; A = Pinning; BT = IGBT Serie; 15 = 15Vin;**  
**24 = 24Vout; S = Single Output; 12 = 12kVDC; R = Regulated;**  
**P = Short Circuit Protection (SCP)**

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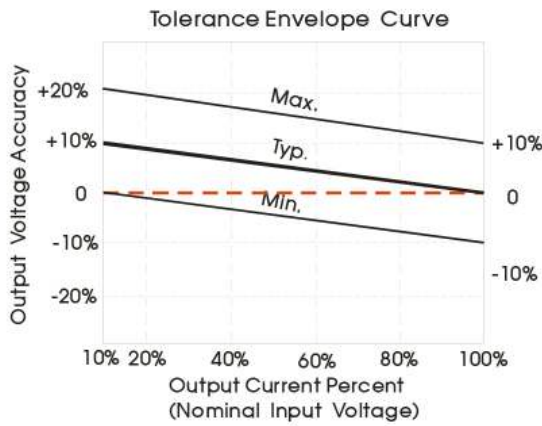
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EMC specifications				
EMS	ESD	IEC/EN61000-4-2	Contact ±4KV	perf. Criteria B
EMS	RS	IEC/EN61000-4-3	10V/m	perf. Criteria A
EMS	EFT	IEC/EN61000-4-4	±2KV (output)	perf. Criteria B
EMS	Surge	IEC/EN61000-4-5	±2KV (input to output)	perf. Criteria B
EMS	CS	IEC/EN61000-4-6	3 Vr.m.s	perf. Criteria A

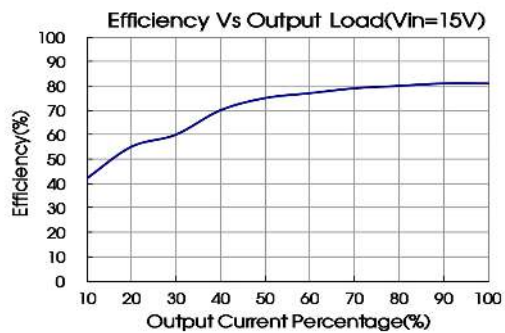
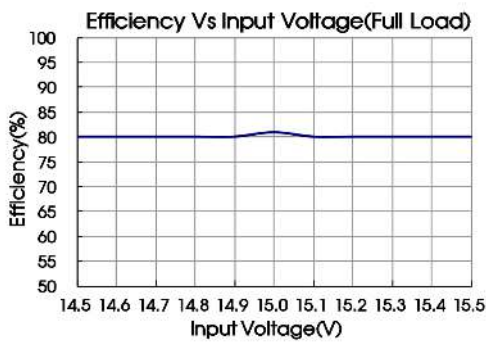
## Product Selection Guide

Part Number	Input Voltage [V]	Input current [mA, typ] full load/ no load	Output Voltage [VDC, Vo]	Output current [mA, max/min]	Max. capacitive load [µF]	Efficiency [%, min/typ]
3.6DABT_1524S12RP	15	300/35	24	150/15	1000	78/80

## Typical characteristics



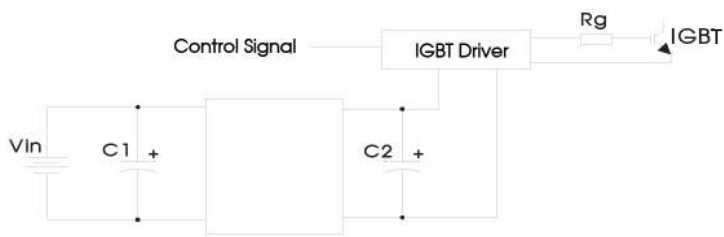
## Efficiency



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## Typical application



C1/C2	100uF/35V (Low internal resistance capacitance)
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It is not allowed to connect modules output in parallel to enlarge the power

## Mechanical dimensions

