



DC/DC CONVERTER

Design and Manufacture

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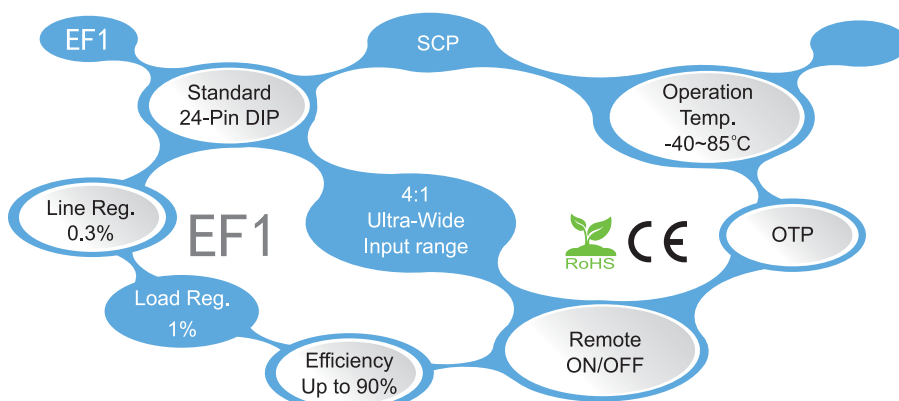
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MADE IN TAIWAN



2018



EF1 Series provide up to 15~20 Watt ,Efficiency is up to 90% , Insulation-Regulating-DC/DC Converter in standard DIP 24-Pin package , allows a Ultra-Wide Input Voltage range of 9~36VDC & 18~75 VDC , output offers 5V , 12V , 15V , $\pm 5V$, $\pm 12V$, and $\pm 15V$.

Protections & Functions

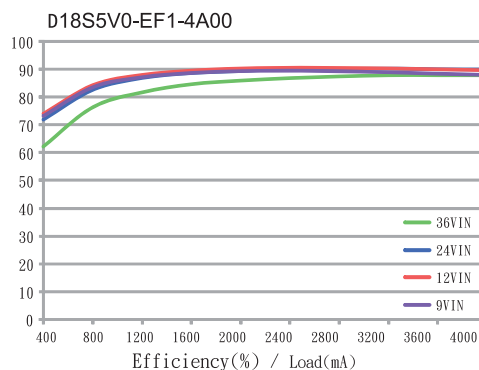
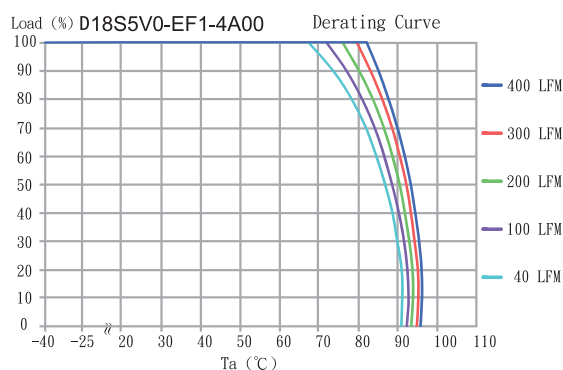
- △ Under-Voltage Lock-out(UVLO)
- △ Over Temperature Protection(OTP)
- △ Over Current Protection(OCP)
- △ Output Over Voltage Protection(OVP)
- △ Output Short Protection(SCP)
- △ Remote ON/OFF Control(High-Logic , Option)

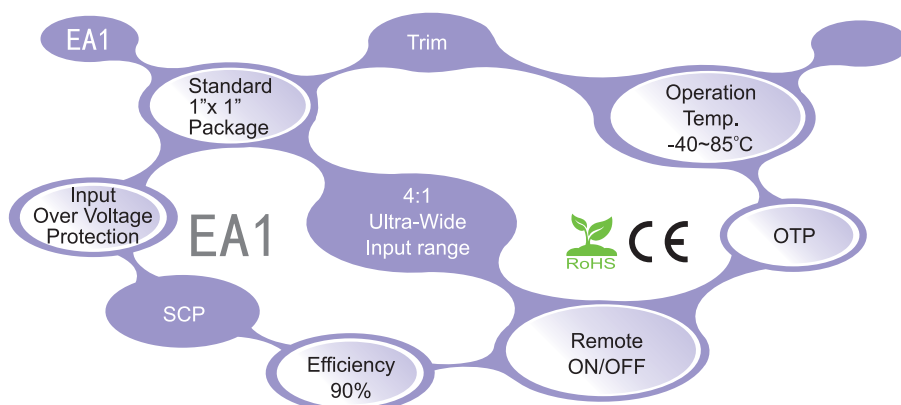
Applications

- △ Automatic Control System
- △ Industry Computer
- △ Communication System
- △ Distribute Power System
- △ Movable/Portable Test Equipment

EF1 Selection Guide

Part Number	Input		Output		Efficiency
	Voltage	Current	Voltage	Current	
	VDC	mA	VDC	mA	%
D18S5V0-EF1-4A00	18 (9 ~ 36)	1235	5	4000	90
D18S12-EF1-1A25		947	12	1250	88
D18S15-EF1-1A00		936	15	1000	89
D18D5V0-EF1-1A50		969	± 5	± 1500	86
D18D12-EF1-A625		947	± 12	± 625	88
D18D15-EF1-A500		937	± 15	± 500	89
D36S5V0-EF1-4A00	36 (18 ~ 75)	617	5	4000	90
D36S12-EF1-1A25		473	12	1250	88
D36S15-EF1-1A00		468	15	1000	89
D36D5V0-EF1-1A50		484	± 5	± 1500	86
D36D12-EF1-A625		473	± 12	± 625	88
D36D15-EF1-A500		468	± 15	± 500	89





EA1 Series provide up to 15~20 Watt , Efficiency is up to 90% , Insulation-Regulating-DC/DC Converter in standard 1"x 1" package , allow a Ultra-Wide Input Voltage range of 9~36 VDC , output offers 5V ,12V , 15V , $\pm 5V$, $\pm 12V$, and $\pm 15V$, .

Protections & Functions

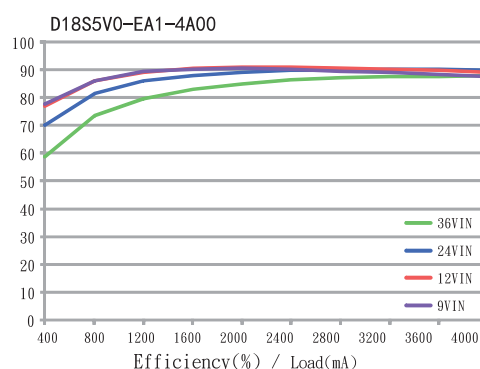
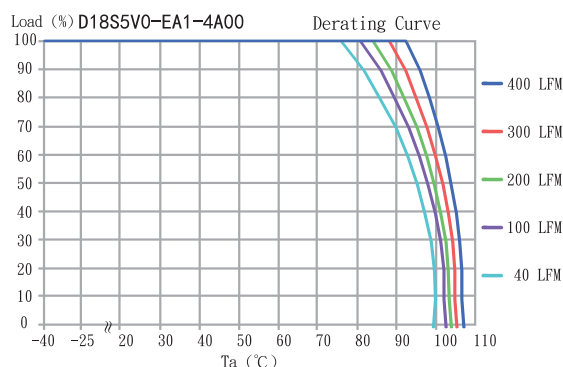
- △ Under-Voltage Lock-out(UVLO)
- △ Input Over Voltage Protection
- △ Over Current Protection(OCP)
- △ Output Short Protection(SCP)
- △ Over Temperature Protection(OTP)
- △ Over Output Voltage Protection(OVP)
- △ Output Voltage Adjustable (Trim)
- △ Remote ON/OFF Control(Positive/Negative-Logic , Option)

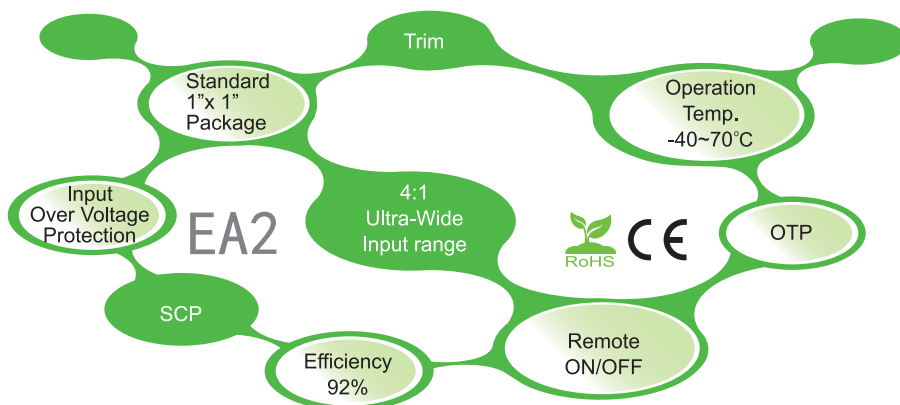
Applications

- △ Automatic Control System
- △ Industry Computer
- △ Communication System
- △ Distribute Power System
- △ Movable/Portable Test Equipment

EA1 Selection Guide

Part Number	Input		Output		Efficiency
	Voltage	Current	Voltage	Current	
	VDC	mA	VDC	mA	%
D18S5V0-EA1-4A00	18 (9 ~ 36)	1235	5	4000	90
D18S12-EA1-1A25		947	12	1250	88
D18S15-EA1-1A00		936	15	1000	89
D18D5V0-EA1-1A50		969	± 5	± 1500	86
D18D12-EA1-A625		947	± 12	± 625	88
D18D15-EA1-A500		937	± 15	± 500	89
D36S5V0-EA1-4A00	36 (18 ~ 75)	617	5	4000	90
D36S12-EA1-1A25		473	12	1250	88
D36S15-EA1-1A00		468	15	1000	89
D36D5V0-EA1-1A50		484	± 5	± 1500	86
D36D12-EA1-A625		473	± 12	± 625	88
D36D15-EA1-A500		468	± 15	± 500	89





EA2 Series provide up to 30~40 Watt , Efficiency is up to 92% , Insulation-Regulating-DC/DC Converter in standard 1"x 1" package , allow a Ultra-Wide Input Voltage range of 9~36 VDC , output offers 5V , 12V , 15V , $\pm 5V$, $\pm 12V$, and $\pm 15V$.

Protections & Functions

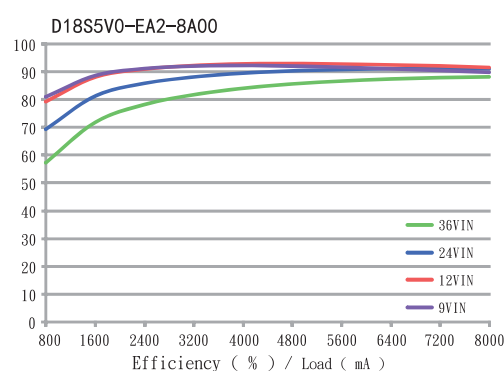
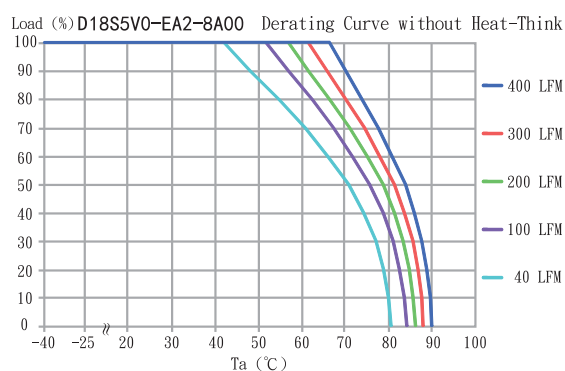
- △ Under-Voltage Lock-out(UVLO)
- △ Input Over Voltage Protection
- △ Over Current Protection(OCP)
- △ Output Short Protection(SCP)
- △ Over Temperature Protection(OTP)
- △ Over Output Voltage Protection(OVP)
- △ Output Voltage Adjustable (Trim)
- △ Remote ON/OFF Control(Positive/Negative-Logic , Option)

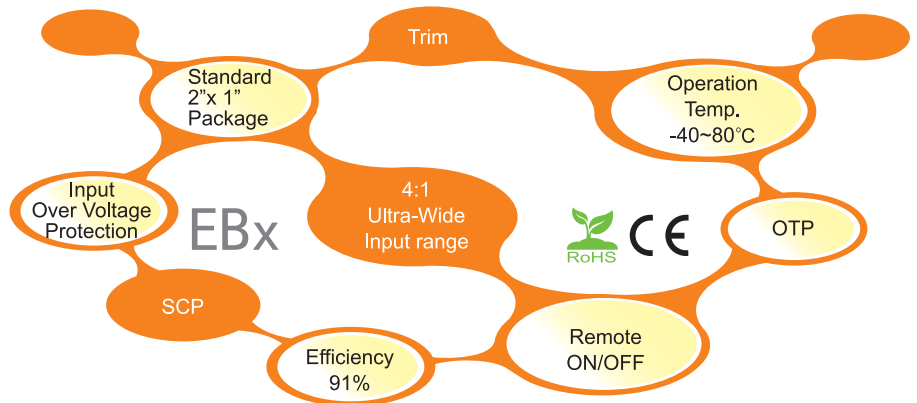
Applications

- △ Automatic Control System
- △ Industry Computer
- △ Communication System
- △ Distribute Power System
- △ Movable/Portable Test Equipment

EA2 Selection Guide

Part Number	Input		Output		Efficiency
	Voltage	Current	Voltage	Current	
	VDC	mA	VDC	mA	%
D18S5V0-EA2-8A00	18 (9 ~ 36)	2442	5	8000	91
D18S12-EA2-3A33		2413	12	3330	92
D18S15-EA2-2A67		2418	15	2670	92
D18D5V0-EA2-3A00		1916	± 5	± 3000	87
D18D12-EA2-1A25		1873	± 12	± 1250	89
D18D15-EA2-1A00		1873	± 15	± 1000	89
D36S5V0-EA2-8A00	36 (18 ~ 75)	1221	5	8000	91
D36S12-EA2-3A33		1207	12	3330	92
D36S15-EA2-2A67		1209	15	2670	92
D36D5V0-EA2-3A00		958	± 5	± 3000	87
D36D12-EA2-1A25		936	± 12	± 1250	89
D36D15-EA2-1A00		936	± 15	± 1000	89





EBx Series provide up to 30~40 Watt, Efficiency is up to 91% , Insulation-Regulating-DC/DC Converter in standard 2"x 1" package,allow an Ultra-Wide Input Voltage range of 9~36 VDC and 18~75VDC,output offers 5V , 12V , 15V , $\pm 5V$, $\pm 12V$, and $\pm 15V$,EMI meet to EN55022 Class-A.

Protections & Functions

- △ Under-Voltage Lock-out(UVLO)
- △ Input Over Voltage Protection
- △ Over Current Protection(OCP)
- △ Output Short Protection(SCP)
- △ Over Temperature Protection(OTP)
- △ Over Output Voltage Protection(OVP)
- △ Output Voltage Adjustable (Trim)
- △ Remote ON/OFF Control(Positive/Negative-Logic , Option)
- △ Meet to EN55022 Class-A

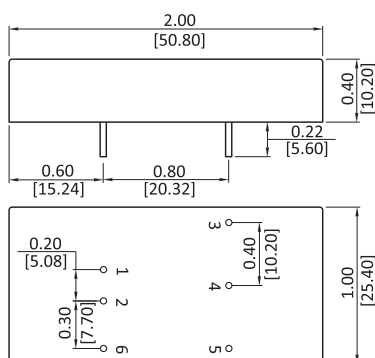
Applications

- △ Automatic Control System
- △ Industry Computer
- △ Communication System
- △ Distribute Power System
- △ Movable/Portable Test Equipment

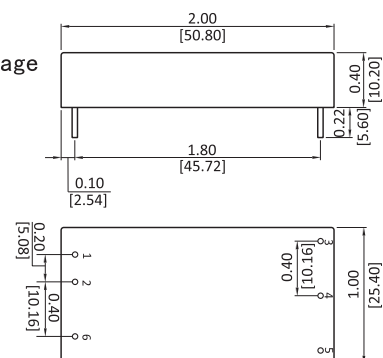
EBx Selection Guide

Part Number	Input		Output		Efficiency
	Voltage	Current	Voltage	Current	
	VDC	mA	VDC	mA	%
D18S5V0-EBx-8A00	18 (9 ~ 36)	2469	5	8000	90
D18S12-EBx-3A33		2440	12	3330	91
D18S15-EBx-2A67		2445	15	2670	91
D18D5V0-EBx-3A00		1938	± 5	± 3000	86
D18D12-EBx-1A25		1894	± 12	± 1250	88
D18D15-EBx-1A00		1894	± 15	± 1000	88
D36S5V0-EBx-8A00	36 (18 ~ 75)	1235	5	8000	90
D36S12-EBx-3A33		1220	12	3330	91
D36S15-EBx-2A67		1223	15	2670	91
D36D5V0-EBx-3A00		969	± 5	± 3000	86
D36D12-EBx-1A25		947	± 12	± 1250	88
D36D15-EBx-1A00		947	± 15	± 1000	88

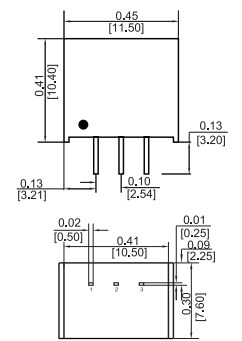
EB1 Package



EB2 Package

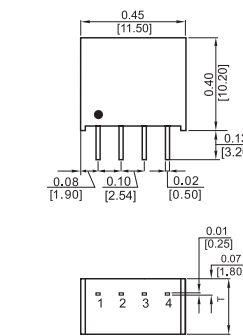


SIP 3



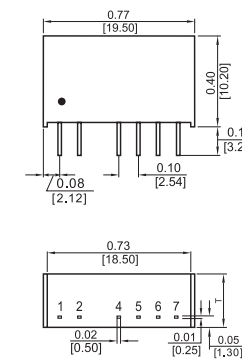
11.5*10.4*7.6mm

SIP 4



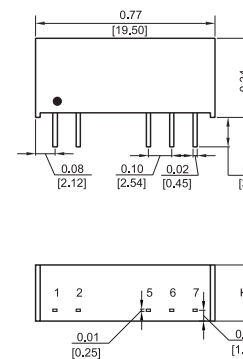
11.5*10.2*6.1/7.1mm

SIP 7 (1)



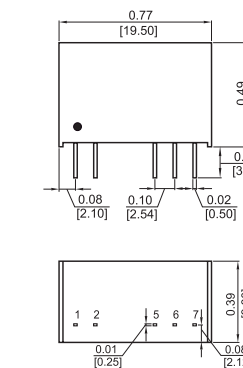
19.5*10.2*6.1/7.1mm

SIP 7 (2)



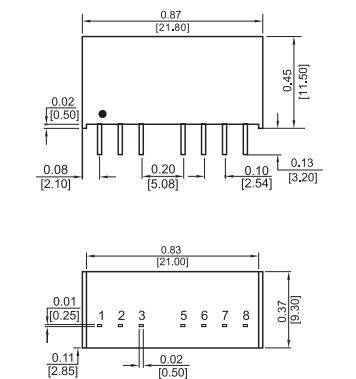
19.5*8.7*6.1/7.1mm

SIP 7 (3)



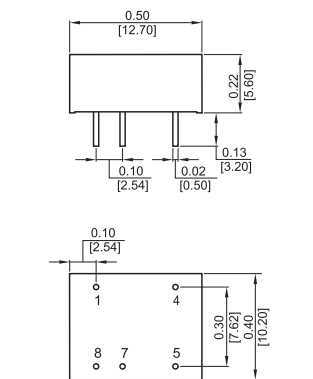
19.5*12.5*9.8mm

SIP 8



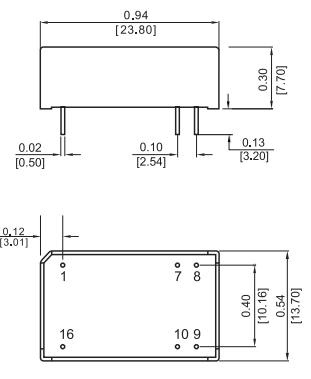
21.8*11.2*9.3mm

DIP 8



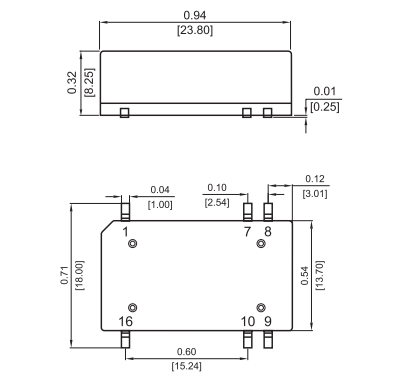
12.7*10.2*5.6mm

DIP 16



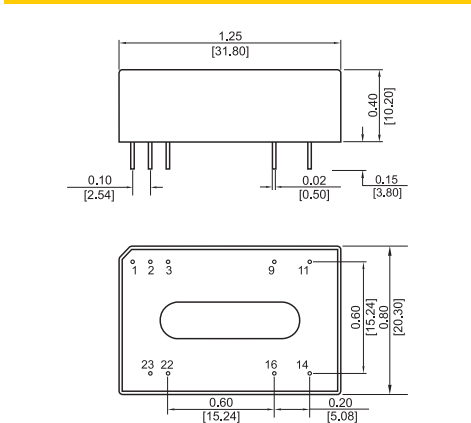
23.8*13.7*7.7mm

SMD 16



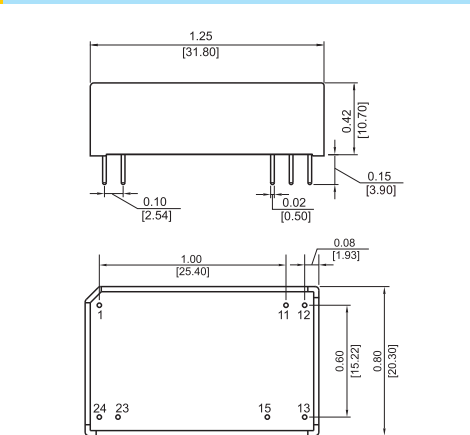
23.8*13.7*8.25mm

DIP 24 (1)



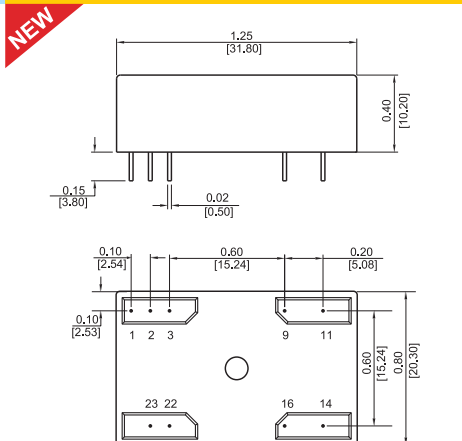
31.8*20.3*10.2mm

DIP 24 (2)



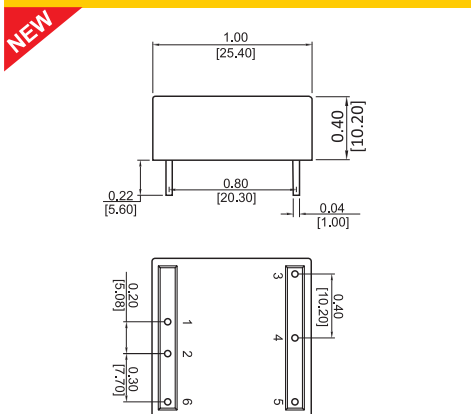
31.8*20.3*10.7mm

DIP 24 (3) / EFX

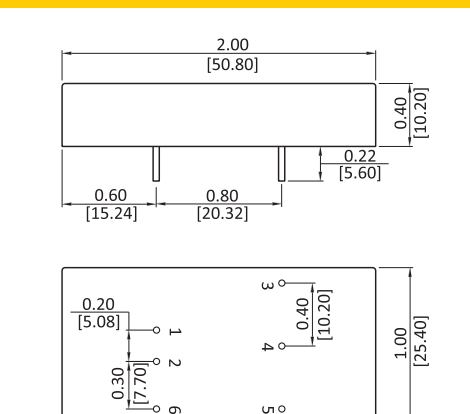


31.8*20.3*10.2mm

BRICK 1"×1" / (EAX) BRICK 2"×1" / (EBX)



25.4*25.4*10.2mm



50.8*25.4*10.2mm

Our products are under constantly researching and updating. We reserve the right to update the specifications without any notice. Please contact our sales person for further question.

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Isolater-General Purpose 隔離型 / 一般用途

	Un-Regulated Low Output Power 1~2 Watt 1~2瓦無穩壓輸出							
	Series	Watt	Input Voltage	Output Voltage	I/O Isolation	Operating Temperature	Package	Feature
	DA11N (H)	1	±10% 3.3/5/12/24	3.3/5/12/15	1KVDC (H)3KVDC	-40~+85°C	SIP 4	* High efficiency up to 89% * Low profile * Low cost
	DB11N	1	±10% 5/12/24	3.3/5/12/15 ±5/±12/±15	1KVDC	-40~+85°C	SIP 7 (1)	
DB12N	2							

	Regulated Low Output Power 1~6 Watt 1~6瓦穩壓輸出							
	Series	Watt	Input Voltage	Output Voltage	I/O Isolation	Operating Temperature	Package	Feature
	DB11R	1	±10% 5/12/24	3.3/5/9/12/15 ±5/±12/±15	1KVDC	-40~+85°C	SIP 7 (1) SIP 7 (3)	* High efficiency up to 70% * Low ripple noise
	DC12W	2	2:1 5/12/24/48	3.3/5/12/15 ±5/±12/±15	1.5KVDC	-40~+71°C	SIP 8	
DE12W							DIP 16	* En55022 Class A approval * High efficiency up to 82% * Low ripple noise * Remote on/off for C12W
	DE13W	3	2:1 5/12/24/48	3.3/5/12/15 ±5/±12/±15	1.5KVDC	-40~+75°C	DIP 24 (1)	* EN55022 Class A approval * High efficiency up to 84% * Low ripple noise * Optional Remote on/off
	DE14W	4	2:1 12/24/48	3.3/5/12/15 ±5/±12/±15	1.5KVDC	-40~+75°C	DIP 24 (1)	* En55022 Class A approval * UL60950-1 approval for F14W-4812D(-R) * High efficiency up to 87% * Optional Remote on/off
	DE16W	6	4:1 24/48	3.3/5/12/15 ±5/±12/±15	1.5KVDC	-40~+75°C	DIP 24 (1)	

Isolated-Reinforced I/O Isolation 隔離型-高絕緣耐壓

	Un-Regulated Output 1~2 Watt 1~2瓦無穩壓輸出							
	Series	Watt	Input Voltage	Output Voltage	I/O Isolation	Operating Temperature	Package	Feature
	DB31NH	1	±10% 5/12/24	3.3/5/12/15 ±5/±12/±15	3KVDC	-40~+85°C	SIP 7 (2)	* High efficiency up to 81% * Ultra-Low profile
	DE51NH		±10% 5				DIP 8	
	DB21NH	1	±10% 3.3/5/12/24	3.3/5/12/15 ±5/±12/±15	3KVDC	-40~+85°C	SIP 7 (1)	* High efficiency up to 80% * Low profile
	DB22NH	2	±10% 5/12/24	3.3/5/12/15 ±5/±12/±15	5.6KVDC (4KVAC)	-40~+85°C	SIP 7 (3)	* Ultra high isolation voltage * High efficiency up to 81% * Short circuit protection
	DE12NH					-40~+85°C	DIP 16	

	Regulated Output 3~6 Watt 3~6瓦穩壓輸出							
	Series	Watt	Input Voltage	Output Voltage	I/O Isolation	Operating Temperature	Package	Feature
	DE23WH	3	2:1 5/12/24/48	5/12/15 ±5/±12/±15	5.6KVDC (4KVAC)	-40~+75℃	DIP 24 (2)	*Ultra high isolation voltage * EN55022 Class A approval * To meet UL60601-1 safety * High efficiency up to 84% * Short circuit protection
	DF23WH		4:1 24/48/110			-40~+75℃		
DE26WH	6	2:1 12/24/48	-40~+60℃					



DAJ Enterprise Co., Ltd.

DC/DC Converters

Isolated - SMD package 隔離型- SMD包裝

 DF23WH-2405S	Regulated / Un-Regulated Output 2Watt 2瓦穩壓輸出 / 無穩壓輸出							
	Series	Watt	Input Voltage	Output Voltage	I/O Isolation	Operating Temperature	Package	Feature
	DT12W	2	2:1 5/12/24/48	3.3/5/12/15 ±5/±12/±15	1.5KVDC	-40~+71°C	SMD 16	*EN55022 Class A approval * High efficiency up to 82% * Low ripple noise
	DT12NH		±10% 5/12/24		5.6KVDC (4KVAC)			

Non-Isolated 非隔離型

	0.5A						
	Series	Input Voltage	Output Voltage	I/O Isolation	Operating Temperature	Package	Feature
	DNA05A	4.75~34	1.8/2.5/3.3/5/ 6.5/9/12/15	N/A	-40~+71℃	SIP 3	* Regulated output * Very low profile * Low ripple noise

Encapsulated-4W in PCB Mount Package 4瓦封裝型 A C / D C 電源模組



- * Regulated output
- * Ultra-Compact dimension
- * 3000VAC isolation (Class II)
- * Universal 90~265VAC input range
- * Efficiency up to 77%

- * Operating temperature range -40°C~70°C
- * EMI EN55022 Class B Approved
- * UL60950-1 Approved
- * Output trim function (Optional)
- * 3 Years Warranty



Part Number	Input			Output			Efficiency	Cap. Load ⁽⁷⁾
	Voltage	Current		Voltage	Current			
	Nominal (Low ~ High)	No Load	Max.Load	Typ.	Min.	Max.	Max. Load	Max.
		Typ.	Typ.				Typ.	
	VDC	mA	mA	VDC	mA	mA	%	μF
DADB04T-3R3S (-T)	115 (90~265)	5	82	3.3	0	1200	70	10000
DADB04T-5R0S (-T)			80.5	5	0	800	72	6000
DADB04T-12S (-T)			77	12	0	334	76	1000
DADB04T-15S (-T)			76	15	0	268	77	700
DADB04T-24S (-T)			76	24	0	167	77	220

General Specifications

Parameter	Condition	Typ.	Max.
Output Volt Accuracy	Vin-N , Max. Load	± 1.0	± 2.0 %
Line Regulation	Vin-L to Vin-H @ Max. Load	± 0.2	± 0.5 %
Load Regulation	Io =10% to 100% Load @ Vin-N	± 0.5	± 1.0 %
Balance Regulation	Vin-N, Max. Load, Dual Output	± 1.0	± 2.0 %
Temperature Drift	Lowest to Highest Temp.	± 0.01	± 0.02 % / °C
Ripple & Noise (Peak to Peak, 20MHz)	3.3V, ±5V Output	100	150 mV
	All Others	60	120 mV
Hold-up Time	Vin-N, Max. Load	15ms	
Rated Output Power	Vin-L to Vin-H	4 Watt	
Short Circuit Protection	Continuous, Auto-recovery		

Package Dimension

Front View

Front view diagram showing dimensions: 1.57 [40.00], 0.02 [0.50], 0.10 [2.54], 0.02 [0.50], 0.16 [4.00], 0.55 [14.00].

Footprint Details(Top View)

Top view footprint diagram showing a grid with dimensions: 0.19 [4.78], 1.10 [27.94], 1.00 [25.40], 1.18 [29.97], 0.09 [2.30].

Grid: 0.1 inch / 2.54 mm

Dot(Drill Hole): $\phi 0.8 +0.2/-0$ mm

Bottom View

Bottom view diagram showing dimensions: 0.19 [4.78], 1.10 [27.94], 1.00 [25.40], 1.18 [29.97], 0.09 [2.30].

Pin Connections

Pin #	Single	Dual
1	AC-N	AC-N
2	AC-L	AC-L
4	N.C. (or Trim)	-Vout
5	-Vout	Common
6	+Vout	+Vout
3, 7	N.C.	N.C.

N.C.: No Connect

Trim: For suffixed "T" models only

N.C.: No Connect
Trim: For suffixed "T" models only