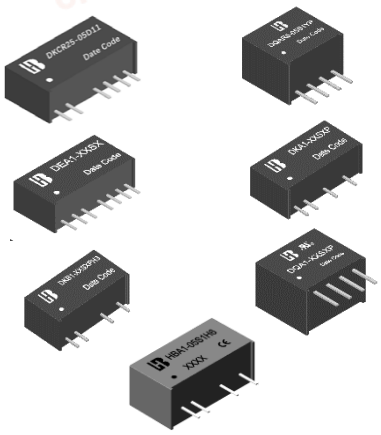
chanhvinh.com

DC-DC Converters (1.5kV, 3kV and 6kV Isolation) 0.25W to1W SIP

DEA1/DHA1/DKA1/DKB1/DKCR/DQA1/DQAR/HBA1- series

Pulse a YAGEO company



- *Input Voltage Range: 3.3V, 5V, 12V, 15V and 24V +/-10%*
- *Output Voltage Range: 3.3V to 24V, Single and Dual (+/-Vout)*
- *Power Level: 0.25W to 1W*
- *Isolation: 1.5kVdc, 3kVdc and 6kVdc*
- *Efficiency : up to 81% , no heatsinks required*
- *Operating Temperature Range: -40°C to +85°C*
- *Additional Features:*
  - *IEC/EN 62368-1 Approved*
  - *Low Ripple and Noise,*
  - *Thermal Shut-Down*

Electrical Specification @ 25°C (For DKCR25 1.5K Vdc Isolation Op:-40°C to +85°C)

Model Number	Input Voltage Range(V)	Output Voltage (Vo1/Vo2)	Output Current (mA) (Vo1/Vo2) Input	Output Current (mA) Typ.		Eff .(%) Typ.	Capacitive Load, max.(uF) (Vo1/Vo2)
			Full Load	No Load	Full Load		
DKCR25-05D11	4.5-5.5 Nominal:5	5/5	25/25	15	71	70	33

Electrical Specification @ 25°C (For DQAR25 1.5K Vdc Isolation Op:-40°C to +105°C)

Model Number	Input Voltage Range(V)	Output Voltage	Output Current (mA)	Output Current (mA) Typ.		Eff .(%) Typ.	Capacitive Load, max.(uF)
			Full Load	No Load	Full Load		
DQAR25-05S0	4.5-5.5 Nominal:5	3.3	75	28	67	74	47
DQAR25-05S1		5	50	28	66	75	47
DQAR25-12S2	10.8-13.2 Nominal:12	12	21	17	27.6	76	47
DQAR25-24S1	21.6-26.4 Nominal:24	5	50	8	13.9	75	10

Electrical Specification @ 25°C (For DQAR5 1.5K Vdc Isolation Op:-40°C to +105°C)

Model Number	Input Voltage Range(V)	Output Voltage	Output Current (mA)	Input Current (mA) Typ.		Eff .(%) Typ.	Capacitive Load, max. (uF)
		(V)	Full Load	No Load	Full Load		
DQAR5-05S1P	4.5-5.5 Nominal:5	5	100	20	130	77	22
DQAR5-05S1YP	4.5-5.5 Nominal:5	5	100	20	130	77	22

Electrical Specification @ 25°C (For DEA1 1.5K Vdc Isolation Op:-40°C to +85°C)

Model Number	Input Voltage Range(V)	Output Voltage	Output Current (mA)	Output voltage accuracy (V)	Eff .(%) Typ.	Capacitive Load, max. (uF)
		(V)	Full Load	No Load-Full Load		
DEA1-24S1	18-36 Nominal:24	5	200	4.900~5.100	80	820

chanhvinh.com

DC-DC Converters (1.5kV, 3kV and 6kV Isolation) 0.25W to1W SIP

DEA1/DHA1/DKA1/DKB1/DKCR/DQA1/DQAR/HBA1- series

Pulse a YAGEO company

Electrical Specification @ 25°C (For DHA1 1.5K Vdc Isolation Op: -40°C to +105°C)							
Model Number	Input Voltage Range(V)	Output Voltage(V)	Output Current (mA)	Input Current (mA)		Eff .(%)	Capacitive Load, max. (uF)
			Full. Load	No Load	Full Load		
DHA1-05S1	4.75-5.25 Nominal:5	5	200	25	286	70	47
DHA1-24S1	22.8-25.2 Nominal:24	5	200	7	58	72	47

Electrical Specification @ 25°C (For DKA1 1.5K Vdc Isolation Op: -40°C to +105°C)							
Model Number	Input Voltage Range(V)	Output Voltage(V)	Output Current (mA)	Input Current (mA) Typ.		Eff .(%) Typ.	Capacitive Load, max. (uF)
			Full. Load	No Load	Full Load		
DKA1-05S1P	4.5-5.5 Nominal:5	5	200	28	260	77	47
DKA1-05S2P		12	83	28	247	81	22
DKA1-05S3P		15	67	28	247	81	22
DKA1-05D1P		±5	±100	28	260	77	22/22
DKA1-05DAP		±9	±55	28	248	80	10/10
DKA1-05D2P		±12	±42	28	247	81	10/10
DKA1-05D3P		±15	±33	28	247	81	10/10
DKA1-12S1P	10.8-13.2 Nominal:12	5	200	17	107	78	47
DKA1-12D2P		±12	±42	17	104	80	10/10
DKA1-12D3P		±15	±33	17	104	80	10/10
DKA1-15S1P	13.5-16.5 Nominal:15	5	200	15	85	78	47
DKA1-24S5P	21.6-26.4 Nominal:24	24	42	8	51	81	10
DKA1-24D2P		±12	±42	8	51	81	10/10
DKA1-24D3P		±15	±33	8	51	81	10/10

Electrical Specification @ 25°C (For DKB1 3K Vdc Isolation Op: -40°C to +105°C)							
Model Number	Input Voltage Range(V)	Output Voltage(V)	Output Current (mA)	Input Current (mA) Typ.		Eff .(%) Typ.	Capacitive Load, max. (uF)
			Full. Load	No Load	Full Load		
DKB1-05S1H3	4.5-5.5 Nominal:5	5	200	28	260	77	47
DKB1-05D2H3		±12	±42	28	247	81	10/10
DKB1-12S2H3	10.8-13.2 Nominal:12	12	83	17	107	78	22
DKB1-12D1H3		±5	±100	17	107	78	22/22
DKB1-05S0PH3	4.5-5.5 Nominal:5	3.3	300	28	264	75	68
DKB1-05S1PH3		5	200	28	260	77	47
DKB1-05D2PH3		±12	±42	28	247	81	10/10
DKB1-12S2PH3	10.8-13.2 Nominal:12	12	83	17	104	80	22
DKB1-24S2PH3	21.6-26.4 Nominal:24	12	83	8	51	81	22

chanhvinh.com

DC-DC Converters (1.5kV, 3kV and 6kV Isolation) 0.25W to1W SIP

DEA1/DHA1/DKA1/DKB1/DKCR/DQA1/DQAR/HBA1- series

Pulse a YAGEO company

Electrical Specification @ 25°C (For DQA1 1.5K Vdc Isolation Op:-40°C to +105°C)							
Model Number	Input Voltage Range(V)	Output Voltage(V)	Output Current (mA)	Input Current (mA)		Eff .(%)	Capacitive Load, max. (uF)
			Full. Load	No Load	Full Load		
DQA1-03S0P	2.97-3.63 Nominal:3.3	3.3	300	35	405	74	68
DQA1-03S1P		5	200	35	404	75	47
DQA1-03S5P		24	42	35	382	80	10
DQA1-05S0P	4.5-5.5 Nominal:5	3.3	300	28	264	75	68
DQA1-05S1P		5	200	28	260	77	47
DQA1-05SAP		9	110	28	248	80	33
DQA1-05S2P		12	83	28	246	81	22
DQA1-05S3P		15	67	28	246	81	22
DQA1-05S5P		24	42	28	246	81	10
DQA1-12S1P	10.8-13.2 Nominal:12	5	200	17	107	78	47
DQA1-12S2P		12	83	17	104	80	22
DQA1-12S5P		24	42	17	105	80	10
DQA1-15S1P	13.5-16.5 Nominal:15	5	200	15	85	78	47
DQA1-24S1P	21.6-26.4 Nominal:24	5	200	8	53	79	47
DQA1-24S2P		12	83	8	51	81	22
DQA1-24S3P		15	67	8	51	81	22
DQA1-24S5P		24	42	8	51	78	22

Electrical Specification @ 25°C (For HBA1 6K Vdc Isolation Op:-40°C to +85°C)							
Model Number	Input Voltage Range(V)	Output Voltage (V)	Output Current (mA)	Input Current (mA)		Eff .(%)	Capacitive Load, max. (uF)
			Full Load	No Load	Full Load		
HBA1-05S1H6	4.5 ~ 5.5 Nominal: 5	5	200	55	271	78	2200
HBA1-05D1H6		±5	±100	55	271	78	±1000
HBA1-24S1H6	21.6 ~ 26.4 Nominal: 24	5	200	20	57	78	2200

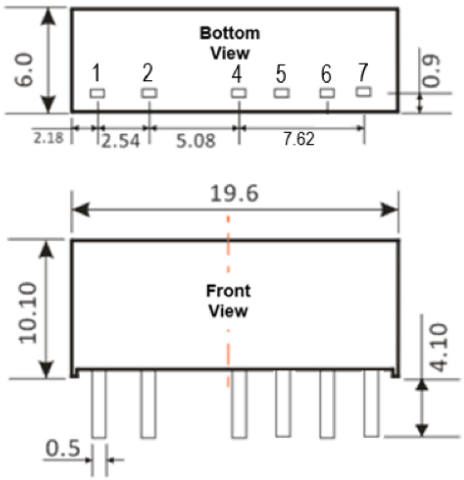
Process and Materials

1. Storage Temperature: -55°C to +125°C
2. Compliance to J-STD:
   A. J-STD-002: Solderability of Dipping at 255~260°C
   B. J-STD-020: Moisture Sensitive Level 1
3. All parts are packaged in tubes - see pages 7 and 8 for details
4. For full electrical characteristics, curves and applications, please refer to the detailed specification sheets available on request
5. Lead Frame: Cooper Alloy
   Underplated: Half Hard Ductile Nickel 40-118" (1.0 -3.0um)
   Over plated: 100% Tin electro-deposited per 240~400u"Min(6~10um)
   Finish: Matte finish 100% Tin solder

chanhvinh.com

Mechanical

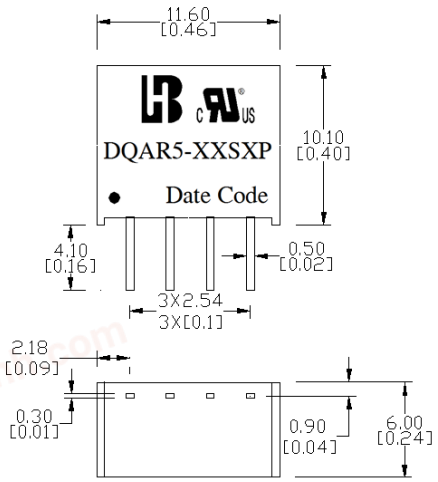
DKCR25



	DKCR25-05D11
PIN	Single
1	+Vin
2	-Vin
4	-Vout
5	+Vout
6	-Vout
7	+Vout

Unit: mm
Pin Section tolerances +/-0.1
General tolerances +/-0.5

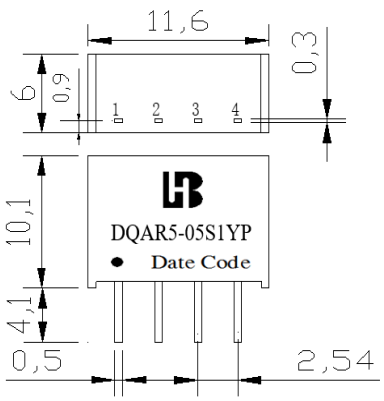
DQAR5P/DQAR25



	DQAR5/25-xxSx/P
PIN	Single
1	-Vin
2	+Vin
3	-Vout
4	+Vout

Unit: mm (inch for reference only)
Pin Section tolerances +/-0.1
General tolerances +/-0.5

DQAR5YP



	DQAR25-xxSxYP
PIN	Single
1	+Vin
2	-Vin
3	-Vout
4	+Vout

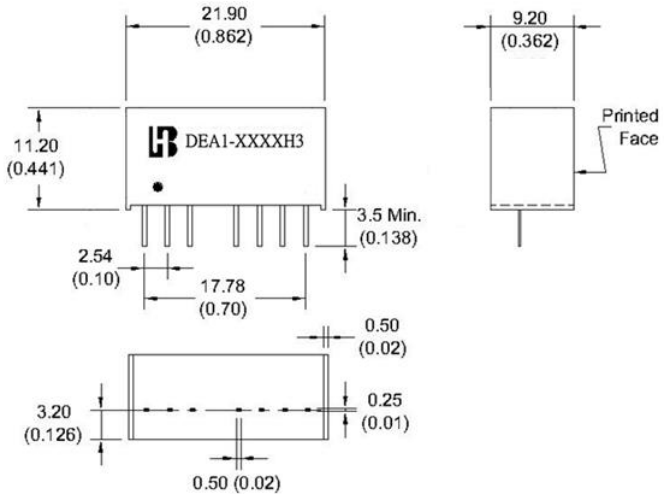
Unit: mm
Pin Section tolerances +/-0.1
General tolerances +/-0.5

DC-DC Converters (1.5kV, 3kV and 6kV Isolation) 0.25W to1W SIP

DEA1/DHA1/DKA1/DKB1/DKCR/DQA1/DQAR/HBA1- series

Pulse a YAGEO company

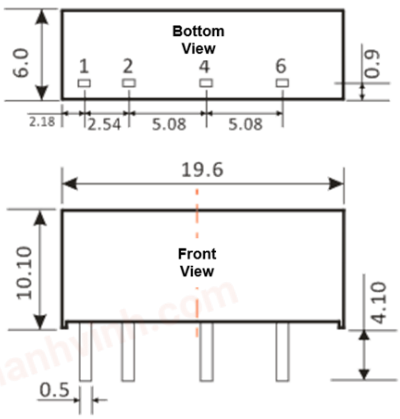
DEA1



	DEA1xxxx	
PIN	Single	Dual
1	+Vin	+Vin
2	-Vin	-Vin
3	CTRL	CTRL
4	No Pin	No Pin
5	NC	NC
6	+Vout	+Vout
7	-Vout	Common
8	CS	-Vout

Unit: mm (inch for reference only)
Pin Section tolerances +/-0.1
General tolerances +/-0.25

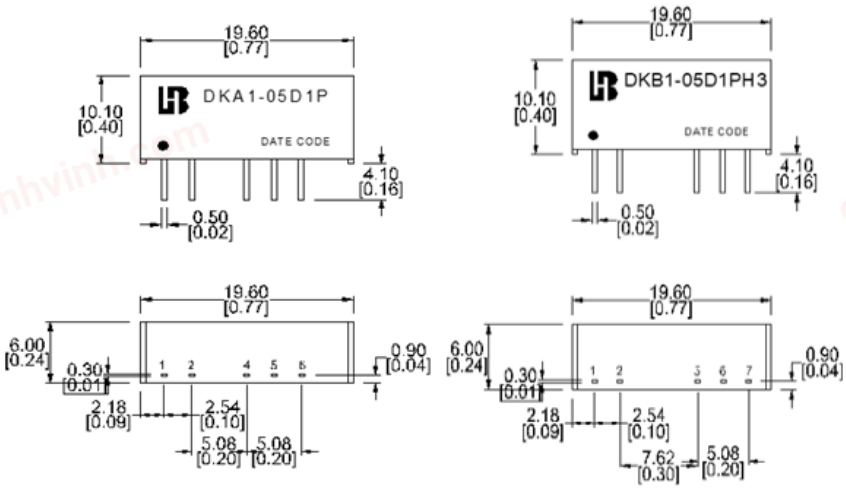
DHA1



	DHA1
PIN	Single
1	+Vin
2	-Vin
4	-Vout
6	+Vout

Unit: mm
Pin Section tolerances +/-0.1
General tolerances +/-0.5

DKA1P/DKB1H3/PH3

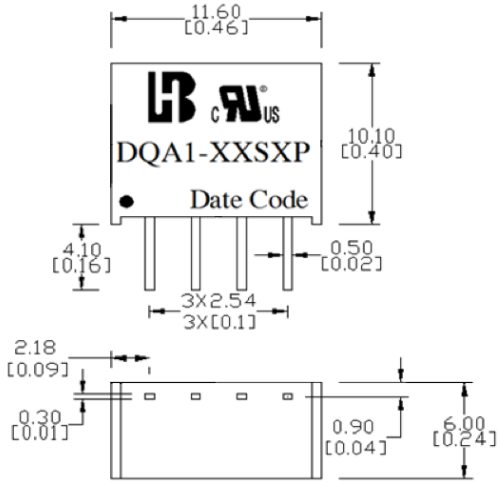


	DKA1-xxxxP		DKB1-xxxxH3/PH3	
PIN	Single	Dual	Single	Dual
1	+Vin	+Vin	+Vin	+Vin
2	-Vin	-Vin	-Vin	-Vin
4	-Vout	-Vout	No Pin	No Pin
5	No Pin	Common	-Vout	-Vout
6	+Vout	+Vout	No Pin	Common
7	No Pin	No Pin	+Vout	+Vout

Unit: mm (inch for reference only)
Pin Section tolerances +/-0.1
General tolerances +/-0.5

chanhvinh.com

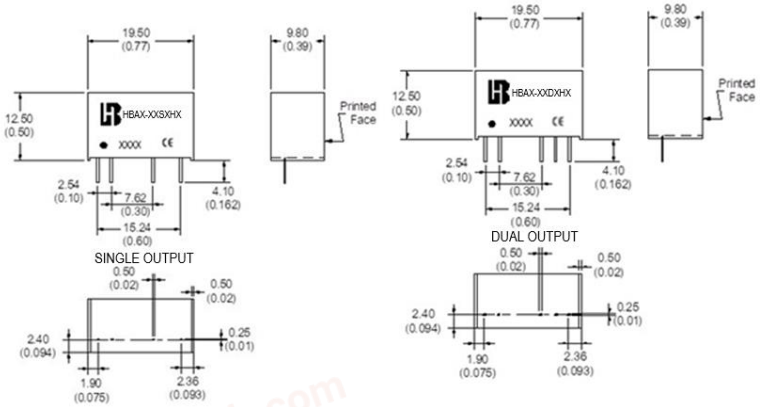
DQA1P



	DQA1-xxSxP
PIN	Single
1	+Vin
2	-Vin
3	-Vout
4	+Vout

Unit: mm (inch for reference only)
Pin Section tolerances +/-0.1
General tolerances +/-0.5

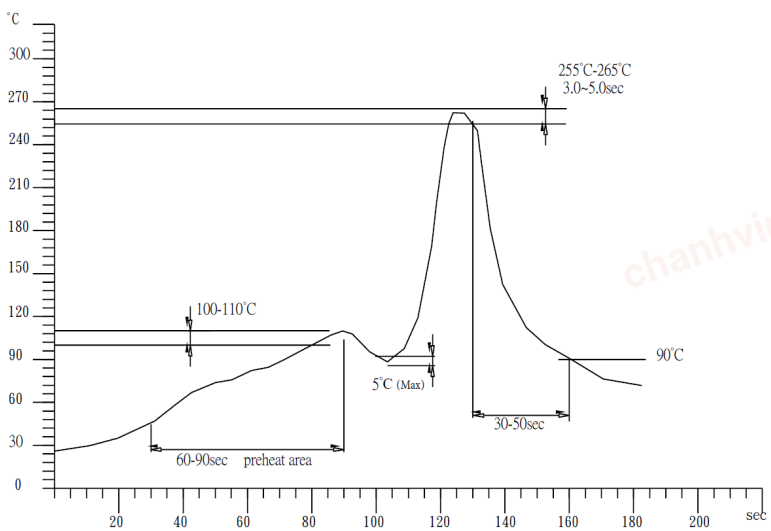
HBA1



	HBA1-xxSxHX	
PIN	Single	Dual
1	+Vin	+Vin
2	-Vin	-Vin
5	-Vout	-Vout
6	No Pin	Common
7	+Vout	+Vout

Unit: mm (inch for reference only)
Pin Section tolerances +/-0.1
General tolerances +/-0.5

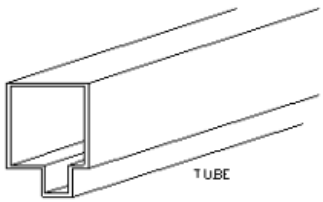
Wave Soldering Temperature Curve

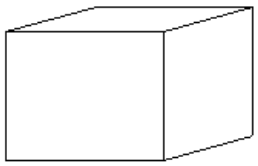


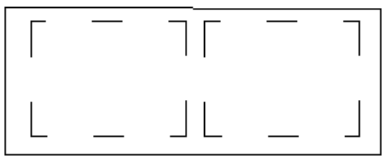
chanhvinh.com

Carton Package

DEA1

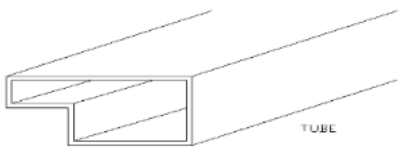


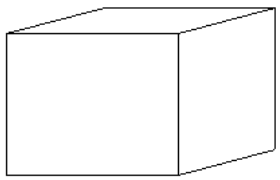


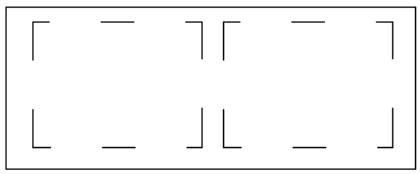


TUBE=22PCS
INNER CARTON=45 TUBE=45*22=990PCS
EXPORT CARTON=2 INNER CARTON=2*990=1980PCS

DKCR25/DHA1/DKA1P/DKB1H3/DKB1PH3

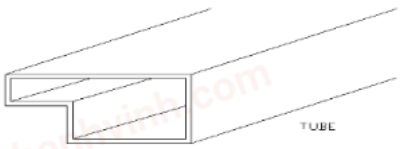


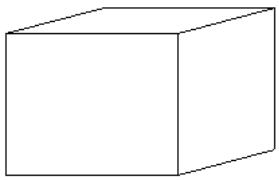


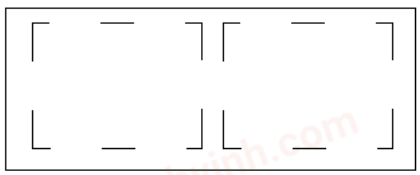


TUBE=25PCS
INNER CARTON=50 TUBE=50*25=1250PCS
ECPORT CARTON=2 INNER CARTON=2*1250=2500PCS

DQA1/ DQAR5/DQAR25







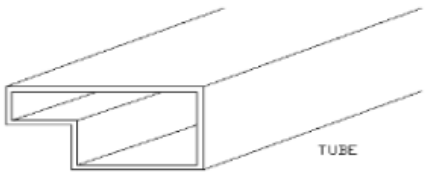
TUBE=42PCS
INNER CARTON=50 TUBE=50*42=2100PCS
EXPORT CARTON=2 INNER CARTON=2*2100=4200PCS

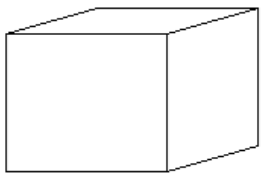
chanhvinh.com

DC-DC Converters (1.5kV, 3kV and 6kV Isolation) 0.25W to1W SIP

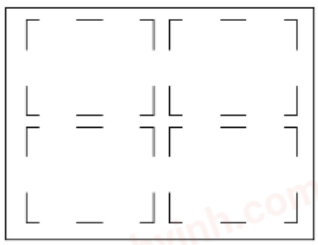
DEA1/DHA1/DKA1/DKB1/DKCR/DQA1/DQAR/HBA1- series

HBA1





INNER CARTON:388*158.5*115



EXPORT CARTON:405*334*263

TUBE=15PCS

INNER CARTON=36 TUBE=36*15=540PCS

EXPORT CARTON=4 INNER CARTON=4*540=2160PCS

chanhvinh.com

For More Information:

Americas - prodinfo_network_americas@yageo.com | **Europe -** prodinfo_network_emea@yageo.com | **Asia -** prodinfo_network_asia@yageo.com

Performance warranty of products offered on this data sheet is limited to the parameters specified. Data is subject to change without notice. Other brand and product names mentioned herein may be trademarks or registered trademarks of their respective owners. © Copyright, 2023. Pulse Electronics, Inc. All rights reserved.