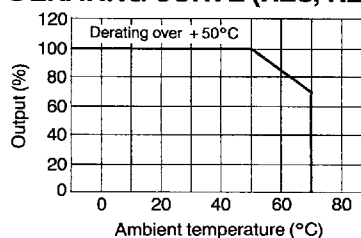


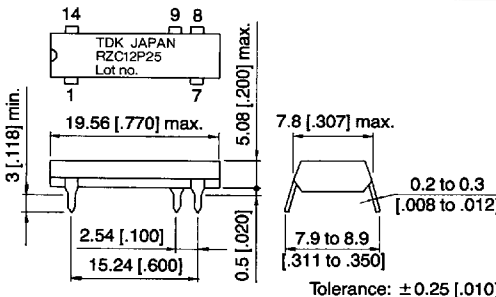
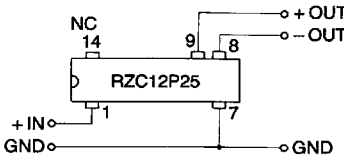
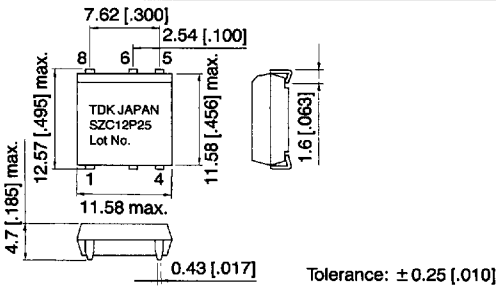
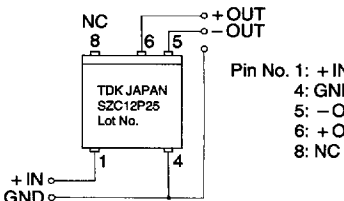
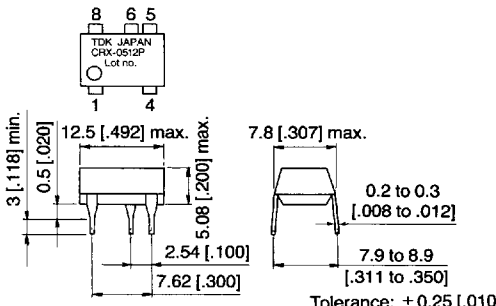
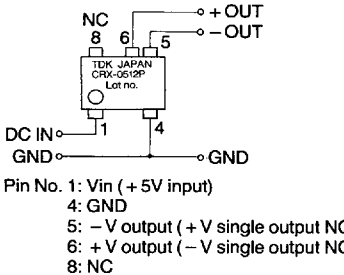
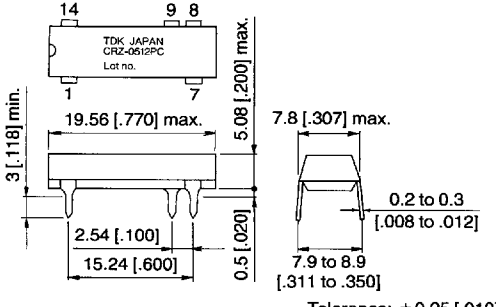
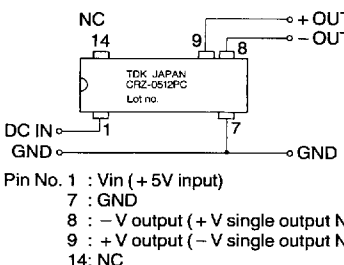
DC TO DC CONVERTERS

TEMPERATURE RANGE

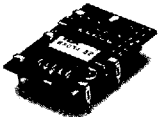
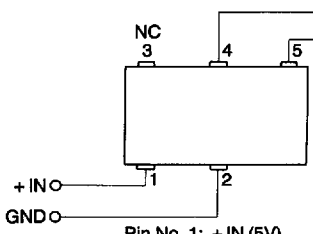
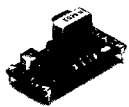
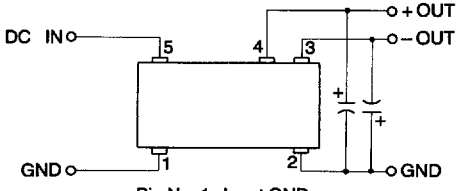
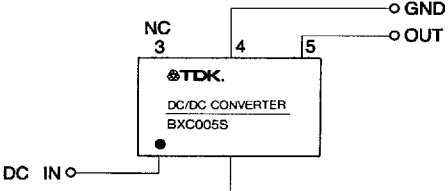
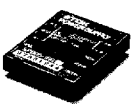
Series	Operating	Storage
RZC, RZ/SZC, SZ/CRX, CRZ	0 to 70	-40 to +85
BX034, BXC	-5 to +50	-30 to +85
MSX019	0 to 60	-20 to +85
SPB	0 to 60	-25 to +80
DEL, DEF	-10 to +70	-20 to +70

DERATING CURVE (RZC, RZ, SZC, SZ)



Series	Shapes and dimensions (mm) [inches]	Connections	Weight (g)	Fig.
RZC, RZ	  Dimensions: 14, 9, 8, 7, 1, 3 [1.18] min., 19.56 [.770] max., 5.08 [.200] max., 7.8 [.307] max., 0.2 to 0.3 [.008 to .012], 2.54 [.100], 15.24 [.600], 0.5 [.020], 7.9 to 8.9 [.311 to .350]. Tolerance: ± 0.25 [.010]	 Pin No. 1: Vin (+5Vin) 7: GND 8: -Vout (+V single output NC) 9: +Vout (-V single output NC) 14: NC	1.6 typ.	1
SZC, SZ	  Dimensions: 7.62 [.300], 2.54 [.100], 8, 6, 5, 12.57 [.495] max., 11.58 max., 11.58 [.456] max., 1.6 [.063], 4.7 [.185] max., 12.57 [.495] max., 11.58 max., 0.43 [.017]. Tolerance: ± 0.25 [.010]	 Pin No. 1: +IN (+5V) 4: GND 5: -OUT (+Vout NC) 6: +OUT (-Vout NC) 8: NC	1.8 max.	2
CRX	  Dimensions: 8, 6, 5, 12.5 [.492] max., 7.8 [.307] max., 0.2 to 0.3 [.008 to .012], 2.54 [.100], 7.62 [.300], 5.08 [.200] max., 3 [.118] min., 0.5 [.020]. Tolerance: ± 0.25 [.010]	 Pin No. 1: Vin (+5V input) 4: GND 5: -V output (+V single output NC) 6: +V output (-V single output NC) 8: NC	1 typ.	3
CRZ	  Dimensions: 14, 9, 8, 7, 1, 3 [.118] min., 19.56 [.770] max., 5.08 [.200] max., 7.8 [.307] max., 0.2 to 0.3 [.008 to .012], 2.54 [.100], 15.24 [.600], 0.5 [.020], 7.9 to 8.9 [.311 to .350]. Tolerance: ± 0.25 [.010]	 Pin No. 1: Vin (+5V input) 7: GND 8: -V output (+V single output NC) 9: +V output (-V single output NC) 14: NC	1.6 typ.	4

Power Converters

Series	Shapes and dimensions (mm) [inches]	Connections	Weight (g)	Fig.
BX034	 $1.4 [0.055]$ $7 [276]$ max. $0.5 [0.020]$ $2.85 \pm 0.75 [112 \pm 0.030]$ $30 [1.181]$ max. $20.32 \pm 0.3 [800 \pm 0.012]$ $25 [0.984]$ max. $0.3 [0.012]$ $10.16 \pm 0.3 [400 \pm 0.012]$ Tolerance: $\pm 0.25 [0.010]$	 NC 3 4 5 + IN 1 GND 2 Pin No. 1: + IN (5V) 2: Input GND 3: NC 4: Output GND 5: OUT (5V)	3.7 typ.	5
MSX019	 $(22.86 [900])$ $5.08 [200]$ $16 [630]$ max. $27.94 [1.100]$ $15 [591]$ max. $0.5 [0.020]$ $33.02 [1.300]$ max. $2.85 \pm 0.75 [112 \pm 0.030]$ $1 [0.039]$ max. $0.3 [0.012]$ $15.24 [0.600]$ Tolerance: $\pm 0.25 [0.010]$	 DC IN 5 GND 1 Pin No. 1: Input GND 2: Output GND 3: - 12V output 4: + 12V output 5: + IN (+5V)	4 typ.	6
BXC	 $31.5 [1.240]$ max. $4.5 \pm 0.5 [1.77 \pm 0.020]$ $23 [906]$ max. $20.32 [800]$ $8.5 [335]$ max. $0.5 [0.020]$ $10.16 [400]$ Tolerance: $\pm 0.25 [0.010]$	 NC 3 4 5 DC IN 1 GND 2 Pin No. 1: + IN (+5V input) 2: Input GND 3: NC 4: Output GND 5: OUT	9.5 typ.	7
SPB 5W type	 $50.8 \pm 0.7 [2.000 \pm 0.028]$ $3.5 [138]$ $39.8 \pm 0.7 [1.567 \pm 0.028]$ $8.5 \pm 0.5 [0.335 \pm 0.020]$ $90.7 [0.028]$ $33 \pm 0.5 [1.299 \pm 0.020]$ $3.4 [134]$ $7.5 \pm 0.3 [0.295 \pm 0.012]$ $14.15 [0.557]$ $14.15 [0.557]$ $7.5 \pm 0.3 [0.295 \pm 0.012]$ $(14.15 [0.557])$ Tolerance: $\pm 0.5 [0.020]$		30 max.	8

Series	Shapes and dimensions (mm) [inches]	Connections	Weight (g)	Fig.
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Technical drawing of the STDX Power Supply showing top, side, and front views with dimensions in inches and millimeters.

Top View Dimensions:

- Overall width: 50.8 ± 0.7 [2.000 $\pm$.028]
- Overall height: 50.8 ± 0.7 [2.000 $\pm$.028]
- Pin pitch: 2.54 ± 0.05 [0.100 $\pm$.002]

Side View Dimensions:

- Overall height: 3.5 [.138]
- Pin height: 0.7 [.028]
- Pin diameter: $\phi 0.7$ [.028]

Front View Dimensions:

- Overall width: 8.5 ± 0.5 [.335 $\pm$.020]
- Pin pitch: 2.54 ± 0.05 [0.100 $\pm$.002]

Pin Configuration (Top View):

- Pin 1: NC
- Pin 2: DC OUTPUT (+)
- Pin 3: DC INPUT (-)
- Pin 4: GND
- Pin 5: NC
- Pin 6: RV1 (+)
- Pin 7: RV2 (+)
- Pin 8: NC
- Pin 9: NC
- Pin 10: NC
- Pin 11: NC
- Pin 12: NC
- Pin 13: NC
- Pin 14: NC
- Pin 15: NC
- Pin 16: NC
- Pin 17: NC
- Pin 18: NC
- Pin 19: NC
- Pin 20: NC
- Pin 21: NC
- Pin 22: NC
- Pin 23: NC
- Pin 24: NC
- Pin 25: NC
- Pin 26: NC
- Pin 27: NC
- Pin 28: NC
- Pin 29: NC
- Pin 30: NC
- Pin 31: NC
- Pin 32: NC
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- Pin 34: NC
- Pin 35: NC
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- Pin 41: NC
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- Pin 84: NC
- Pin 85: NC
- Pin 86: NC
- Pin 87: NC
- Pin 88: NC
- Pin 89: NC
- Pin 90: NC
- Pin 91: NC
- Pin 92: NC
- Pin 93: NC
- Pin 94: NC
- Pin 95: NC
- Pin 96: NC
- Pin 97: NC
- Pin 98: NC
- Pin 99: NC
- Pin 100: NC

Front View Dimensions:

- Overall width: 14.15 [.557]
- Pin pitch: 2.54 ± 0.05 [0.100 $\pm$.002]

Pin Configuration (Front View):

- Pin 1: NC
- Pin 2: DC OUTPUT (+)
- Pin 3: DC INPUT (-)
- Pin 4: GND
- Pin 5: NC
- Pin 6: RV1 (+)
- Pin 7: RV2 (+)
- Pin 8: NC
- Pin 9: NC
- Pin 10: NC
- Pin 11: NC
- Pin 12: NC
- Pin 13: NC
- Pin 14: NC
- Pin 15: NC
- Pin 16: NC
- Pin 17: NC
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- Pin 96: NC
- Pin 97: NC
- Pin 98: NC
- Pin 99: NC
- Pin 100: NC

Pin Configuration (Front View):

- Pin 1: NC
- Pin 2: DC OUTPUT (+)
- Pin 3: DC INPUT (-)
- Pin 4: GND
- Pin 5: NC
- Pin 6: RV1 (+)
- Pin 7: RV2 (+)
- Pin 8: NC
- Pin 9: NC
- Pin 10: NC
- Pin 11: NC
- Pin 12: NC
- Pin 13: NC
- Pin 14: NC
- Pin 15: NC
- Pin 16: NC
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- Pin 22: NC
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- Pin 27: NC
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- Pin 80: NC
- Pin 81: NC
- Pin 82: NC
- Pin 83: NC
- Pin 84: NC
- Pin 85: NC
- Pin 86: NC
- Pin 87: NC
- Pin 88: NC
- Pin 89: NC
- Pin 90: NC
- Pin 91: NC
- Pin 92: NC
- Pin 93: NC
- Pin 94: NC
- Pin 95: NC
- Pin 96:

Top View Dimensions:

- Terminal pitch: $n \times 2.54 [\cdot 100]$
- Distance A: []
- Distance B: []
- Distance C: []
- Distance D: []
- Distance E: $0.8 [\cdot 031]$
- Distance F: $3 [\cdot 118] \text{ max.}$
- Distance G: $0.5 \pm 0.05 [\cdot 020 \pm \cdot 002]$
- Distance H: $1.3 [\cdot 051]$
- Distance I: $2.5 [\cdot 098]$
- Distance J: $0.5 [\cdot 020]$
- Distance K: $3 [\cdot 118]$
- Distance L: $0.27 \pm 0.02 [\cdot 011 \pm \cdot 001]$
- Tolerance: $\pm 0.1 [\cdot 004]$

Pin Configurations:

Type A:

IN	OUT
1 $\rightarrow$ Vin	1 $\rightarrow$ Vout
2 $\rightarrow$ COM in	2 $\rightarrow$ RV
3 $\rightarrow$ NC	3 $\rightarrow$ COM out
4 $\rightarrow$ RC	4 $\rightarrow$ COM out

Type B:

IN	OUT
1 $\rightarrow$ Vin	13 $\rightarrow$ Vout
2 $\rightarrow$ COM in	12 $\rightarrow$ RV
3 $\rightarrow$ NC	11 $\rightarrow$ COM out
4 $\rightarrow$ RC	10 $\rightarrow$ COM out
5 $\rightarrow$ NC	9 $\rightarrow$ COM out
6 $\rightarrow$ RC	8 $\rightarrow$ COM out
	7 $\rightarrow$ COM out

Type C:

IN	OUT
1 $\rightarrow$ Vin	17 $\rightarrow$ Vout
2 $\rightarrow$ COM in	16 $\rightarrow$ RV
3 $\rightarrow$ NC	15 $\rightarrow$ COM out
4 $\rightarrow$ RC	14 $\rightarrow$ COM out
5 $\rightarrow$ NC	13 $\rightarrow$ COM out
6 $\rightarrow$ RC	12 $\rightarrow$ COM out
	11 $\rightarrow$ COM out
	10 $\rightarrow$ COM out
	9 $\rightarrow$ COM out

* Custom-made product

Power Converters

Series	Maximum output power (W)	Input voltage (Vdc)	Output voltage (Vdc)	Output current (mA)	Features	Fig.
RZC	0.175 to 0.3	5 ± 0.5	+15, +12, -5, -12, -15, ±12, ±15	0 to 8 0 to 10 0 to 20 0 to 25 0 to 35 0 to 50	• Transfer molded • Built-in smoothing capacitor	1
RZ	0.175 to 0.3	5 ± 0.5	+15, +12, -5, -12, -15, ±12, ±15	0 to 8 0 to 10 0 to 20 0 to 25 0 to 35 0 to 50	• Transfer molded • Without built-in smoothing capacitor	1
SZC	0.3	5 ± 0.5	+15, +12, -12, -15	2 to 20 2 to 25	• Surface mountable type • Transfer molded • Built-in smoothing capacitor	2
SZ	0.25 to 0.3	5 ± 0.5	+15, +12, -5, -12, -15	0 to 20 0 to 25 0 to 50	• Surface mountable type • Transfer molded • Without built-in smoothing capacitor	2
CRX	0.25 0.30	5 ± 10%	-5 ± 0.4 +12 ± 0.5 -12 ± 0.5 +15 ± 0.6 -15 ± 0.6	0 to 50 0 to 25 0 to 25 0 to 20 0 to 20	• Dual-in-line packaging type • Compact type • Available for automatic insertion machine	3
CRZ	0.5 0.6	5 ± 10%	-5 ± 0.4 +12 ± 0.5 -12 ± 0.5 +15 ± 0.6 -15 ± 0.6 -24 ± 0.8	0 to 100 0 to 50 0 to 50 0 to 40 0 to 40 0 to 25	• Dual-in-line packaging type • Built-in smoothing capacitor • Available for automatic insertion machine	4
BX034	1.2	5 ± 0.25	5	40 to 225	• Isolated primary and secondary • Built-in smoothing capacitor	5
MSX019	1.2	5 ± 0.25	±12	5 to 50	• Isolated primary and secondary • Without built-in smoothing capacitor	6
BXC	1.2	5 ± 0.25	5, 12	20 to 100 40 to 225	• Isolated primary and secondary	7
SPB	5 to 10	20 to 56	5, 12, 15, 24	0.2 to 2.0	• Thin type • Isolated primary and secondary	8
DEL	2.5 to 15	6 to 15	+3.3, +5, -5, +12, -12, +24	1 to 3A 0.5 to 3A 1A 0.2 to 0.8A 0.6A 0.1 to 0.4A	• With remote ON/OFF control terminal • Built-in over current protection circuit • Adjustable output voltage within ±10% • Compact and thin (12.7mm [.500 inches] height max.) type	9
DEF	2.5 to 15	4.5 to 7.5	+3.3, +5, -5, +12, +24	1 to 3A 0.6A 0.5A 0.25A	• With remote ON/OFF control terminal • Built-in over current protection circuit • Adjustable output voltage within ±10% • Compact and thin (12.7mm [.500 inches] height max.) type	9