

SELECTION GUIDE

| Order code | Input Voltage (V) | Output Voltage (V) | Output Current max(MA) | Capacitive load,max (μF) | Efficiency (%) |
|------------|-------------------|--------------------|------------------------|--------------------------|----------------|
| 2B0503XES | 4.5-5.5 | 3.3 | 600 | 470 | 64 |
| 2B0505XES | 4.5-5.5 | 5 | 400 | 470 | 66 |
| 2B0507XES | 4.5-5.5 | 7.2 | 278 | 470 | 64 |
| 2B0509XES | 4.5-5.5 | 9 | 222 | 470 | 66 |
| 2B0512XES | 4.5-5.5 | 12 | 167 | 470 | 70 |
| 2B0515XES | 4.5-5.5 | 15 | 134 | 470 | 70 |
| 2B0518XES | 4.5-5.5 | 18 | 111 | 470 | 67 |
| 2B0524XES | 4.5-5.5 | 24 | 83 | 470 | 68 |
| 2B1203XES | 10.8-13.2 | 3.3 | 600 | 470 | 64 |
| 2B1205XES | 10.8-13.2 | 5 | 400 | 470 | 66 |
| 2B1207XES | 10.8-13.2 | 7.2 | 278 | 470 | 63 |
| 2B1209XES | 10.8-13.2 | 9 | 222 | 470 | 66 |
| 2B1212XES | 10.8-13.2 | 12 | 167 | 470 | 70 |
| 2B1215XES | 10.8-13.2 | 15 | 134 | 470 | 70 |
| 2B1218XES | 10.8-13.2 | 18 | 111 | 470 | 66 |
| 2B1224XES | 10.8-13.2 | 24 | 83 | 470 | 68 |
| 2B2403XES | 21.6-26.4 | 3.3 | | | |

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| Order code | Input Voltage (V) | Output Voltage (V) | Output Current max(MA) | Capacitive load,max (μF) | Efficiency (%) |
| H0512XES | 4.5-5.5 | 12 | 167 | 470 | 70 |
| H0515XES | 4.5-5.5 | 15 | 134 | 470 | 70 |
| H0518XES | 4.5-5.5 | 18 | 111 | 470 | 67 |
| H0524XES | 4.5-5.5 | 24 | 83 | 470 | 68 |
| H1203XES | 10.8-13.2 | 3.3 | 600 | 470 | 53 |
| H1205XES | 10.8-13.2 | 5 | 400 | 470 | 66 |
| H1207XES | 10.8-13.2 | 7.2 | 278 | 470 | 63 |
| H1209XES | 10.8-13.2 | 9 | 222 | 470 | 66 |
| H1212XES | 10.8-13.2 | 12 | 167 | 470 | 70 |
| H1215XES | 10.8-13.2 | 15 | 134 | 470 | 70 |
| H1218XES | 10.8-13.2 | 18 | 111 | 470 | 66 |
| H1224XES | 10.8-13.2 | 24 | 83 | 470 | 68 |
| H2403XES | 21.6-26.4 | 3.3 | 600 | 470 | 54 |
| H2405XES | 21.6-26.4 | 5 | 400 | 470 | 64 |
| H2407XES | 21.6-26.4 | 7.2 | 278 | 470 | 63 |
| H2409XES | 21.6-26.4 | 9 | 222 | 470 | 64 |
| H2412XES | 21.6-26.4 | 12 | 167 | 470 | 68 |
| H2415XES | 21.6-26.4 | 15 | 134 | 470 | 68 |
| H2418XES | 21.6-26.4 | 18 | 111 | 470 | 68 |
| H2424XES | 21.6-26.4 | 24 | 83 | 470 | 70 |

| Input Specifications | | | | |
|--------------------------------|-----------|-----------|---------|-------|
| Parameters | Nominal | Typical | Maximum | Units |
| Voltage range | 5 | 4.5-5.5 | | VDC |
| | 12 | 10.8-13.2 | | |
| | 24 | 21.6-25.4 | | |
| Filter | Capacitor | | | |
| Turn on Transient process time | | | 100 | ms |
| Start up time | | 300 | | ms |
| Absolute Maximum Rating | 5 Vin | 0-7 | | VDC |
| | 12 Vin | 0-15 | | |
| | 24 Vin | 0-28 | | |
| Peak Input Voltage time | | 100 | | ms |

| Isolation Specifications | | | | |
|--------------------------|------------|---------|--------------------|-------|
| Parameters | Conditions | Typical | Rated | Units |
| Tested I/O voltage | 3 sec | | 1000, 3000 or 6000 | VDC |
| Resistance | | > 1000 | | MOhm |
| Capacitance | | 60 | | pF |

| Output Specifications | | | | |
|----------------------------------|--------------------|---------|---------|--------|
| Parameters | Conditions | Typical | Maximum | Units |
| Voltage accuracy | | ±2 | | % |
| Short Circuit protection | Continuous | | | |
| Short Circuit restart | Auto-recovery | | | |
| Line voltage regulation (Single) | | ±0.5 | | % |
| Load voltage regulation (Single) | Load 0 – 100% | ±0.5 | | % |
| Load voltage regulation (Single) | Load 0 – 100% | ±1.5 | | % |
| 3.3V output model | | | | |
| Temperature coefficient | | ±0.02 | | %/°C |
| Ripple & Noise | At 20MHz Bandwidth | 75 | | mV p-p |
| Rising time | | 150 | | ms |

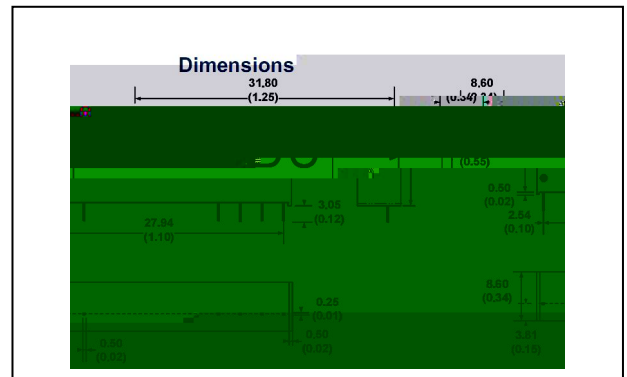
General Specifications

| Parameters | Conditions | Typical | Maximum | Units |
|------------------------|---|--|---------|-------|
| Switching frequency | 100% load | 50 | | KHz |
| Operating temperature | Full Load without Derating | -40 to +85 | | °C |
| Storage temperature | | -40 to +125 | | °C |
| Max Case temperature | | | 90 | °C |
| Cooling | Free air convection | | | % |
| Humidity | | | 90 | % |
| Case material | Plastic UL94-VO | | | |
| Weight | | 3.8 | | g |
| Dimensions (L x W x H) | | 1.25 x 0.34 x 0.53 inches 31.80 x 8.60 x 13.47 mm | | |
| MTBF | >1 500 000 hrs (MIL-HDBK -217F, Ground Benign, t=+25 C) | | | |

NOTE: All specifications in this datasheet are measured at an ambient temperature of 25°C, humidity<75%, nominal input voltage and at rated output load unless otherwise specified

Pin Out Specifications

| Pin | 1000VDC | 3000 and 6000VDC |
|-----|-----------|------------------|
| 1 | +V Input | +V Input |
| 2 | N.C. | -V Input |
| 3 | N.C. | N.C. |
| 9 | N.C. | N.C. |
| 10 | -V Output | -V Output |
| 11 | +V Output | +V Output |
| 12 | -V Input | N.C. |



RoHS COMPLIANT INFORMATION

This series is compatible with RoHS soldering systems with a peak wave solder temperature of 300° C for 10 seconds.
The pin termination finish on the SIP package type is Tin Plate, Hot Dipped over Matte Tin with Nickel Preplate. The DIP types are Matte Tin over Nickel Preplate. Both types in this series are backward compatible with Sn/Pb soldering systems.

REACH COMPLIANT INFORMATION

This series has proven that this product does not contain harmful chemicals, it also has harmful chemical substances through the registration, inspection and approval.