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ELECTRONICS

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Jameco Part Number 216953



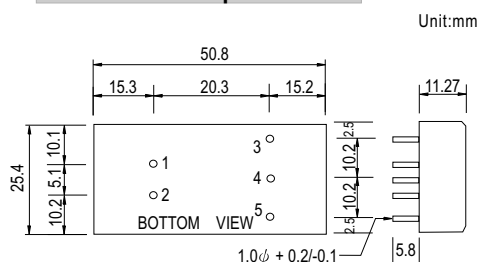
- Features :
- 2:1 wide input range
- 4:1 wide input range(option)
- 1000VDC I/O isolation
- 3000VDC I/O isolation(option)
- Built-in EMI filter
- Protections: Short circuit / Overload
- Cooling by free air convection
- Six-sided shield metal case
- 100% burn-in test
- Low cost / High reliability
- Approvals: FCC / CE
- 2 years warranty



**SPECIFICATION**

| ORDER NO.                   | SKE10A-05                    | SKE10B-05 | SKE10C-05 | SKE10A-12  | SKE10B-12 | SKE10C-12 | SKE10A-15    | SKE10B-15 | SKE10C-15 | SKE10A-24  | SKE10B-24 | SKE10C-24 |         |     |     |
|-----------------------------|------------------------------|-----------|-----------|--|-----------|-----------|--------------|-----------|-----------|------------|-----------|-----------|---------|-----|-----|
| <b>OUTPUT</b>               | DC VOLTAGE                   |           |           | 12V  |           |           | 15V          |           |           | 24V        |           |           |         |     |     |
|                             | CURRENT RANGE                |           |           | 84 ~ 840mA   |           |           | 66.6 ~ 666mA |           |           | 42 ~ 420mA |           |           |         |     |     |
|                             | RATED POWER                  |           |           | 10W  |           |           |              |           |           |            |           |           |         |     |     |
|                             | RIPPLE & NOISE (max.) Note.2 |           |           | 50mVp-p  |           |           | 60mVp-p      |           |           | 60mVp-p    |           |           | 80mVp-p |     |     |
|                             | LINE REGULATION Note.3       |           |           | ±0.3%  |           |           |              |           |           |            |           |           |         |     |     |
|                             | LOAD REGULATION Note.4       |           |           | ±0.5%  |           |           |              |           |           |            |           |           |         |     |     |
|                             | VOLTAGE ACCURACY             |           |           | ±2.0%  |           |           |              |           |           |            |           |           |         |     |     |
|                             | SWITCHING FREQUENCY          |           |           | 200KHz min.  |           |           |              |           |           |            |           |           |         |     |     |
| <b>INPUT</b>                | VOLTAGE RANGE                |           |           | A: 9 ~ 18VDC B: 18 ~ 36VDC C: 36 ~ 72VDC   |           |           |              |           |           |            |           |           |         |     |     |
|                             | EFFICIENCY (Typ.)            |           |           | 78%  | 79%       | 80%       | 79%          | 81%       | 81%       | 80%        | 82%       | 82%       | 81%     | 82% | 83% |
|                             | DC CURRENT                   |           |           | Full load A: 1100mA B: 530mA C: 270mA<br>No load A: 28mA B: 16mA C: 8mA  |           |           |              |           |           |            |           |           |         |     |     |
|                             | FILTER                       |           |           | Pi network   |           |           |              |           |           |            |           |           |         |     |     |
|                             | PROTECTION                   |           |           | Fuse recommended   |           |           |              |           |           |            |           |           |         |     |     |
| <b>PROTECTION (Note. 5)</b> | OVER CURRENT                 |           |           | 160% ~ 250% rated output power<br>Protection type : Hiccup mode, recovers automatically after fault condition is removed         |           |           |              |           |           |            |           |           |         |     |     |
|                             | SHORT CIRCUIT                |           |           | All output equipped with short circuit<br>Protection type : Hiccup mode, recovers automatically after fault condition is removed |           |           |              |           |           |            |           |           |         |     |     |
|                             | WORKING TEMP.                |           |           | -25 ~ +71°C (Refer to output load derating curve)  |           |           |              |           |           |            |           |           |         |     |     |
| <b>ENVIRONMENT</b>          | WORKING HUMIDITY             |           |           | 20% ~ 90% RH non-condensing  |           |           |              |           |           |            |           |           |         |     |     |
|                             | STORAGE TEMP., HUMIDITY      |           |           | -25 ~ +105°C, 10 ~ 95% RH  |           |           |              |           |           |            |           |           |         |     |     |
|                             | TEMP. COEFFICIENT            |           |           | ±0.03% / °C (0 ~ 50°C)   |           |           |              |           |           |            |           |           |         |     |     |
|                             | VIBRATION                    |           |           | 10 ~ 500Hz, 2G 10min./1cycle, period for 60min. each along X, Y, Z axes  |           |           |              |           |           |            |           |           |         |     |     |
|                             | WITHSTAND VOLTAGE            |           |           | I/P-O/P: 1KVDC   |           |           |              |           |           |            |           |           |         |     |     |
| <b>SAFETY &amp; EMC</b>     | ISOLATION RESISTANCE         |           |           | I/P-O/P: 100M Ohms / 500VDC / 25°C / 70% RH  |           |           |              |           |           |            |           |           |         |     |     |
|                             | EMI CONDUCTION & RADIATION   |           |           | Compliance to EN55022 Class B, FCC part 15 Class B   |           |           |              |           |           |            |           |           |         |     |     |
|                             | EMS IMMUNITY                 |           |           | Compliance to EN61000-4-2,3,4,5,6,8, light industry level, criteria A  |           |           |              |           |           |            |           |           |         |     |     |
| <b>OTHERS</b>               | MTBF                         |           |           | 500Khrs min. MIL-HDBK-217F(25°C)   |           |           |              |           |           |            |           |           |         |     |     |
|                             | DIMENSION                    |           |           | 50.8*25.4*11.2mm or 2**1**0.44" inch (L*W*H)   |           |           |              |           |           |            |           |           |         |     |     |
|                             | WEIGHT                       |           |           | 32g  |           |           |              |           |           |            |           |           |         |     |     |

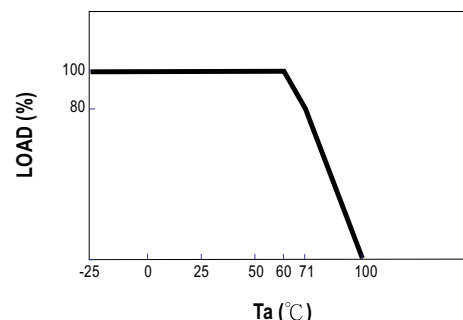
■ Mechanical Specification



■ Pin Configuration

| Pinno. | Output Single |
|--------|---------------|
| 1      | +Vin          |
| 2      | -Vin          |
| 3      | +Vout         |
| 4      | No Pin        |
| 5      | -Vout         |

■ Derating Curve



**NOTE**

- 1.All parameters are specified at normal input, rated load, 25°C 70% RH ambient.
- 2.Ripple & noise are measured at 20MHz by using a 12" twisted pair terminated with a 0.1uf & 47uf capacitor.
- 3.Line regulation is measured from low line to high line at rated load.
- 4.Load regulation is measured from 10% to 100% rated load.
- 5.Please prevent the converter from operating in overload or short circuit condition for more than 30 seconds.

Model : SKE10B-05    10W    DC-DC    Single Output Converter  
 V1 : 5V /200~2000mA

**OUTPUT FUNCTION TEST**

| NO | TEST ITEM        | SPECICATION       | TEST CONDITION                              | RESULT  | VERDICT |
|----|------------------|-------------------|---|---------|---------|
| 1  | VOLTAGE ACCURACY | -2%~+2% (Max)     | I/P:24VDC<br>O/P:50% LOAD<br>Ta:25°C        | -0.4%   | P       |
| 2  | RIPPLE & NOISE   | 50mVp-p (Max)     | I/P:24VDC<br>O/P:FULL LOAD<br>Ta:25°C       | 15mV    | P       |
| 3  | LINE REGULATION  | -0.3%~+0.3% (Max) | I/P:18VDC~36VDC<br>O/P:FULL LOAD<br>Ta:25°C | -0%~+0% | P       |
| 4  | LOAD REGULATION  | -0.5%~+0.5% (Max) | I/P:24VDC<br>O/P:MIN~FULL LOAD<br>Ta:25°C   | -0%~+0% | P       |

**INPUT FUNCTION TEST**

| NO | TEST ITEM        | SPECICATION       | TEST CONDITION                          | RESULT    | VERDICT |
|----|------------------|-------------------|---|-----------|---------|
| 1  | DC VOLTAGE RANGE | 18VDC~36VDC (Typ) | I/P:TESTING<br>O/P:FULL LOAD<br>Ta:25°C | 12.7V~36V | P       |
| 2  | EFFICIENCY       | 79% (Typ)         | I/P:24VDC<br>O/P:FULL LOAD<br>Ta:25°C   | 80.8%     | P       |
| 3  | DC CURRENT       | 530mA (Max)       | I/P:24VDC<br>O/P:FULL LOAD<br>Ta:25°C   | 513mA     | P       |

**PROTECTION FUNCTION TEST**

| NO | TEST ITEM            | SPECICATION                            | TEST CONDITION                        | RESULT  | VERDICT |
|----|----------------------|--|---------------------------------------|---|---------|
| 1  | OVER LOAD PROTECTION | 160%~250% (Max)                        | I/P:24VDC<br>O/P:TESTING<br>Ta:25°C   | 187%<br>Hiccup Mode<br>Reset Auto Recovery      | P       |
| 2  | SHORT PROTECTION     | SHORT EVERY OUTPUT<br>1 HOUR NO DAMAGE | I/P:24VDC<br>O/P:FULL LOAD<br>Ta:25°C | NO DAMAGE<br>Hiccup Mode<br>Reset Auto Recovery | P       |

**ENVIRONMENT TEST**

| NO | TEST ITEM             | SPECICATION  | TEST CONDITION | RESULT    | VERDICT |                 |
|----|-----------------------|--|----------------|-----------|---------|-----------------|
| 1  | TEMPERATURE RISE TEST | 1. ROOM AMBIENT BURN-IN : 15HRS<br>I/P:24VDC O/P:FULL LOAD Ta=25°C |                |           | P       |                 |
|    |                       |  | Position       | P/N       |         | TEMP<br>Ta=25°C |
|    |                       |  | CASE           | SKE10B-05 |         | 39.3°C          |

**SAFETY TEST**

| NO | TEST ITEM            | SPECICATION          | TEST CONDITION               | RESULT                      | VERDICT |
|----|----------------------|----------------------|------------------------------|-----------------------------|---------|
| 1  | WITHSTAND VOLTAGE    | I/P-O/P:1KVDC/min    | I/P-O/P:1KVDC/min<br>Ta:25°C | I/P-O/P:0.02mA<br>NO DAMAGE | P       |
| 2  | ISOLATION RESISTANCE | I/P-O/P:500VDC>100MΩ | I/P-O/P:500VDC<br>Ta:25°C    | I/P-O/P:30GΩ<br>NO DAMAGE   | P       |

| DATE      | SAMPLE    | TEST RESULT | TESTER     | APPROVAL |
|-----------|-----------|-------------|------------|----------|
| 2003.9.16 | SKE10B-05 | PASS        | FRANK.CHEN | MAX LIN  |