COSEL DC-DC Converters PCB Mount type

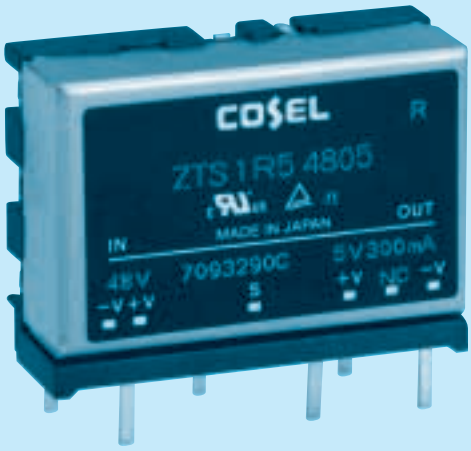
# ZTS1R5

## Ordering information

| ZT | S | 1R5 | 12 | 05 | |
|---|---|---|---|---|---|
| ① | ② | ③ | ④ | ⑤ | |

①Series name
②Single output
③Output wattage
④Input voltage
⑤Output voltage

RoHS



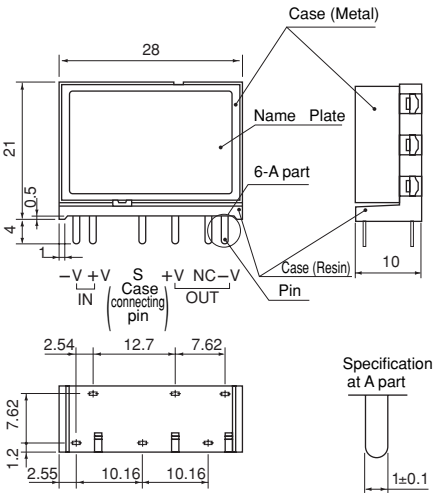

| MODEL | | ZTS1R50505 | ZTS1R50512 | ZTS1R50515 | ZTS1R51205 | ZTS1R51212 | ZTS1R51215 | ZTS1R52405 | ZTS1R52412 | ZTS1R52415 | ZTS1R54805 | ZTS1R54812 | ZTS1R54815 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| MAX OUTPUT WATTAGE[W] | | 1.50 | 1.56 | 1.50 | 1.50 | 1.56 | 1.50 | 1.50 | 1.56 | 1.50 | 1.50 | 1.56 | 1.50 |
| DC OUTPUT | VOLTAGE[V] | 5 | 12 | 15 | 5 | 12 | 15 | 5 | 12 | 15 | 5 | 12 | 15 |
| | CURRENT[A] | 0.30 | 0.13 | 0.10 | 0.30 | 0.13 | 0.10 | 0.30 | 0.13 | 0.10 | 0.30 | 0.13 | 0.10 |

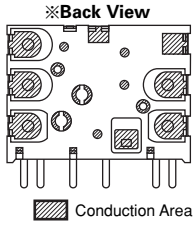
## SPECIFICATIONS

| | MODEL | ZTS1R50505 | ZTS1R50512 | ZTS1R50515 | ZTS1R51205 | ZTS1R51212 | ZTS1R51215 | ZTS1R52405 | ZTS1R52412 | ZTS1R52415 | ZTS1R54805 | ZTS1R54812 | ZTS1R54815 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| INPUT | VOLTAGE[V] | DC4.5 - 9 | | | DC9 - 18 | | | DC18 - 36 | | | DC36 - 72 | | |
| | CURRENT[A] *1 | 0.441typ | 0.459typ | 0.441typ | 0.176typ | 0.183typ | 0.176typ | 0.088typ | 0.092typ | 0.088typ | 0.043typ | 0.045typ | 0.043typ |
| | EFFICIENCY[%] *1 | 68typ | 68typ | 68typ | 71typ | 71typ | 71typ | 71typ | 71typ | 71typ | 73typ | 73typ | 73typ |
| OUTPUT | VOLTAGE[V] | 5 | 12 | 15 | 5 | 12 | 15 | 5 | 12 | 15 | 5 | 12 | 15 |
| | CURRENT[A] | 0.30 | 0.13 | 0.10 | 0.30 | 0.13 | 0.10 | 0.30 | 0.13 | 0.10 | 0.30 | 0.13 | 0.10 |
| | LINE REGULATION[mV] | 20max | 48max | 60max | 20max | 48max | 60max | 20max | 48max | 60max | 20max | 48max | 60max |
| | LOAD REGULATION[mV] | 40max | 100max | 120max | 40max | 100max | 120max | 40max | 100max | 120max | 40max | 100max | 120max |
| | RIPPLE[mVp-p] *2 | 80max | 120max | 120max | 80max | 120max | 120max | 80max | 120max | 120max | 80max | 120max | 120max |
| | RIPPLE NOISE[mVp-p] *2 | 120max | 150max | 150max | 120max | 150max | 150max | 120max | 150max | 150max | 120max | 150max | 150max |
| | TEMPERATURE REGULATION[mV] -20 to +55℃ | 50max | 150max | 180max | 50max | 150max | 180max | 50max | 150max | 180max | 50max | 150max | 180max |
| | DRIFT[mV] *3 | 20max | 48max | 60max | 20max | 48max | 60max | 20max | 48max | 60max | 20max | 48max | 60max |
| | START-UP TIME[ms] | 20max (Minimum input, Io=100%) | | | | | | | | | | | |
| | OUTPUT VOLTAGE ADJUSTMENT RANGE[V] | Fixed | | | | | | | | | | | |
| | OUTPUT VOLTAGE SETTING[V] | 4.85 - 5.25 | 11.40 - 12.60 | 14.25 - 15.75 | 4.85 - 5.25 | 11.40 - 12.60 | 14.25 - 15.75 | 4.85 - 5.25 | 11.40 - 12.60 | 14.25 - 15.75 | 4.85 - 5.25 | 11.40 - 12.60 | 14.25 - 15.75 |
| PROTECTION CIRCUIT | OVERCURRENT PROTECTION | Works over 105% of rating and recovers automatically | | | | | | | | | | | |
| ISOLATION | INPUT-OUTPUT | AC500V 1minute, Cutoff current = 10mA, DC500V 50MΩ min (20±15℃) | | | | | | | | | | | |
| | INPUT-CASE | AC500V 1minute, Cutoff current = 10mA, DC500V 50MΩ min (20±15℃) | | | | | | | | | | | |
| | OUTPUT-CASE | AC500V 1minute, Cutoff current = 10mA, DC500V 50MΩ min (20±15℃) | | | | | | | | | | | |
| ENVIRONMENT | OPERATING TEMP.,HUMID.AND ALTITUDE | -20 to +71℃, 20 - 95%RH (Non condensing) (Refer to DERATING CURVE), 3,000m (10,000feet) max | | | | | | | | | | | |
| | STORAGE TEMP.,HUMID.AND ALTITUDE | -40 to +85℃, 20 - 95%RH (Non condensing), 9,000m (30,000feet) max | | | | | | | | | | | |
| | VIBRATION | 10 - 55Hz, 98.0m/s² (10G), 3minutes period, 60minutes each along X, Y and Z axis | | | | | | | | | | | |
| | IMPACT | 490.3m/s² (50G), 11ms, once each X, Y and Z axis | | | | | | | | | | | |
| SAFETY | AGENCY APPROVALS | UL60950-1, C-UL, EN60950-1 Complies with IEC60950-1 | | | | | | | | | | | |
| OTHERS | CASE SIZE/WEIGHT | 28×21×10mm (W×H×D) / 15g max | | | | | | | | | | | |
| | COOLING METHOD | Convection | | | | | | | | | | | |

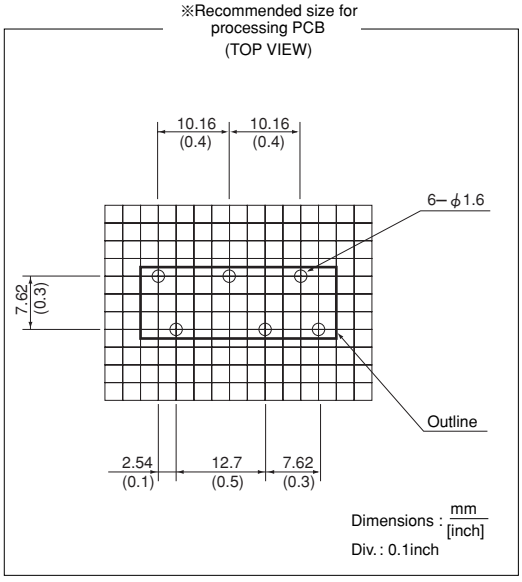
*1 Rated input. 5V, 12V, 24V or 48V DC, Io=100%
*2 Measured by 20MHz oscilloscope.
*3 The drift is a change at 25℃ of ambient temperature and 30 minutes - 8 hours after the input voltage applied at rated input/output.
* Series/Parallel operation with other model is not possible.

## External view



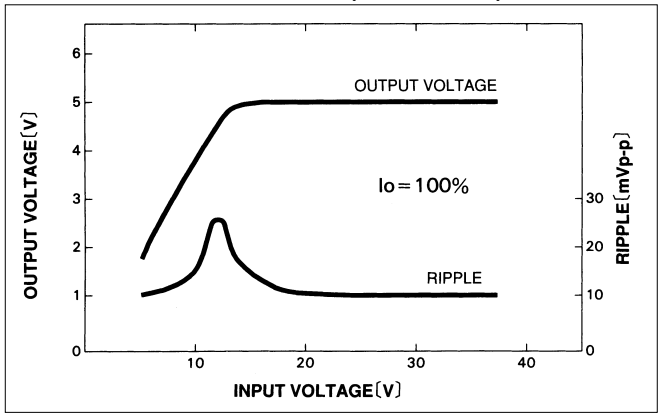




Weight: 15g or less
Tolerance: ±0.5
Case Material (Metal): Brass
Case Material (Resin): PPS
Pin Material: Phosphor Bronze (t=0.3)
(Solder Plate)

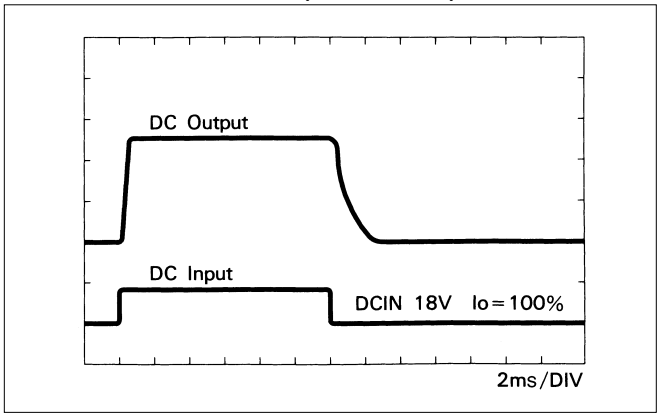



## Performance data

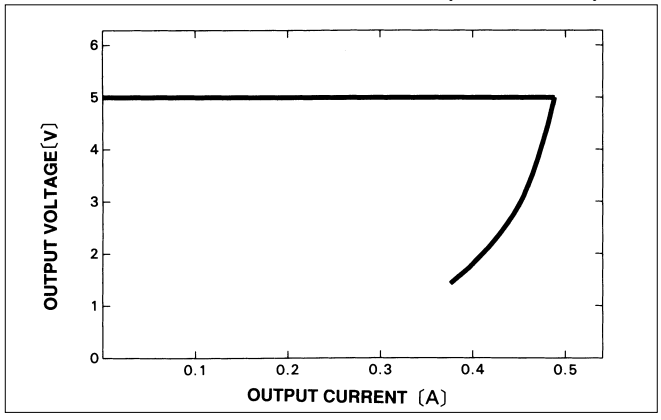
### ■STATIC CHARACTERISTICS (ZTS1R52405)




### ■RISE TIME & FALL TIME (ZTS1R52405)




### ■OVERCURRENT CHARACTERISTICS (ZTS1R52405)



COSEL DC-DC Converters PCB Mount type

# ZTS3

**Ordering information**

| ZT | S | 3 | 12 | 05 | |
|---|---|---|---|---|---|
| ① | ② | ③ | ④ | ⑤ | |

RoHS

①Series name
②Single output
③Output wattage
④Input voltage
⑤Output voltage

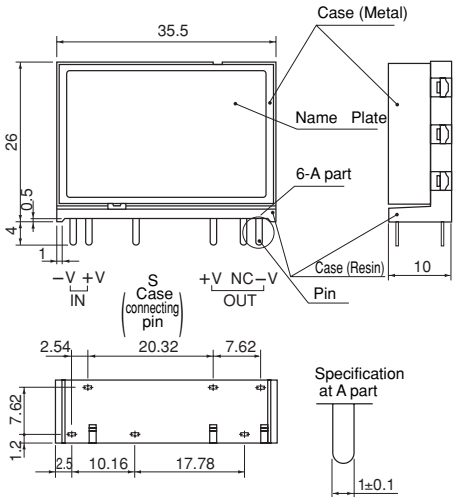
| MODEL | | ZTS30505 | ZTS30512 | ZTS30515 | ZTS31205 | ZTS31212 | ZTS31215 | ZTS32405 | ZTS32412 | ZTS32415 | ZTS34805 | ZTS34812 | ZTS34815 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| MAX OUTPUT WATTAGE[W] | | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 |
| DC OUTPUT | VOLTAGE[V] | 5 | 12 | 15 | 5 | 12 | 15 | 5 | 12 | 15 | 5 | 12 | 15 |
| | CURRENT[A] | 0.60 | 0.25 | 0.20 | 0.60 | 0.25 | 0.20 | 0.60 | 0.25 | 0.20 | 0.60 | 0.25 | 0.20 |

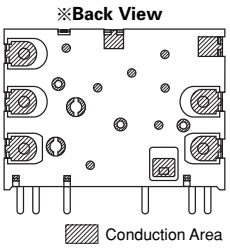
## SPECIFICATIONS

| | MODEL | ZTS30505 | ZTS30512 | ZTS30515 | ZTS31205 | ZTS31212 | ZTS31215 | ZTS32405 | ZTS32412 | ZTS32415 | ZTS34805 | ZTS34812 | ZTS34815 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| INPUT | VOLTAGE[V] | DC4.5 - 9 | | | DC9 - 18 | | | DC18 - 36 | | | DC36 - 72 | | |
| | CURRENT[A] *1 | 0.896typ | 0.857typ | | 0.357typ | 0.338typ | | 0.176typ | 0.167typ | | 0.088typ | 0.082typ | |
| | EFFICIENCY[%] *1 | 67typ | 70typ | 70typ | 70typ | 74typ | 74typ | 71typ | 75typ | 75typ | 71typ | 76typ | 76typ |
| OUTPUT | VOLTAGE[V] | 5 | 12 | 15 | 5 | 12 | 15 | 5 | 12 | 15 | 5 | 12 | 15 |
| | CURRENT[A] | 0.60 | 0.25 | 0.20 | 0.60 | 0.25 | 0.20 | 0.60 | 0.25 | 0.20 | 0.60 | 0.25 | 0.20 |
| | LINE REGULATION[mV] | 20max | 48max | 60max | 20max | 48max | 60max | 20max | 48max | 60max | 20max | 48max | 60max |
| | LOAD REGULATION[mV] | 40max | 100max | 120max | 40max | 100max | 120max | 40max | 100max | 120max | 40max | 100max | 120max |
| | RIPPLE[mVp-p] *2 | 80max | 120max | 120max | 80max | 120max | 120max | 80max | 120max | 120max | 80max | 120max | 120max |
| | RIPPLE NOISE[mVp-p] *2 | 120max | 150max | 150max | 120max | 150max | 150max | 120max | 150max | 150max | 120max | 150max | 150max |
| | TEMPERATURE REGULATION[mV] -20 to +55℃ | 50max | 150max | 180max | 50max | 150max | 180max | 50max | 150max | 180max | 50max | 150max | 180max |
| | DRIFT[mV] *3 | 20max | 48max | 60max | 20max | 48max | 60max | 20max | 48max | 60max | 20max | 48max | 60max |
| | START-UP TIME[ms] | 20max (Minimum input, Io=100%) | | | | | | | | | | | |
| | OUTPUT VOLTAGE ADJUSTMENT RANGE[V] | Fixed | | | | | | | | | | | |
| | OUTPUT VOLTAGE SETTING[V] | 4.85 - 5.25 | 11.40 - 12.60 | 14.25 - 15.75 | 4.85 - 5.25 | 11.40 - 12.60 | 14.25 - 15.75 | 4.85 - 5.25 | 11.40 - 12.60 | 14.25 - 15.75 | 4.85 - 5.25 | 11.40 - 12.60 | 14.25 - 15.75 |
| PROTECTION CIRCUIT | OVERCURRENT PROTECTION | Works over 105% of rating and recovers automatically | | | | | | | | | | | |
| ISOLATION | INPUT-OUTPUT | AC500V 1minute, Cutoff current = 10mA, DC500V 50MΩ min (20±15℃) | | | | | | | | | | | |
| | INPUT-CASE | AC500V 1minute, Cutoff current = 10mA, DC500V 50MΩ min (20±15℃) | | | | | | | | | | | |
| | OUTPUT-CASE | AC500V 1minute, Cutoff current = 10mA, DC500V 50MΩ min (20±15℃) | | | | | | | | | | | |
| ENVIRONMENT | OPERATING TEMP.,HUMID.AND ALTITUDE | -20 to +71℃, 20 - 95%RH (Non condensing) (Refer to DERATING CURVE), 3,000m (10,000feet) max | | | | | | | | | | | |
| | STORAGE TEMP.,HUMID.AND ALTITUDE | -40 to +85℃, 20 - 95%RH (Non condensing), 9,000m (30,000feet) max | | | | | | | | | | | |
| | VIBRATION | 10 - 55Hz, 98.0m/s² (10G), 3minutes period, 60minutes each along X, Y and Z axis | | | | | | | | | | | |
| | IMPACT | 490.3m/s² (50G), 11ms, once each X, Y and Z axis | | | | | | | | | | | |
| SAFETY | AGENCY APPROVALS | UL60950-1, C-UL, EN60950-1 Complies with IEC60950-1 | | | | | | | | | | | |
| OTHERS | CASE SIZE/WEIGHT | 35.5×26×10mm (W×H×D) / 25g max | | | | | | | | | | | |
| | COOLING METHOD | Convection | | | | | | | | | | | |

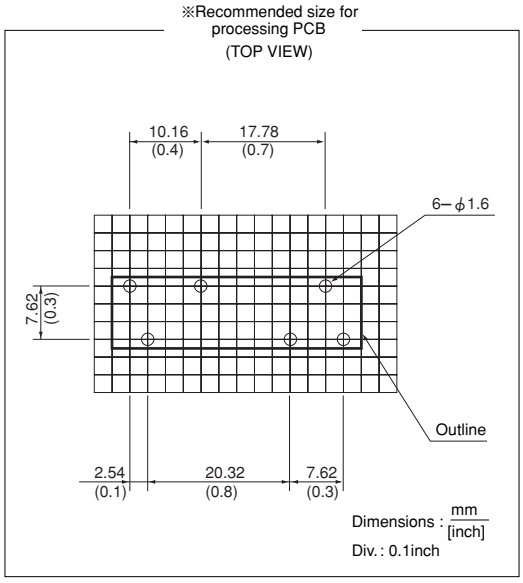
*1 Rated input. 5V, 12V, 24V or 48V DC, Io=100%
*2 Measured by 20MHz oscilloscope.
*3 The drift is a change at 25℃ of ambient temperature and 30 minutes - 8 hours after the input voltage applied at rated input/output.
* Series/Parallel operation with other model is not possible.

## External view



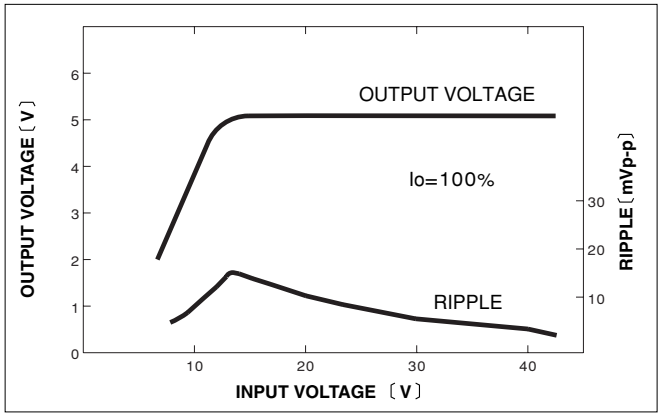




Weight: 25g or less
Tolerance: ±0.5
Case Material (Metal): Brass
Case Material (Resin): PPS
Pin Material: Phosphor Bronze (t=0.3)
(Solder Plate)

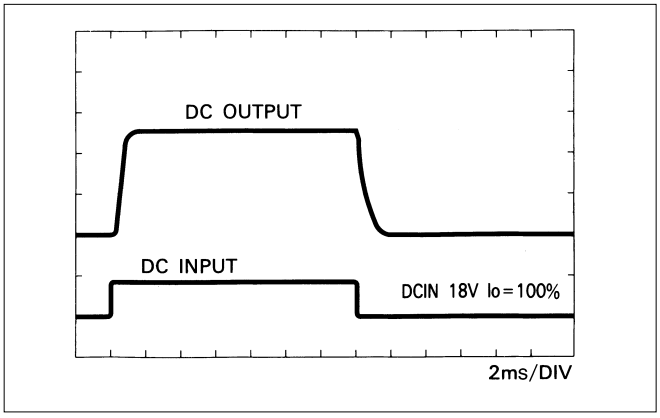



## Performance data

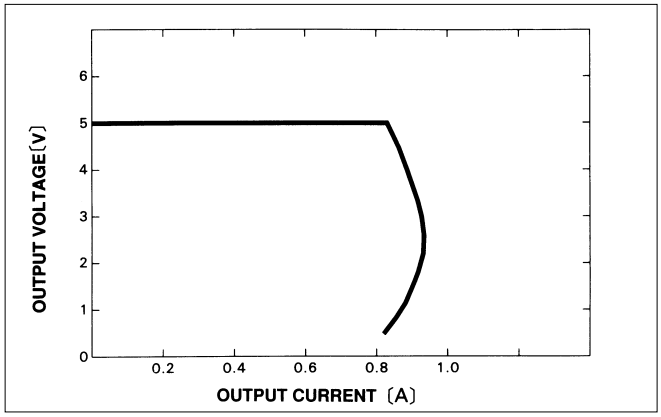
### ■STATIC CHARACTERISTICS (ZTS32405)




### ■RISE TIME & FALL TIME (ZTS32405)




### ■OVERCURRENT CHARACTERISTICS (ZTS32405)



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LifeElectronics
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- *Специальные условия для постоянных клиентов.*
- *Подбор аналогов.*
- *Поставку компонентов в любых объемах, удовлетворяющих вашим потребностям.*

- *Приемлемые сроки поставки, возможна ускоренная поставка.*
- *Доставку товара в любую точку России и стран СНГ.*
- *Комплексную поставку.*
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- *Формирование склада под заказчика.*

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- *Тестирование поставляемой продукции.*
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- *Техническую поддержку проекта.*
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- *Оценку стоимости проекта по компонентам.*
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*Email: org@lifeelectronics.ru*

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