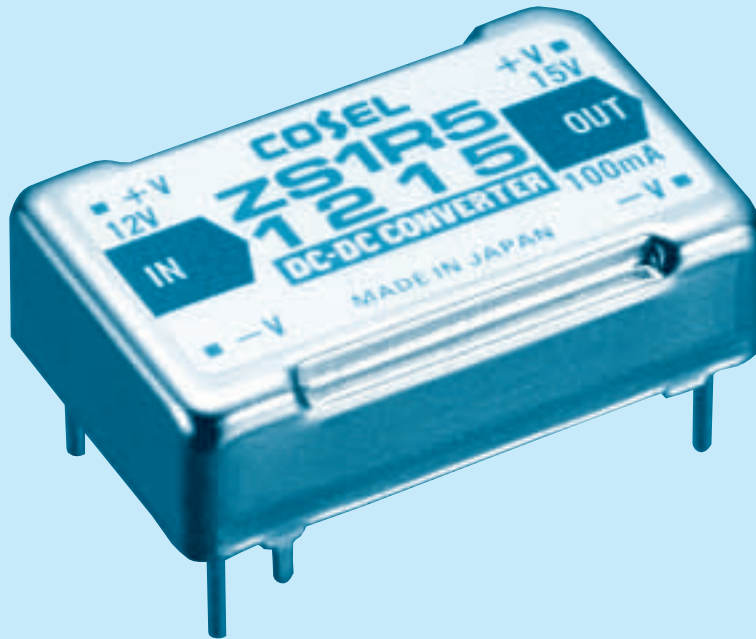


- ① Series name
- ② Single output
- ③ Output wattage
- ④ Input voltage
- ⑤ Output voltage

RoHS



MODEL	ZS1R50505	ZS1R50512	ZS1R50515	ZS1R51205	ZS1R51212	ZS1R51215	ZS1R52405	ZS1R52412	ZS1R52415	ZS1R54805	ZS1R54812	ZS1R54815
MAX OUTPUT WATTAGE[W]	1.25	1.44	1.5	1.25	1.44	1.5	1.25	1.44	1.5	1.25	1.44	1.5
DC OUTPUT	5V 0.25A	12V 0.12A	15V 0.1A	5V 0.25A	12V 0.12A	15V 0.1A	5V 0.25A	12V 0.12A	15V 0.1A	5V 0.25A	12V 0.12A	15V 0.1A

## SPECIFICATIONS

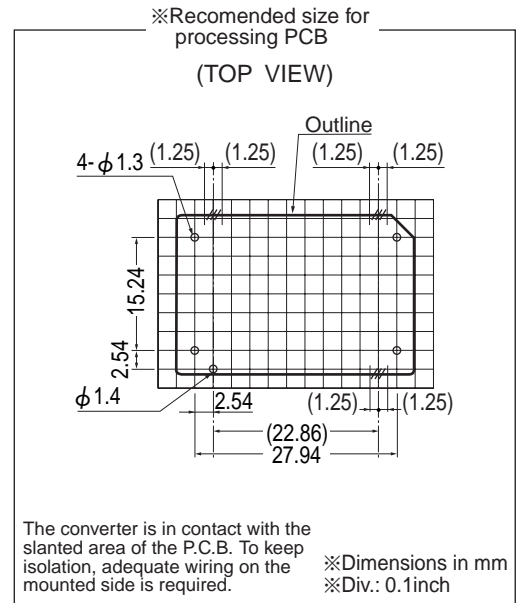
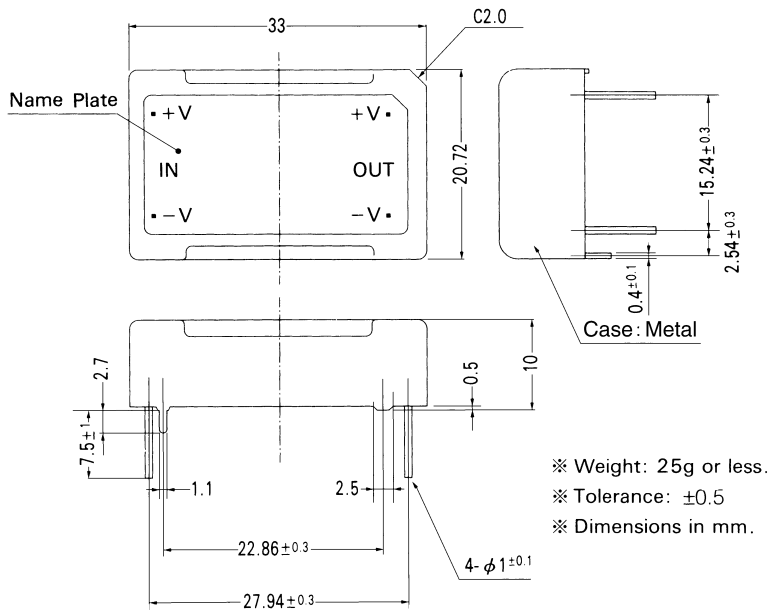
	MODEL	ZS1R50505	ZS1R50512	ZS1R50515	ZS1R51205	ZS1R51212	ZS1R51215	ZS1R52405	ZS1R52412	ZS1R52415	ZS1R54805	ZS1R54812	ZS1R54815	
<b>Z INPUT</b>	VOLTAGE[V]	5 (4.5 - 6.0)			12 (10 - 15)			24 (20 - 30)			48 (35 - 63)			
	CURRENT[A]	*1 0.420typ	0.480typ	0.500typ	0.158typ	0.183typ	0.192typ	0.079typ	0.092typ	0.096typ	0.040typ	0.046typ	0.048typ	
	EFFICIENCY[%]	60typ	60typ	60typ	65typ	65typ	65typ	65typ	65typ	65typ	65typ	65typ	65typ	
<b>OUTPUT</b>	VOLTAGE[V]	5	12	15	5	12	15	5	12	15	5	12	15	
	CURRENT[A]	0.25	0.12	0.1	0.25	0.12	0.1	0.25	0.12	0.1	0.25	0.12	0.1	
	LINE REGULATION[mV]	25max	60max	75max	25max	60max	75max	25max	60max	75max	25max	60max	75max	
	LOAD REGULATION[mV]	50max	120max	150max	50max	120max	150max	50max	120max	150max	50max	120max	150max	
	RIPPLE[mVp-p]	*2 100max	120max	120max	100max	120max	120max	100max	120max	120max	100max	120max	120max	
	RIPPLE NOISE[mVp-p]	*2 120max	120max	120max	120max	120max	120max	120max	120max	120max	120max	120max	120max	
	TEMPERATURE REGULATION[mV]   0 to +50°C	50max	120max	150max	50max	120max	150max	50max	120max	150max	50max	120max	150max	
	OUTPUT VOLTAGE ADJUSTMENT RANGE[V]	Fixed												
OUTPUT VOLTAGE SETTING[%]	±5max (Rated input/output, Ta=25°C)													
<b>PROTECTION CIRCUIT</b>	OVERCURRENT PROTECTION	Works over 105% of rating and recovers automatically												
	<b>ISOLATION</b>	INPUT-OUTPUT	AC500V 1minute, Cutoff current = 10mA, DC500V 50MΩ min (20±15°C)											
		INPUT-CASE	AC500V 1minute, Cutoff current = 10mA, DC500V 50MΩ min (20±15°C)											
OUTPUT-CASE		AC500V 1minute, Cutoff current = 10mA, DC500V 50MΩ min (20±15°C)												
<b>ENVIRONMENT</b>	OPERATING TEMP., HUMID. AND ALTITUDE	-10 to +60°C, 20 - 90%RH (Non condensing) (Refer to DERATING CURVE), 3,000m (10,000feet) max												
	STORAGE TEMP., HUMID. AND ALTITUDE	-20 to +75°C, 20 - 90%RH (Non condensing), 9,000m (30,000feet) max												
	VIBRATION	10 - 55Hz, 19.6m/s <sup>2</sup> (2G), 3minutes period, 30minutes each along X, Y and Z axis												
	IMPACT	490.3m/s <sup>2</sup> (50G), 11ms, once each X, Y and Z axis												

\*1 Rated input 5V, 12V, 24V or 48V DC, Io=100%

\*2 Measured by 20MHz oscilloscope.

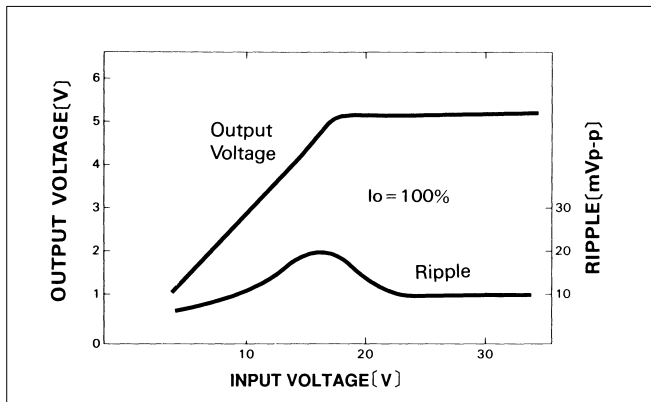
\* Parallel operation with other model is not possible.

External view

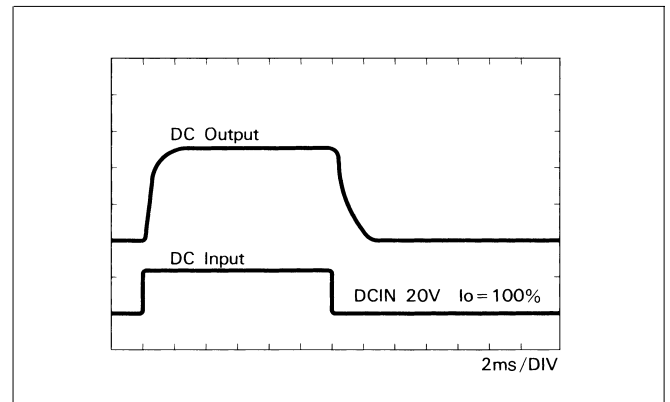


Performance data

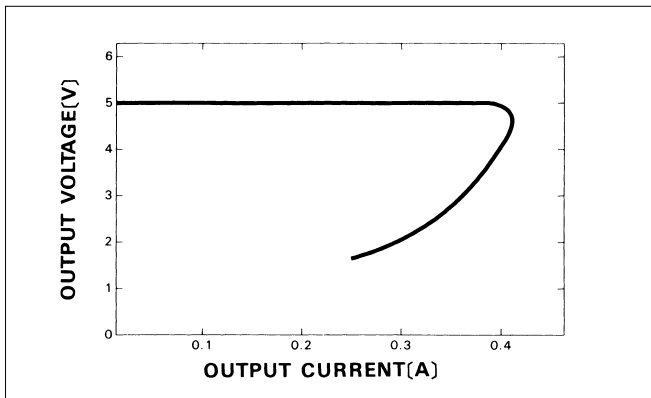
■ STATIC CHARACTERISTICS (ZS1R52405)



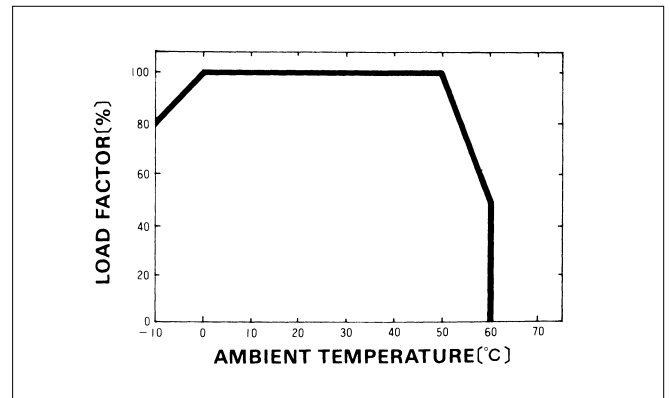
■ RISE TIME & FALL TIME (ZS1R52405)



■ OVERCURRENT CHARACTERISTICS (ZS1R52405)



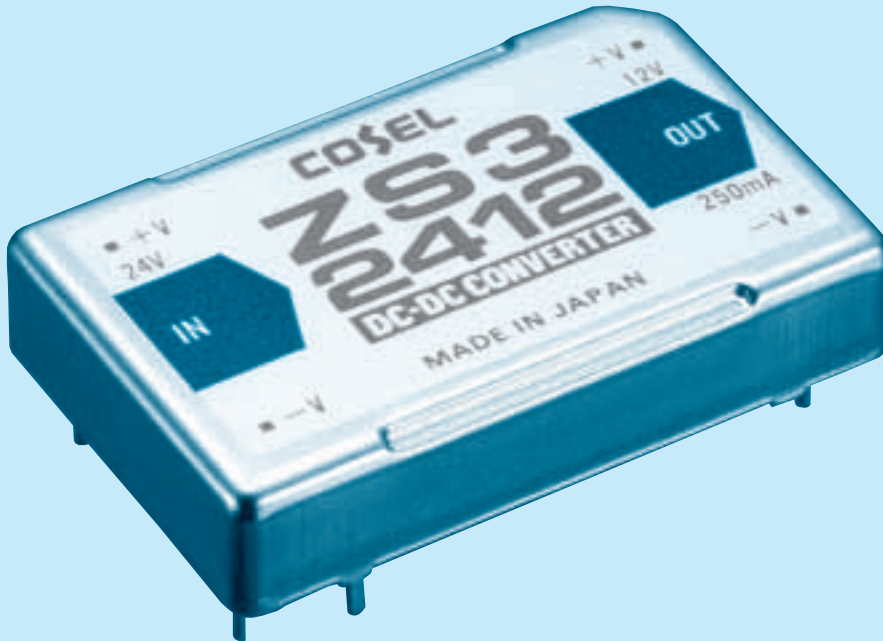
■ DERATING CURVE



Z

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

RoHS



MODEL	ZS30505	ZS30512	ZS30515	ZS31205	ZS31212	ZS31215	ZS32405	ZS32412	ZS32415	ZS34805	ZS34812	ZS34815
MAX OUTPUT WATTAGE[W]	2.5	3.0	3.0	2.5	3.0	3.0	2.5	3.0	3.0	2.5	3.0	3.0
DC OUTPUT	5V 0.5A	12V 0.25A	15V 0.2A	5V 0.5A	12V 0.25A	15V 0.2A	5V 0.5A	12V 0.25A	15V 0.2A	5V 0.5A	12V 0.25A	15V 0.2A

SPECIFICATIONS

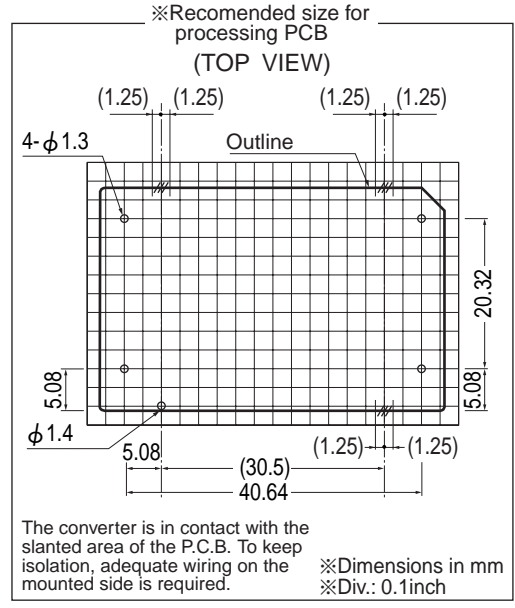
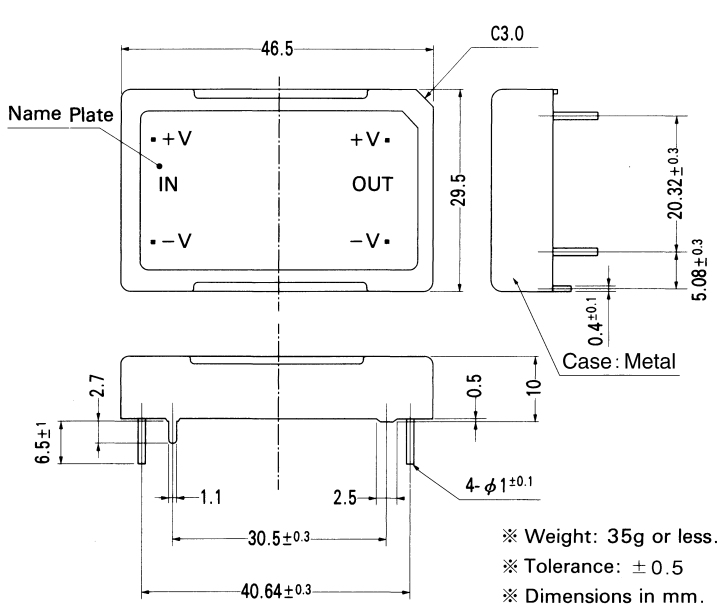
	MODEL	ZS30505	ZS30512	ZS30515	ZS31205	ZS31212	ZS31215	ZS32405	ZS32412	ZS32415	ZS34805	ZS34812	ZS34815
INPUT	VOLTAGE[V]	5 (4.5 - 6.0)			12 (10 - 15)			24 (20 - 30)			48 (35 - 63)		
	CURRENT[A]	*1 0.760typ	0.920typ	0.920typ	0.317typ	0.358typ	0.358typ	0.150typ	0.171typ	0.171typ	0.075typ	0.090typ	0.090typ
	EFFICIENCY[%]	65typ	65typ	65typ	65typ	70typ	70typ	70typ	74typ	74typ	70typ	70typ	70typ
	VOLTAGE[V]	5	12	15	5	12	15	5	12	15	5	12	15
OUTPUT	CURRENT[A]	0.5	0.25	0.2	0.5	0.25	0.2	0.5	0.25	0.2	0.5	0.25	0.2
	LINE REGULATION[mV]	25max	60max	75max	25max	60max	75max	25max	60max	75max	25max	60max	75max
	LOAD REGULATION[mV]	50max	120max	150max	50max	120max	150max	50max	120max	150max	50max	120max	150max
	RIPPLE[mVp-p]	*2 100max	120max	120max	100max	120max	120max	100max	120max	120max	100max	120max	120max
	RIPPLE NOISE[mVp-p]	*2 120max	120max	120max	120max	120max	120max	120max	120max	120max	120max	120max	120max
	TEMPERATURE REGULATION[mV]   0 to +50°C	50max	120max	150max	50max	120max	150max	50max	120max	150max	50max	120max	150max
	OUTPUT VOLTAGE ADJUSTMENT RANGE[V]	Fixed											
	OUTPUT VOLTAGE SETTING[%]	±5max (Rated input/output, Ta=25°C)											
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°C)											
	INPUT-CASE	AC500V 1minute, Cutoff current = 10mA, DC500V 50MΩ min (20±15°C)											
	OUTPUT-CASE	AC500V 1minute, Cutoff current = 10mA, DC500V 50MΩ min (20±15°C)											
ENVIRONMENT	OPERATING TEMP., HUMID. AND ALTITUDE	-10 to +60°C, 20 - 90%RH (Non condensing) (Refer to DERATING CURVE), 3,000m (10,000feet) max											
	STORAGE TEMP., HUMID. AND ALTITUDE	-20 to +75°C, 20 - 90%RH (Non condensing), 9,000m (30,000feet) max											
	VIBRATION	10 - 55Hz, 19.6m/s <sup>2</sup> (2G), 3minutes period, 30minutes each along X, Y and Z axis											
	IMPACT	490.3m/s <sup>2</sup> (50G), 11ms, once each X, Y and Z axis											

\*1 Rated input 5V, 12V, 24V or 48V DC, Io=100%

\*2 Measured by 20MHz oscilloscope.

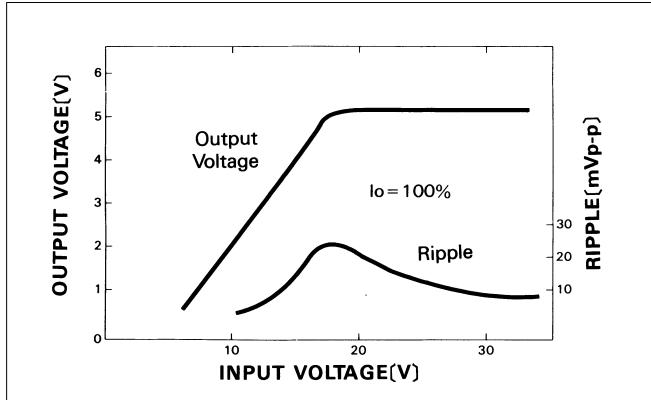
\* Parallel operation with other model is not possible.

External view

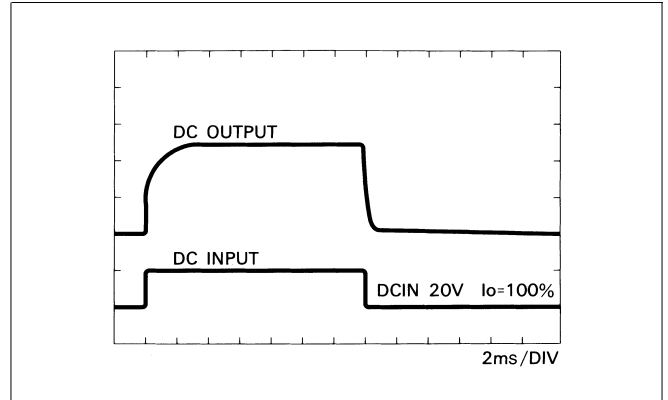


Performance data

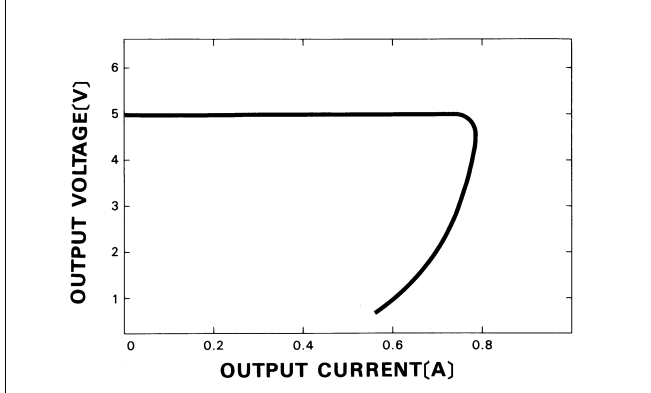
■ STATIC CHARACTERISTICS (ZS32405)



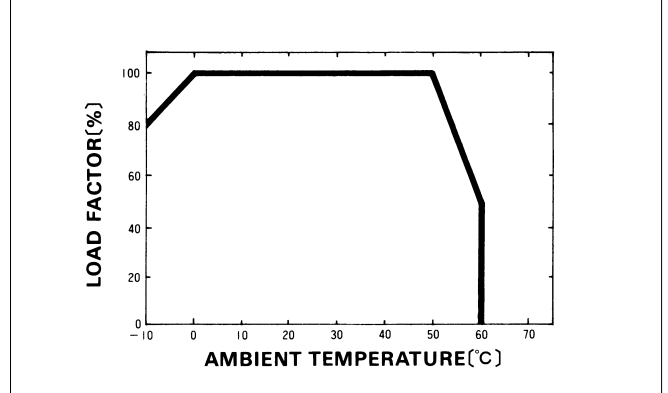
■ RISE TIME & FALL TIME (ZS32405)



■ OVERCURRENT CHARACTERISTICS (ZS32405)



■ DERATING CURVE



Z

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

## RoHS



MODEL	ZS60505	ZS60512	ZS60515	ZS61205	ZS61212	ZS61215	ZS62405	ZS62412	ZS62415	ZS64805	ZS64812	ZS64815
MAX OUTPUT WATTAGE[W]	5.0	6.0	6.0	5.0	6.0	6.0	5.0	6.0	6.0	5.0	6.0	6.0
DC OUTPUT	5V 1.0A	12V 0.5A	15V 0.4A	5V 1.0A	12V 0.5A	15V 0.4A	5V 1.0A	12V 0.5A	15V 0.4A	5V 1.0A	12V 0.5A	15V 0.4A

## SPECIFICATIONS

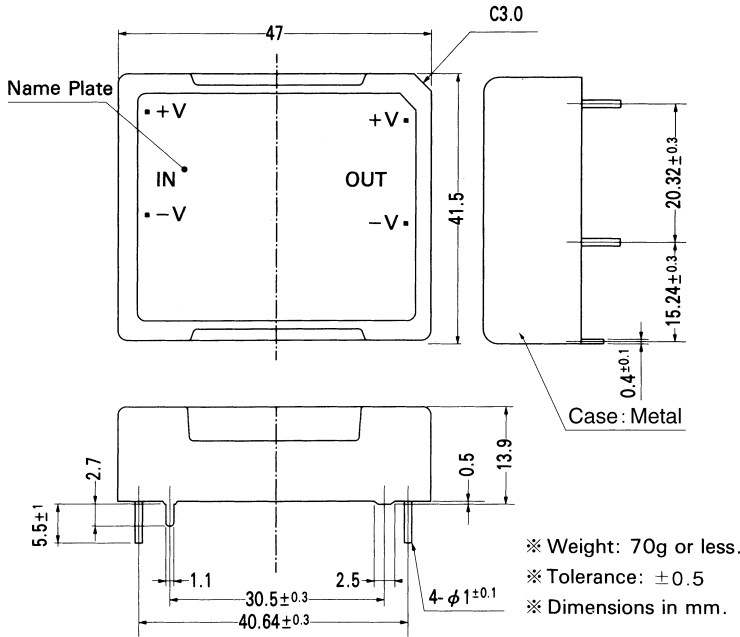
	MODEL	ZS60505	ZS60512	ZS60515	ZS61205	ZS61212	ZS61215	ZS62405	ZS62412	ZS62415	ZS64805	ZS64812	ZS64815
<b>Z INPUT</b>	VOLTAGE[V]	5 (4.5 - 6.0)			12 (10 - 15)			24 (20 - 30)			48 (35 - 63)		
	CURRENT[A]	*1 1.540typ	1.840typ	1.840typ	0.617typ	0.717typ	0.717typ	0.296typ	0.338typ	0.338typ	0.148typ	0.179typ	0.179typ
	EFFICIENCY[%]	65typ	65typ	65typ	68typ	70typ	70typ	70typ	74typ	74typ	70typ	70typ	70typ
<b>OUTPUT</b>	VOLTAGE[V]	5	12	15	5	12	15	5	12	15	5	12	15
	CURRENT[A]	1	0.5	0.4	1	0.5	0.4	1	0.5	0.4	1	0.5	0.4
	LINE REGULATION[mV]	25max	60max	75max	25max	60max	75max	25max	60max	75max	25max	60max	75max
	LOAD REGULATION[mV]	50max	120max	150max	50max	120max	150max	50max	120max	150max	50max	120max	150max
	RIPPLE[mVp-p]	*2 100max	120max	120max	100max	120max	120max	100max	120max	120max	100max	120max	120max
	RIPPLE NOISE[mVp-p]	*2 120max	120max	120max	120max	120max	120max	120max	120max	120max	120max	120max	120max
	TEMPERATURE REGULATION[mV] 0 to +50°C	50max	120max	150max	50max	120max	150max	50max	120max	150max	50max	120max	150max
	OUTPUT VOLTAGE ADJUSTMENT RANGE[V]	Fixed											
OUTPUT VOLTAGE SETTING[%]	±5max (Rated input/output, Ta=25°C)												
<b>PROTECTION CIRCUIT</b>	OVERCURRENT PROTECTION	Works over 105% of rating and recovers automatically											
	<b>ISOLATION</b>	INPUT-OUTPUT	AC500V 1minute, Cutoff current = 10mA, DC500V 50MΩ min (20±15°C)										
		INPUT-CASE	AC500V 1minute, Cutoff current = 10mA, DC500V 50MΩ min (20±15°C)										
	OUTPUT-CASE	AC500V 1minute, Cutoff current = 10mA, DC500V 50MΩ min (20±15°C)											
<b>ENVIRONMENT</b>	OPERATING TEMP., HUMID. AND ALTITUDE	-10 to +60°C, 20 - 90%RH (Non condensing) (Refer to DERATING CURVE), 3,000m (10,000feet) max											
	STORAGE TEMP., HUMID. AND ALTITUDE	-20 to +75°C, 20 - 90%RH (Non condensing), 9,000m (30,000feet) max											
	VIBRATION	10 - 55Hz, 19.6m/s <sup>2</sup> (2G), 3minutes period, 30minutes each along X, Y and Z axis											
	IMPACT	490.3m/s <sup>2</sup> (50G), 11ms, once each X, Y and Z axis											

\*1 Rated input 5V, 12V, 24V or 48V DC, Io=100%

\*2 Measured by 20MHz oscilloscope.

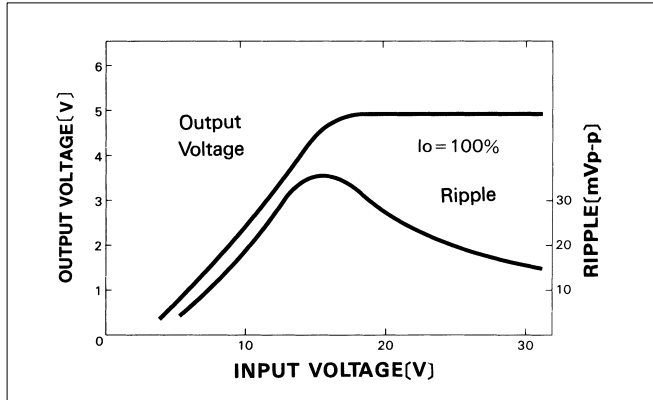
\* Parallel operation with other model is not possible.

External view

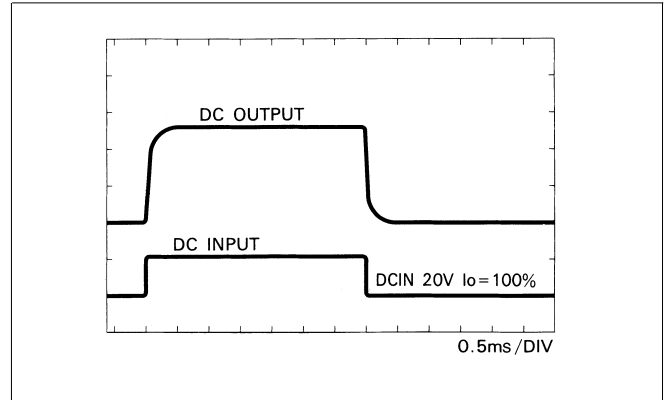


Performance data

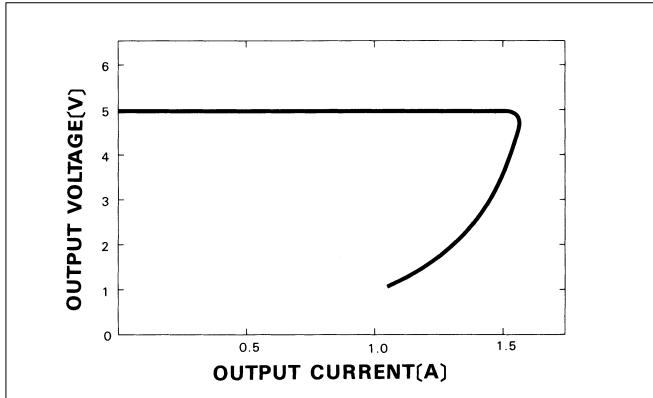
■ STATIC CHARACTERISTICS (ZS62405)



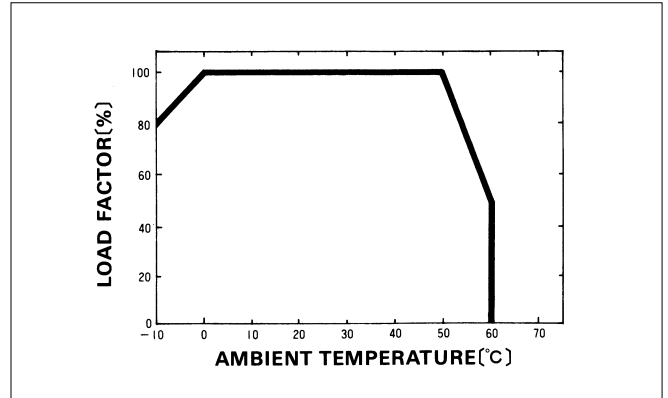
■ RISE TIME & FALL TIME (ZS62405)



■ OVERCURRENT CHARACTERISTICS (ZS62405)



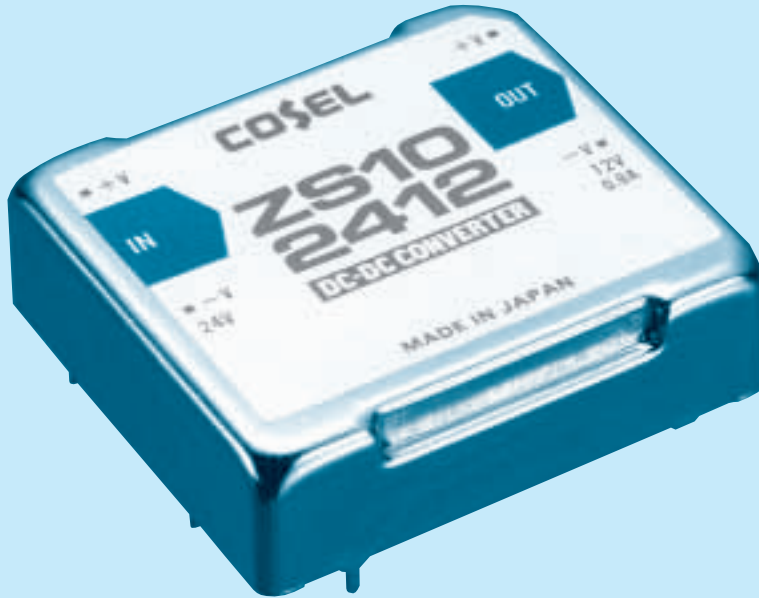
■ DERATING CURVE



Z

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

## RoHS



MODEL	ZS100505	ZS100512	ZS100515	ZS101205	ZS101212	ZS101215	ZS102405	ZS102412	ZS102415	ZS104805	ZS104812	ZS104815
MAX OUTPUT WATTAGE[W]	8.0	8.4	9.0	10.0	10.8	10.5	10.0	10.8	10.5	10.0	10.8	10.5
DC OUTPUT	VOLTAGE[V]	5	12	15	5	12	15	5	12	15	5	12
	CURRENT[A]	1.6	0.7	0.6	2.0	0.9	0.7	2.0	0.9	0.7	2.0	0.9

## SPECIFICATIONS

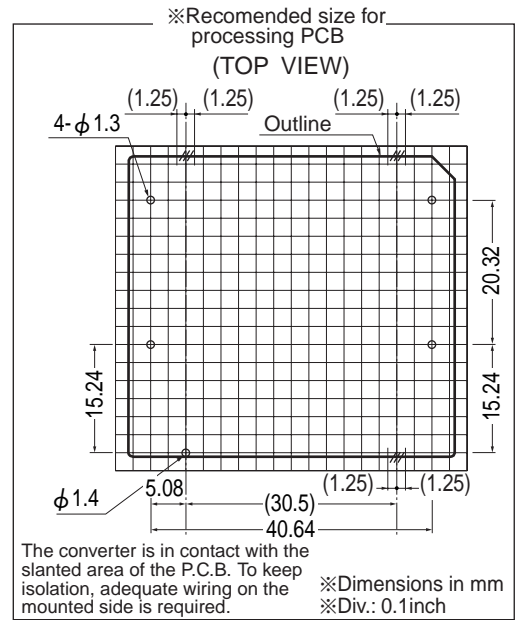
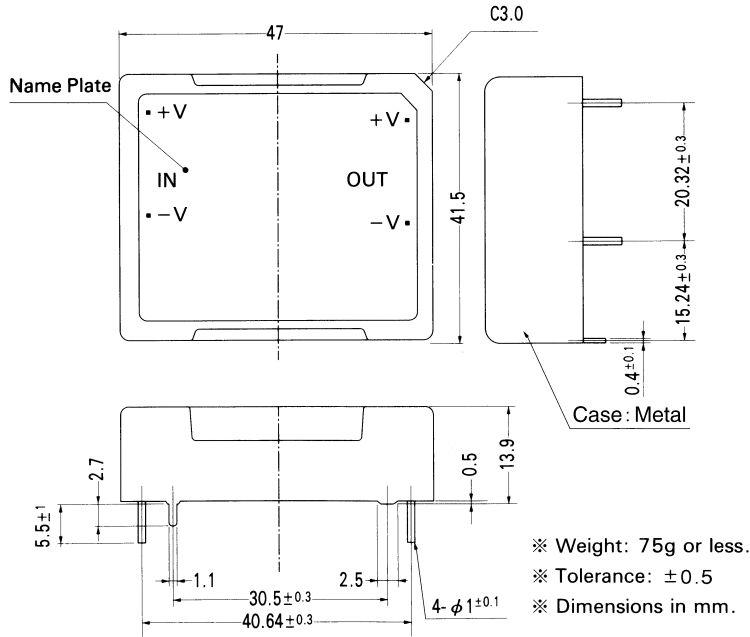
	MODEL	ZS100505	ZS100512	ZS100515	ZS101205	ZS101212	ZS101215	ZS102405	ZS102412	ZS102415	ZS104805	ZS104812	ZS104815
<b>Z</b> INPUT	VOLTAGE[V]	5 (4.5 - 6.0)			12 (10 - 15)			24 (20 - 30)			48 (35 - 63)		
	CURRENT[A]	*1 2.220typ	2.340typ	2.500typ	1.042typ	1.125typ	1.092typ	0.521typ	0.563typ	0.546typ	0.260typ	0.281typ	0.273typ
	EFFICIENCY[%]	72typ	72typ	72typ	80typ	80typ	80typ	80typ	80typ	80typ	80typ	80typ	80typ
OUTPUT	VOLTAGE[V]	5	12	15	5	12	15	5	12	15	5	12	15
	CURRENT[A]	1.6	0.7	0.6	2.0	0.9	0.7	2.0	0.9	0.7	2.0	0.9	0.7
	LINE REGULATION[mV]	25max	60max	75max	25max	60max	75max	25max	60max	75max	25max	60max	75max
	LOAD REGULATION[mV]	50max	120max	150max	50max	120max	150max	50max	120max	150max	50max	120max	150max
	RIPPLE[mVp-p]	*2 100max	120max	120max	100max	120max	120max	100max	120max	120max	100max	120max	120max
	RIPPLE NOISE[mVp-p]	*2 120max	120max	120max	120max	120max	120max	120max	120max	120max	120max	120max	120max
	TEMPERATURE REGULATION[mV] 0 to +55°C	50max	120max	150max	50max	120max	150max	50max	120max	150max	50max	120max	150max
	OUTPUT VOLTAGE ADJUSTMENT RANGE[V]	Fixed											
OUTPUT VOLTAGE SETTING[%]	±5max (Rated input/output, Ta=25°C)												
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°C)											
	INPUT-CASE	AC500V 1minute, Cutoff current = 10mA, DC500V 50MΩ min (20±15°C)											
	OUTPUT-CASE	AC500V 1minute, Cutoff current = 10mA, DC500V 50MΩ min (20±15°C)											
ENVIRONMENT	OPERATING TEMP., HUMID. AND ALTITUDE	-10 to +70°C, 20 - 90%RH (Non condensing) (Refer to DERATING CURVE), 3,000m (10,000feet) max											
	STORAGE TEMP., HUMID. AND ALTITUDE	-20 to +75°C, 20 - 90%RH (Non condensing), 9,000m (30,000feet) max											
	VIBRATION	10 - 55Hz, 98.0m/s <sup>2</sup> (10G), 3minutes period, 30minutes each along X, Y and Z axis											
	IMPACT	490.3m/s <sup>2</sup> (50G), 11ms, once each X, Y and Z axis											

\*1 Rated input 5V, 12V, 24V or 48V DC, Io=100%

\*2 Measured by 20MHz oscilloscope.

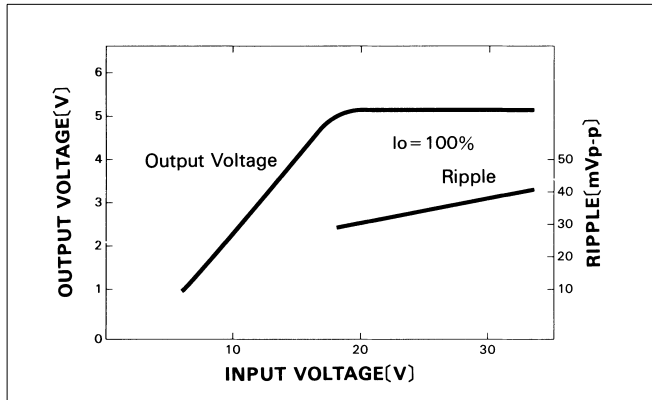
\* Parallel operation with other model is not possible.

External view

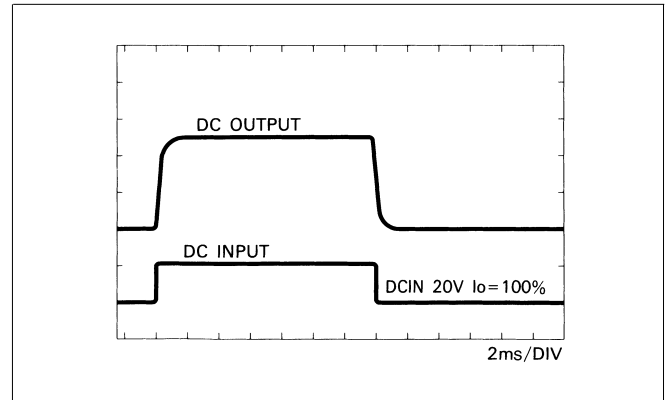


Performance data

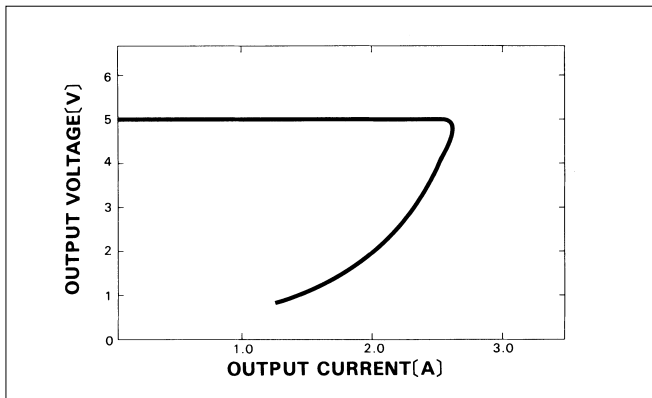
■STATIC CHARACTERISTICS (ZS102405)



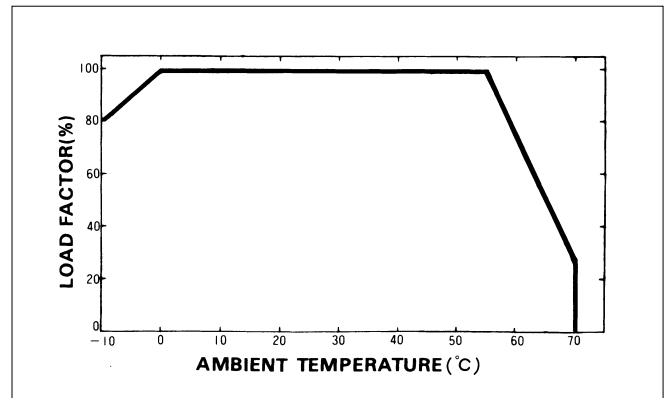
■RISE TIME & FALL TIME (ZS102405)



■OVERCURRENT CHARACTERISTICS (ZS102405)



■DERATING CURVE



Z