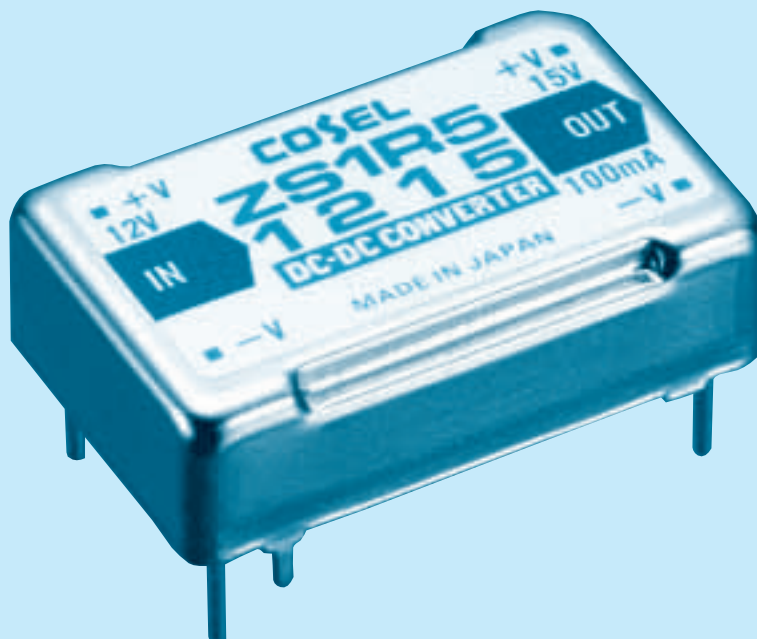


- ① Series name
- ② Single output
- ③ Output wattage
- ④ Input voltage
- ⑤ Output voltage

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

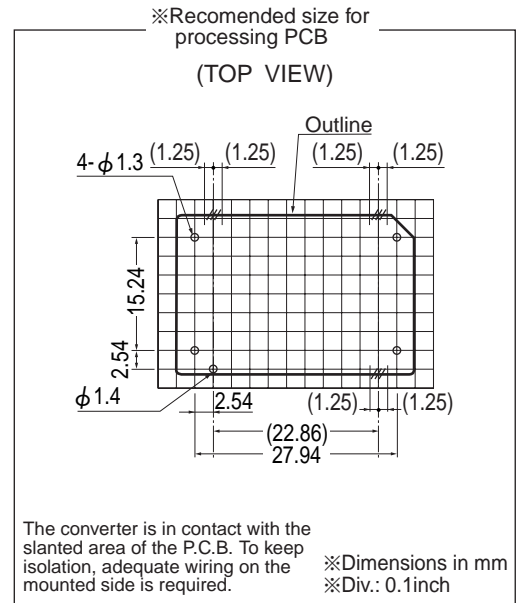
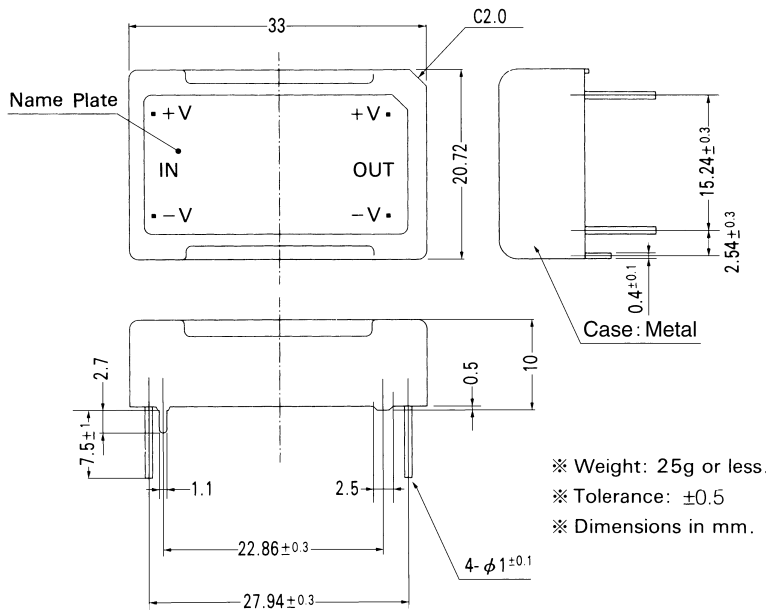
	MODEL	ZS1R50505	ZS1R50512	ZS1R50515	ZS1R51205	ZS1R51212	ZS1R51215	ZS1R52405	ZS1R52412	ZS1R52415	ZS1R54805	ZS1R54812	ZS1R54815
<b>Z INPUT</b>	VOLTAGE[V]	5 (4.5 - 6.0)			12 (10 - 15)			24 (20 - 30)			48 (35 - 63)		
	CURRENT[A]	*1 0.420typ	0.480typ	0.500typ	0.158typ	0.183typ	0.192typ	0.079typ	0.092typ	0.096typ	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>	<b>OVERCURRENT PROTECTION</b>	Works over 105% of rating and recovers automatically											
<b>ISOLATION</b>	<b>INPUT-OUTPUT</b>	AC500V 1minute, Cutoff current = 10mA, DC500V 50MΩ min (20±15°C)											
	<b>INPUT-CASE</b>	AC500V 1minute, Cutoff current = 10mA, DC500V 50MΩ min (20±15°C)											
	<b>OUTPUT-CASE</b>	AC500V 1minute, Cutoff current = 10mA, DC500V 50MΩ min (20±15°C)											
<b>ENVIRONMENT</b>	<b>OPERATING TEMP., HUMID. AND ALTITUDE</b>	-10 to +60°C, 20 - 90%RH (Non condensing) (Refer to DERATING CURVE), 3,000m (10,000feet) max											
	<b>STORAGE TEMP., HUMID. AND ALTITUDE</b>	-20 to +75°C, 20 - 90%RH (Non condensing), 9,000m (30,000feet) max											
	<b>VIBRATION</b>	10 - 55Hz, 19.6m/s <sup>2</sup> (2G), 3minutes period, 30minutes each along X, Y and Z axis											
	<b>IMPACT</b>	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.

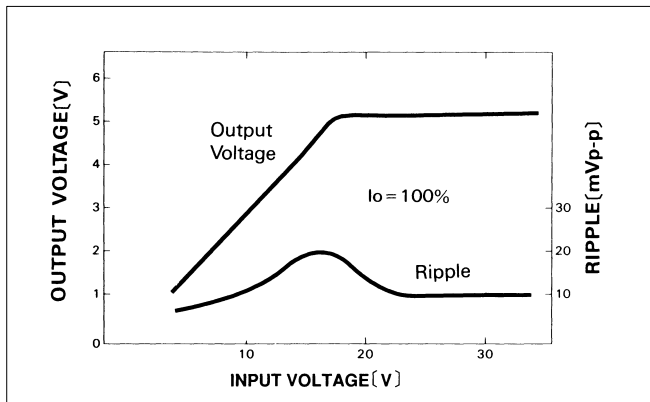
\* Parallel operation with other model is not possible.

External view

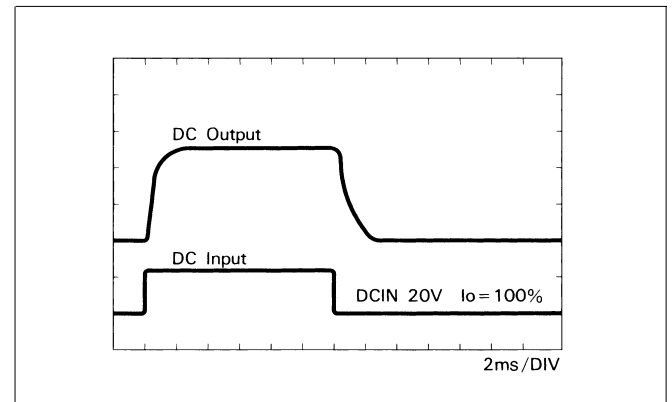


Performance data

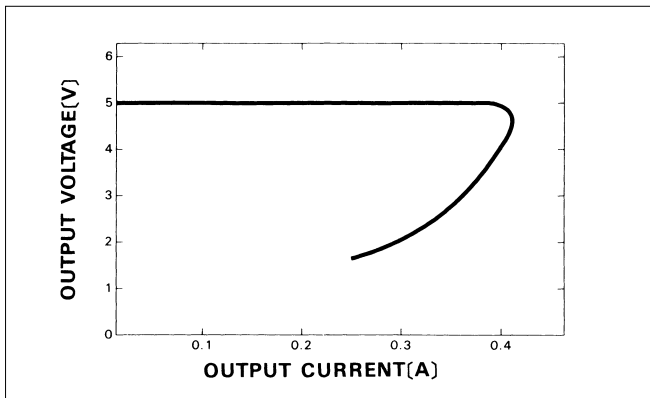
■ STATIC CHARACTERISTICS (ZS1R52405)



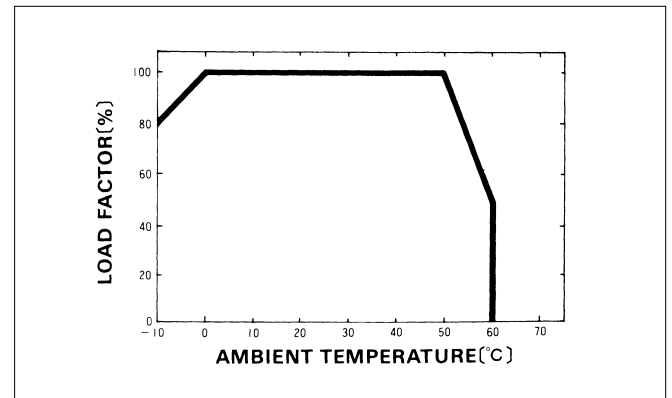
■ RISE TIME & FALL TIME (ZS1R52405)



■ OVERCURRENT CHARACTERISTICS (ZS1R52405)



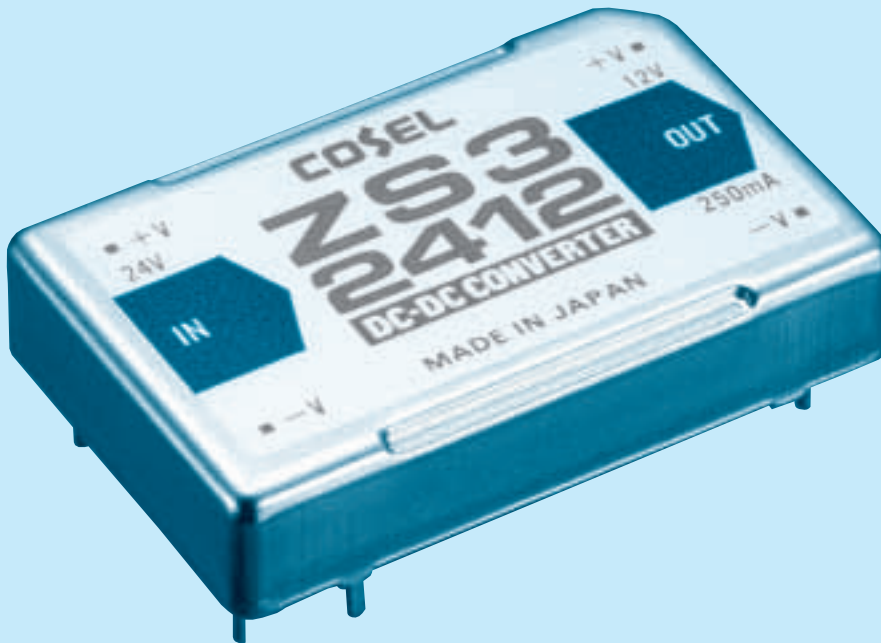
■ DERATING CURVE



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

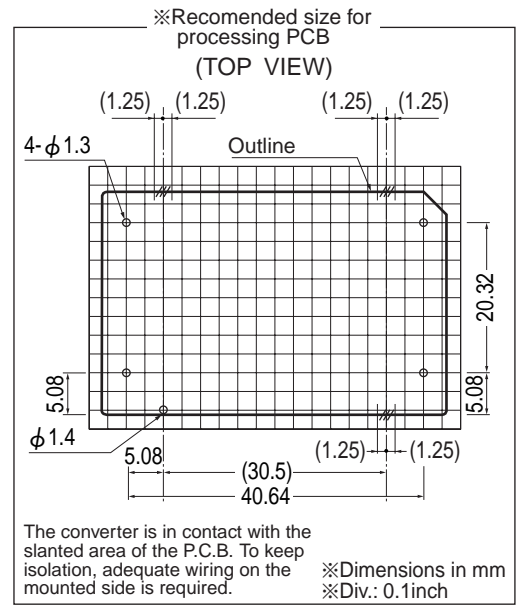
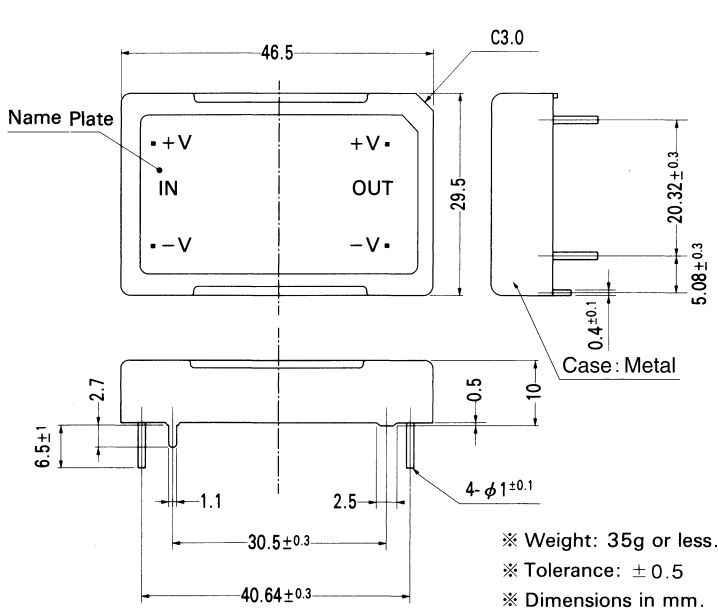
	MODEL	ZS30505	ZS30512	ZS30515	ZS31205	ZS31212	ZS31215	ZS32405	ZS32412	ZS32415	ZS34805	ZS34812	ZS34815	
<b>Z INPUT</b>	VOLTAGE[V]	5 (4.5 - 6.0)			12 (10 - 15)			24 (20 - 30)			48 (35 - 63)			
	CURRENT[A]	*1 0.760typ	0.920typ	0.920typ	0.317typ	0.358typ	0.358typ	0.150typ	0.171typ	0.171typ	0.075typ	0.090typ	0.090typ	
	EFFICIENCY[%]	65typ	65typ	65typ	65typ	70typ	70typ	70typ	74typ	74typ	70typ	70typ	70typ	
<b>OUTPUT</b>	VOLTAGE[V]	5	12	15	5	12	15	5	12	15	5	12	15	
	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)													
<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.

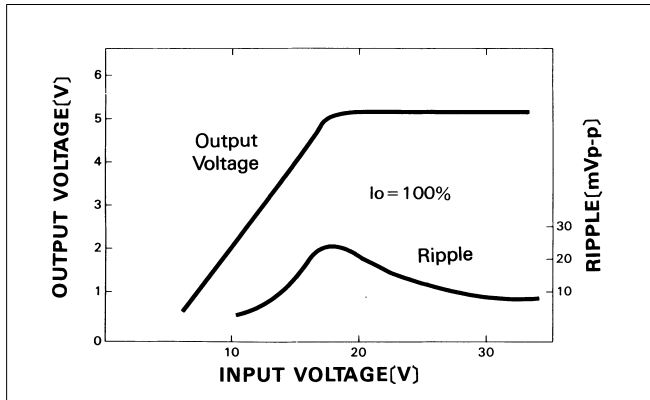
\* Parallel operation with other model is not possible.

External view

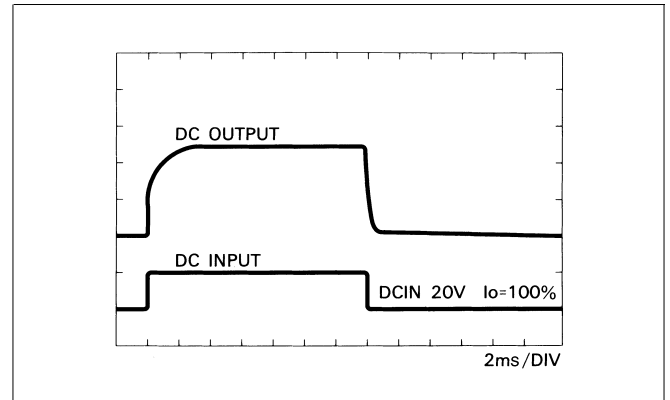


Performance data

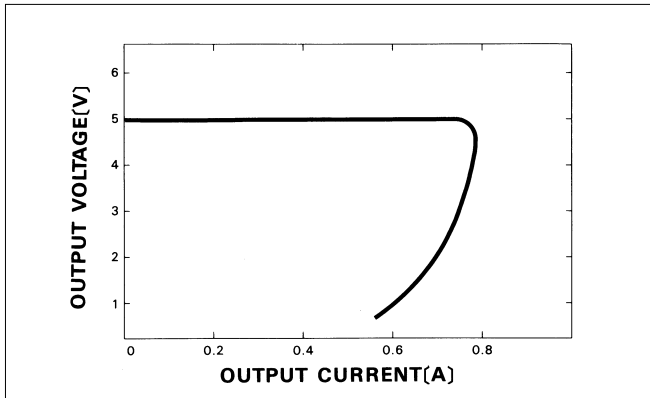
■ STATIC CHARACTERISTICS (ZS32405)



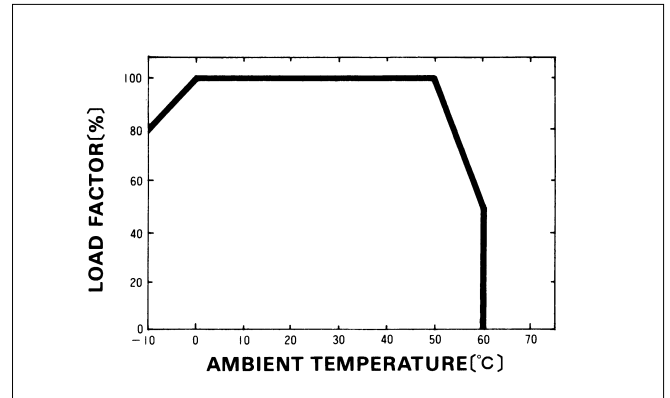
■ RISE TIME & FALL TIME (ZS32405)



■ OVERCURRENT CHARACTERISTICS (ZS32405)



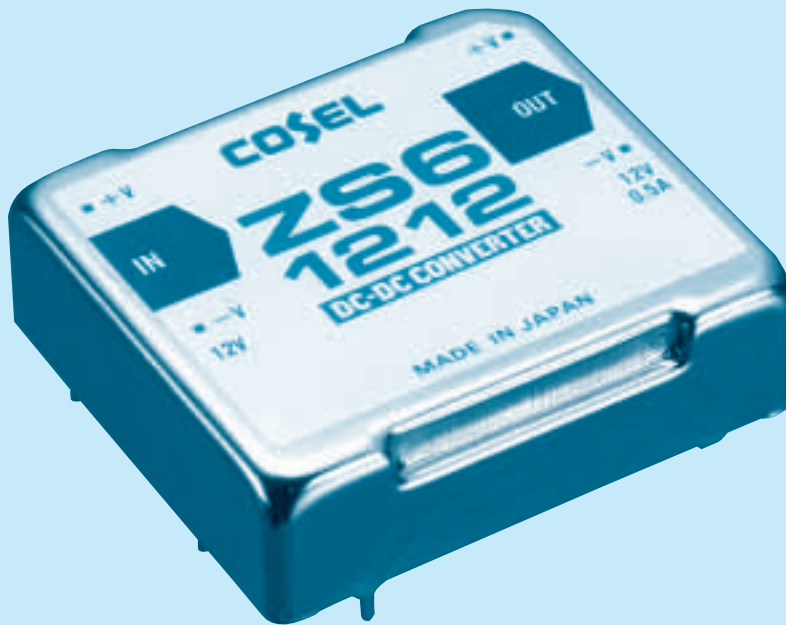
■ DERATING CURVE



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

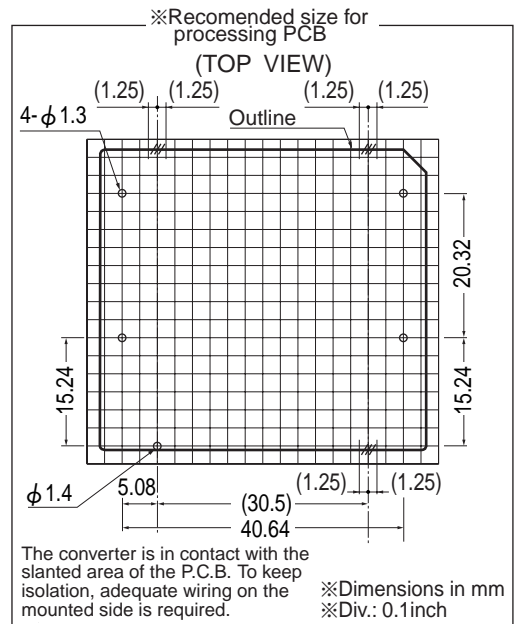
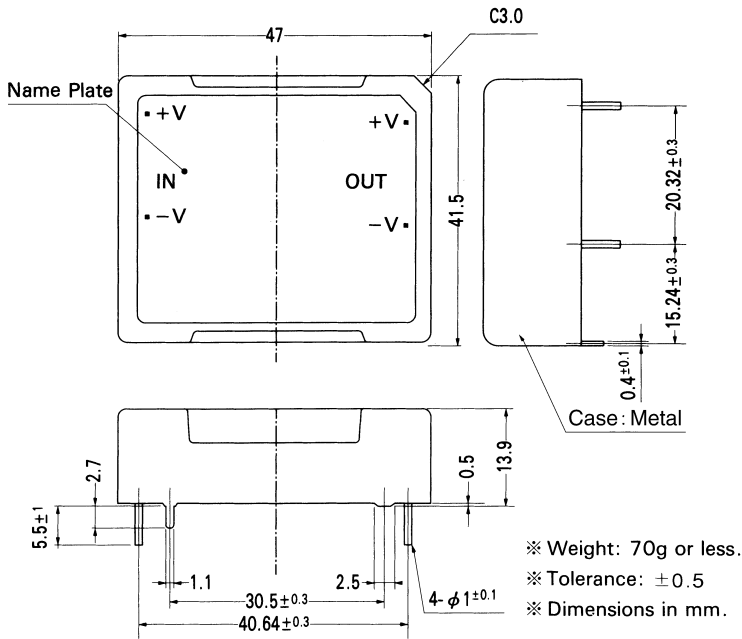
	MODEL	ZS60505	ZS60512	ZS60515	ZS61205	ZS61212	ZS61215	ZS62405	ZS62412	ZS62415	ZS64805	ZS64812	ZS64815
<b>Z INPUT</b>	VOLTAGE[V]	5 (4.5 - 6.0)			12 (10 - 15)			24 (20 - 30)			48 (35 - 63)		
	CURRENT[A]	*1 1.540typ	1.840typ	1.840typ	0.617typ	0.717typ	0.717typ	0.296typ	0.338typ	0.338typ	0.148typ	0.179typ	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)										
<b>ENVIRONMENT</b>	OUTPUT-CASE	AC500V 1minute, Cutoff current = 10mA, DC500V 50MΩ min (20±15°C)											
	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.

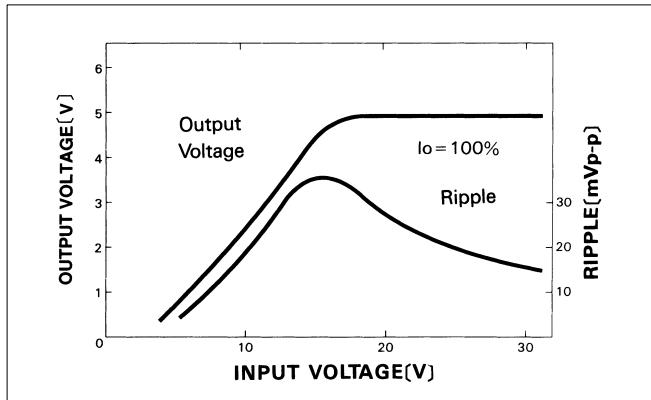
\* Parallel operation with other model is not possible.

External view

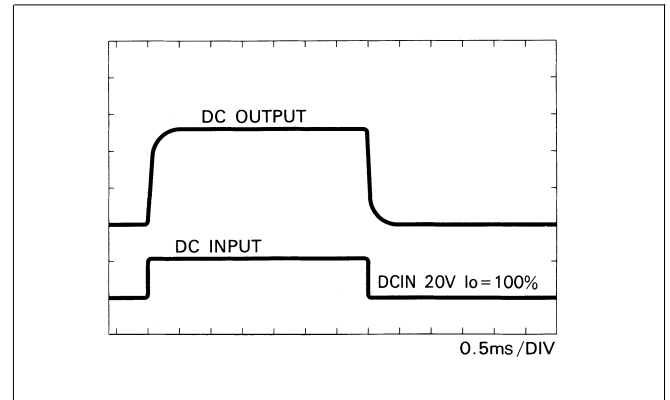


Performance data

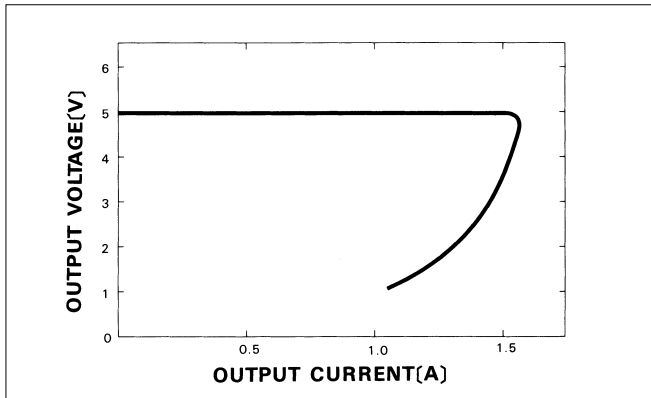
■ STATIC CHARACTERISTICS (ZS62405)



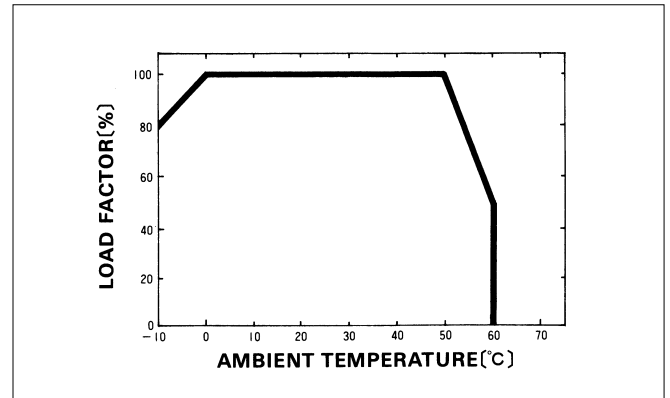
■ RISE TIME & FALL TIME (ZS62405)



■ OVERCURRENT CHARACTERISTICS (ZS62405)



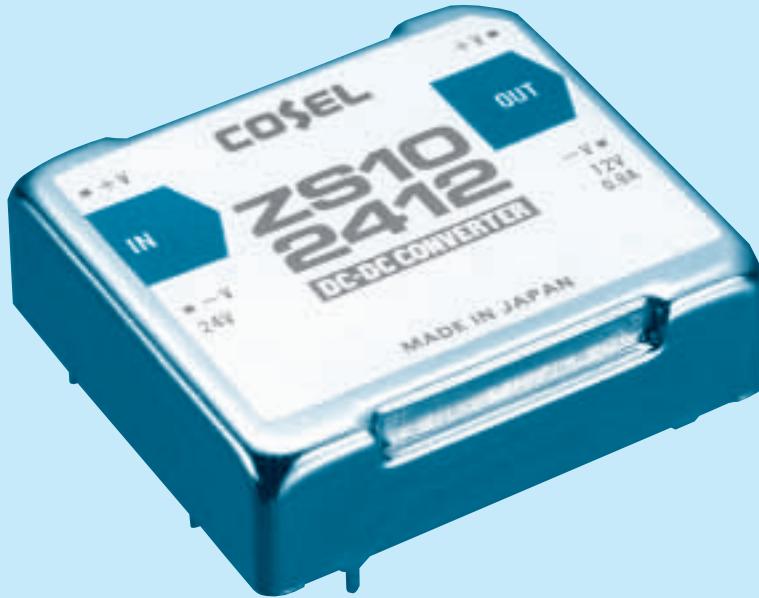
■ DERATING CURVE



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

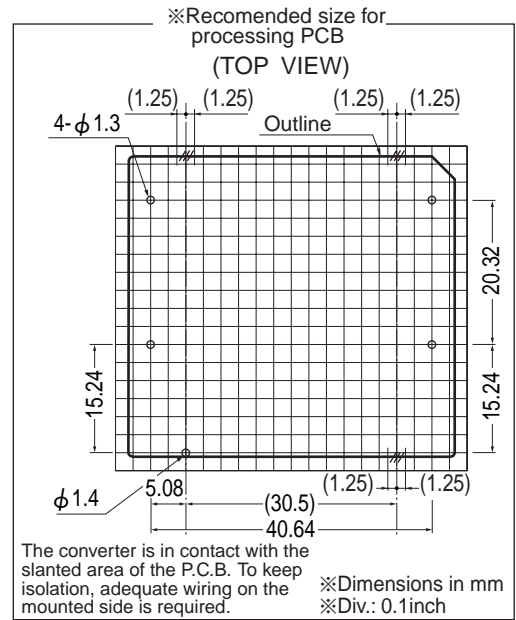
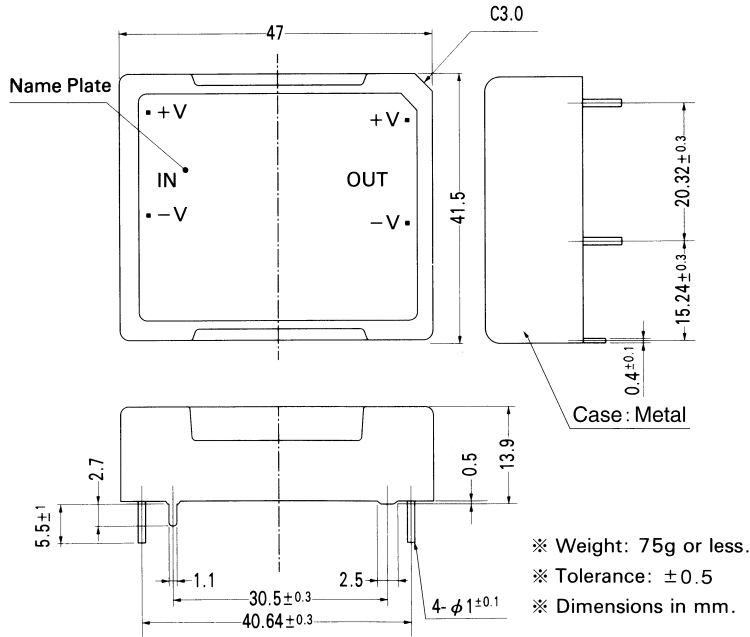
	MODEL	ZS100505	ZS100512	ZS100515	ZS101205	ZS101212	ZS101215	ZS102405	ZS102412	ZS102415	ZS104805	ZS104812	ZS104815
<b>Z</b> INPUT	VOLTAGE[V]	5 (4.5 - 6.0)			12 (10 - 15)			24 (20 - 30)			48 (35 - 63)		
	CURRENT[A]	*1 2.220typ	2.340typ	2.500typ	1.042typ	1.125typ	1.092typ	0.521typ	0.563typ	0.546typ	0.260typ	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.

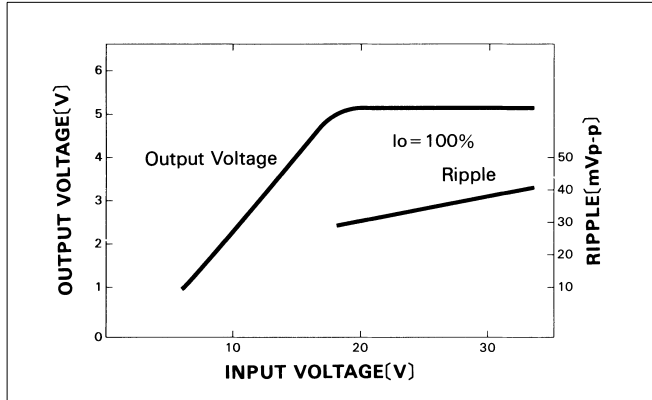
\* Parallel operation with other model is not possible.

External view

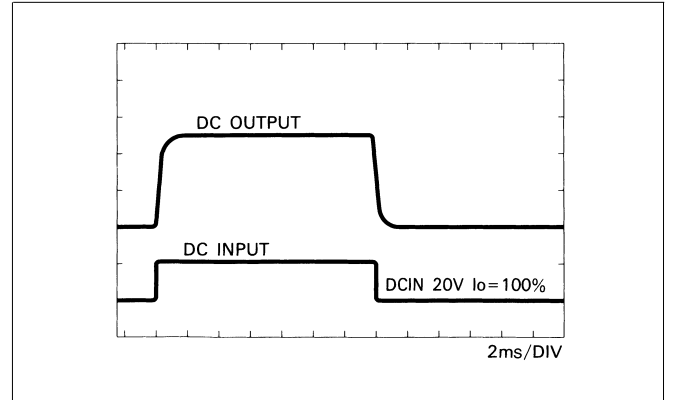


Performance data

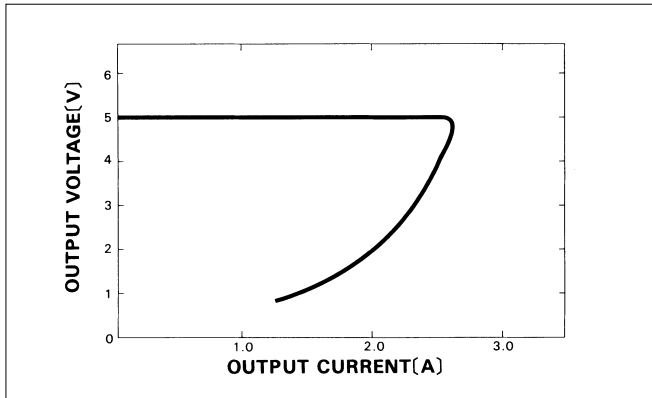
■STATIC CHARACTERISTICS (ZS102405)



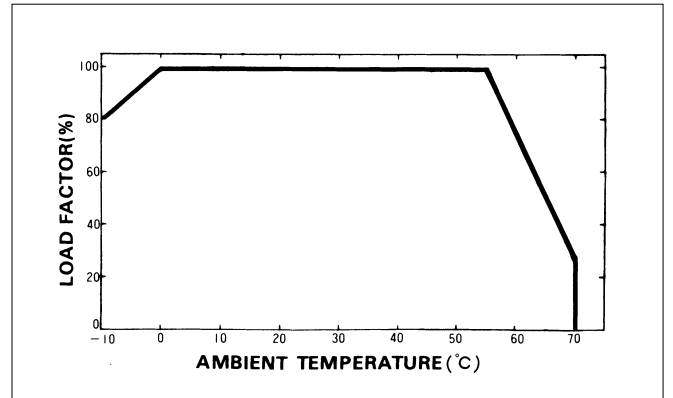
■RISE TIME & FALL TIME (ZS102405)



■OVERCURRENT CHARACTERISTICS (ZS102405)



■DERATING CURVE



Z