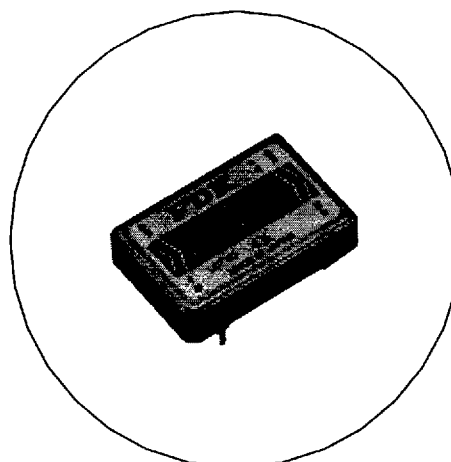


**■General-purpose compact DC-DC converters (MX Series)**

These DC-DC converters, which are very flat with a height of only 8.5mm, are packed inside metallic casing in order to prevent radiation noise from affecting the surrounding components. Their floating input-output system allows both single- and dual-output options, and are usable without attaching any external components.

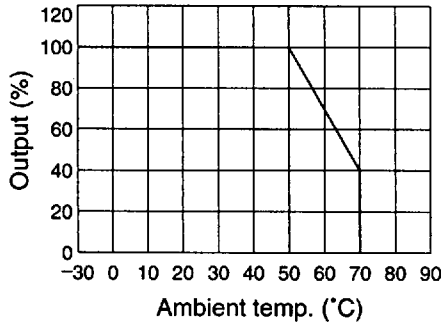


**Characteristics (examples)**

Model No.	MX0505S250	MX0506S210	MX0512S120	MX0509S150	MX0505F100	MX0512F060	MX0515F050	MX1205S300	MX2405S300	MX4805S300
Input voltage	DC4.5V~6.0V							DC10.0V-16.0V	DC20.0V-30.0V	DC36.0V-56.0V
Output voltage	5V	6V	12V	9V	±5V	±12V	±15V	5V	5V	5V
Overall regulation	±5%	±5%	±5%	±5%	±5% each	±5% each	±5% each	±5%	±5%	±5%
Output current	0-250mA	0-210mA	0-120mA	0-150mA	0-100mA	(0-60) mA × 2	(0-50) mA × 2	0-300mA	0-300mA	0-300mA
Output capacity	1.25W	1.25W	1.44W	1.35W	1.00W	1.44W	1.5W	1.5W	1.5W	1.5W
Ripple/noise	120mVp-p	120mVp-p	120mVp-p	120mVp-p	120mVp-p	120mVp-p	120mVp-p	120mVp-p	120mVp-p	120mVp-p
Overcurrent protection	Short protection (self-resumption)									
Efficiency (Typ. input, Max. load)	62%				45%	62%		70%		
Isolation	Primary-to-secondary, AC 500V, 1 min.									
Shielding	Metallic casing, five-surface shielding									
Operating temperature	-10°C~+70°C (see the derating curve for 50°C or over)									
Non-operating temp.	-20°C~+85°C									
Humidity	95%max. (MAX wet-bulb temp. 38°C)									
Dimensions	33 × 22 × 8.5									
Vibration	10Hz~56.7Hz Vibration 1.5mmP-P					} No abnormality after 1 min. intermittent vibrations for 2 hr. in each of XYZ directions				
	56.8Hz~350Hz 10G									
	351Hz~500Hz 2G									
Shock	100G, 6msec, XYZ directions, 3 times each									
Weight	15g									

Made to order

**Derating curve**

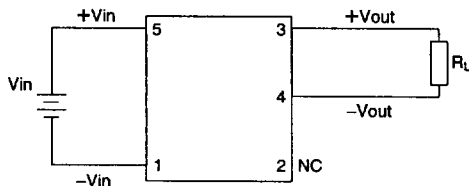


**Precautions**

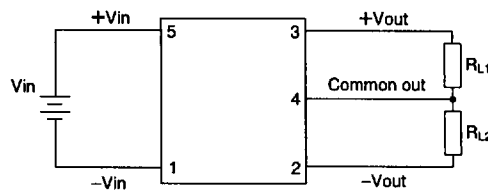
1. The ripple and noise contained in the input voltage must not exceed +1%p-p of the rated input voltage.
2. Do not connect the output of the DC-DC converters in parallel to boost the output current or for any other purpose.
3. Because these DC-DC converters are packed in metallic casings, they should be insulated from the surrounding components and patterns.
4. We recommend that our customers install a protective fuse in the input line of their equipment.

**Connection diagram**

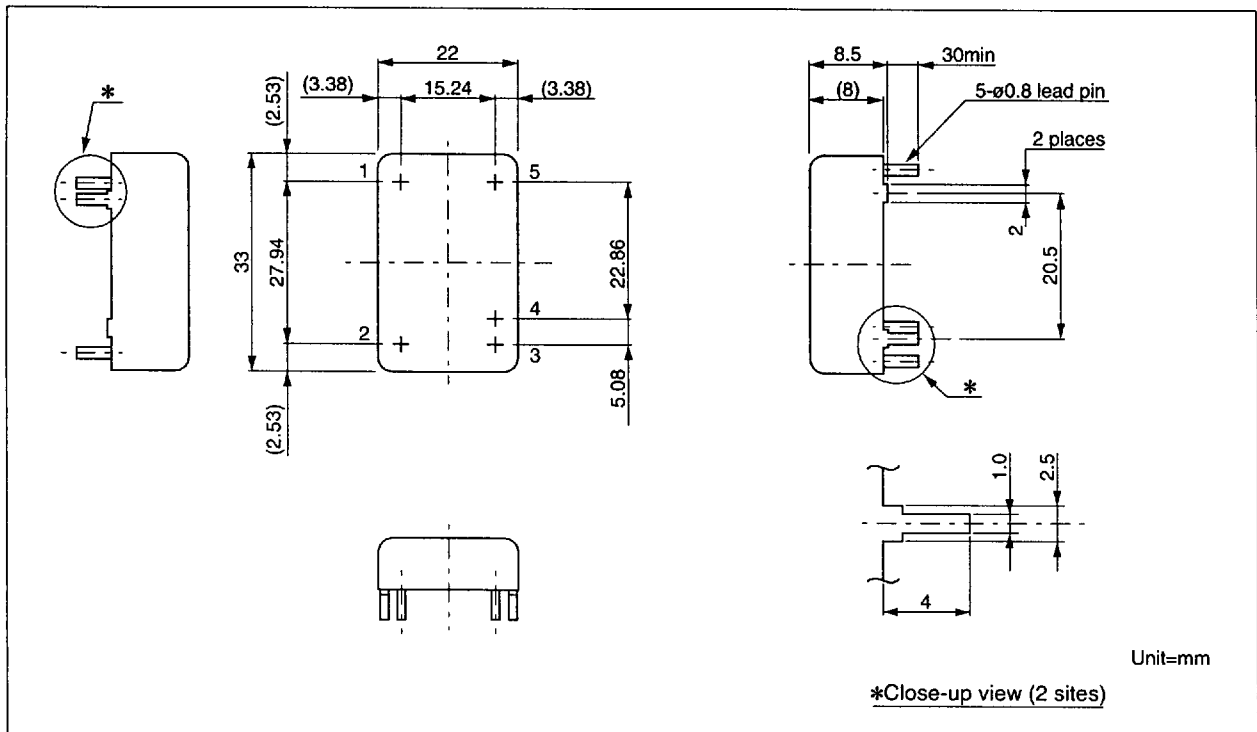
(1) Single-output type



(2) Dual-output type



**Shape and dimensions**



**How to order customized DC-DC converters**

FDK always stand ready to receive orders for custom-design DC-DC converters. When placing orders, please enter your desired design in the specification table below.

**Setting specifications**

Electrical characteristics	Rated output	Input voltage	<input type="checkbox"/> V ± <input type="checkbox"/> % (V)						
		Efficiency	<input type="checkbox"/> %min.						
		Output voltage	<input type="checkbox"/> V	<input type="checkbox"/> V	<input type="checkbox"/> V	<input type="checkbox"/> V	<input type="checkbox"/> V	<input type="checkbox"/> V	<input type="checkbox"/> V
		Output current	<input type="checkbox"/> A	<input type="checkbox"/> A	<input type="checkbox"/> A	<input type="checkbox"/> A	<input type="checkbox"/> A	<input type="checkbox"/> A	<input type="checkbox"/> A
		Voltage regulation	<input type="checkbox"/> %	<input type="checkbox"/> %	<input type="checkbox"/> %	<input type="checkbox"/> %	<input type="checkbox"/> %	<input type="checkbox"/> %	<input type="checkbox"/> %
		Voltage variable range	<input type="checkbox"/> %	<input type="checkbox"/> %	<input type="checkbox"/> %	<input type="checkbox"/> %	<input type="checkbox"/> %	<input type="checkbox"/> %	<input type="checkbox"/> %
		Ripple/noise voltage	<input type="checkbox"/> V	<input type="checkbox"/> V	<input type="checkbox"/> V	<input type="checkbox"/> V	<input type="checkbox"/> V	<input type="checkbox"/> V	<input type="checkbox"/> V
	Spike noise voltage	<input type="checkbox"/> V	<input type="checkbox"/> V	<input type="checkbox"/> V	<input type="checkbox"/> V	<input type="checkbox"/> V	<input type="checkbox"/> V	<input type="checkbox"/> V	
	Protection	Overvoltage protection							
		Overcurrent protection							
Added function	Output sequence								
	Remote control	1. None 2. As per attached paper							
Isolation	Withstand voltage	<input type="checkbox"/> V AC/DC, 1 min.							
	Isolation resistance	V DC <input type="checkbox"/> MΩmin. at leak current <input type="checkbox"/> mA max.							
Ambience	Operating temp./humidity	<input type="checkbox"/> °C~ <input type="checkbox"/> °C/ <input type="checkbox"/> %~→ <input type="checkbox"/> %RH							
	Non-operating temp./humidity	<input type="checkbox"/> °C~ <input type="checkbox"/> °C/ <input type="checkbox"/> %~→ <input type="checkbox"/> %RH							
	Cooling Method	1. Natural Cooling      Window direction 2. Forced cooling      Wind volume <input type="checkbox"/> ℓ /min.							
Anti-vibration	Vibration	<input type="checkbox"/> Hz~ <input type="checkbox"/> Hz, <input type="checkbox"/> G/mm, <input type="checkbox"/> hr.							
	Shock	<input type="checkbox"/> m sec., <input type="checkbox"/> G, <input type="checkbox"/> times							
Construction	Weight	<input type="checkbox"/> kg max.							
	Dimensions	<input type="checkbox"/> cm × <input type="checkbox"/> cm × <input type="checkbox"/> cm							
	Installation area/position								
	Casing	Encased, None							
	Casing material								
Other	Applications								
	Nos. of samples/mass products								
	Date of mass production								

\* Please feel free to consult us for delivery of DC-DC converters in a very short period.