

SELECTION GUIDE

Order code	Input		Voltage (VDC)	Output		Efficiency (% Typ)	Switching Frequency (KHz Typ)
	Voltage (VDC)			Current			
	Nominal	Range		Max	Min		
A0505XM	5	4.5-5.5	±5	±100	±10	70	84
A0509XM	5	4.5-5.5	±9	±56	±6	75	81
A0512XM	5	4.5-5.5	±12	±42	±5	78	82
A0515XM	5	4.5-5.5	±15	±33	±4	79	83
A1205XM	12	10.8-13	±5	±100	±10	72	180
A1209XM	12	10.8-13	±9	±56	±6		

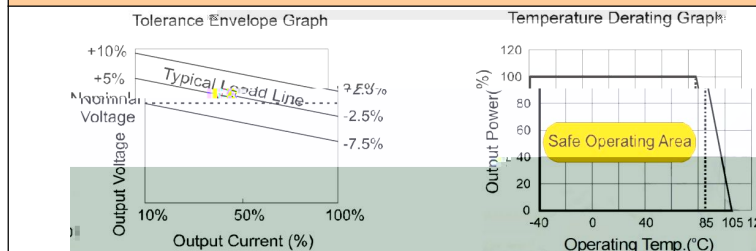
COMMON SPECIFICATIONS

Parameter	Conditions	Min.	Typ.	Max.	Units
Storage humidity range				95	%
Operating temperature		-40		85	°C
Storage temperature		-55		125	
Lead temperature	1.5mm from case for 10 seconds		300		
Temp.rise at full load			15	25	
Cooling		Free air convection			
Case material		Plastic(UL94-V0)			
Short circuit protection*		Continuous			
				1	s
MTBF		3500			K hours
Weight			2.1		g

*Supply voltage must be discontinued at the end of short circuit duration.

TYPICAL CHARACTERISTICS

Temperature Derating Graph



OUTLINE DIMENSIONS & PIN CONNECTIONS

SIZE Graph

Dimensions: 16.50 (0.65) mm length, 7.50 (0.29) mm height, 4.10 (0.16) mm pin height, 0.50 (0.020) mm pin width, 6.00 (0.24) mm pin pitch, 0.90 (0.035) mm pin offset, 12.70 (0.50) mm pin spacing.

RECOMMENDED FOOTPRINT
Top view, grid: 2.54mm(0.1inch)
diameter: 1.00mm(0.039inch)

Single

FOOTPRINT DETAILS

Pin	Single	Dual
1	VIN	VIN
2	GND	GND
4	0V	-Vo
5	NC	0V
6	+Vo	+Vo

N C - Not available for electrical connection.

Requirement on output load

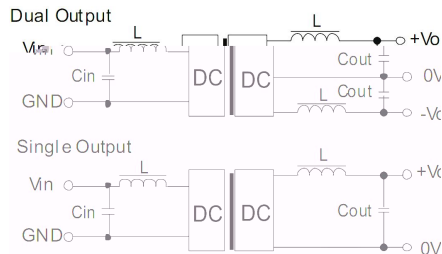
To ensure this module can operate efficiently and reliably, a minimum load is specified for this kind of DC/DC converter in addition to a maximum load (namely full load). During operation, make sure the specified range of input voltage is not exceeded, the minimum output load is not less than 10% of the full load, and that this product should **never be operated under no load!**

Overload Protection

Under normal operating conditions, the output circuit of these products has no protection against overload. The simplest method is to connect a self-recovery fuse in series at the input end or add a circuit breaker to the circuit.

Recommended testing and application circuit

If you want to further decrease the input/output ripple, an "LC" filtering network may be connected to the input and output ends of the DC/DC converter, see (Figure 1).



(Figure 1)

It should also be noted that the inductance and the frequency of the "LC" filtering network should be staggered with the DC/DC frequency to avoid mutual interference. However, the capacitance of the output filter capacitor must be $\geq 5\mu F$.