

## IMX 4 Series

## 4 Watt DC-DC Converters



Input voltage ranges up to 121 V DC  
1 or 2 outputs up to 48 V DC  
Up to 2000 V DC I/O electric strength test



- Short circuit protection
- DIL 24 Case with 8.5 mm profile

### Selection chart

Output 1		Output 2		Input voltage $U_i$ [V DC]	Type	Options <sup>1</sup>
$U_o$ nom [V DC]	$I_o$ nom [mA]	$U_o$ nom [V DC]	$I_o$ nom [mA]			
3.3	900	-	-	8.4...36	20 IMX 4-03-9	-8, M, Z
3.3	900	-	-	16.8...75	40 IMX 4-03-9	-8, M, Z
3.3	900	-	-	40...121	70 IMX 4-03-9	-8, L, Z
5	700	-	-	4.7...16.8	5 IMX 4-05-9	-8, Z
5	700	-	-	8.4...36	20 IMX 4-05-9	-8, M, K, Z
5	700	-	-	16.8...75	40 IMX 4-05-9	-8, M, K, Z
5	700	-	-	40...121	70 IMX 4-05-9	-8, Z
12	340	-	-	4.7...16.8	5 IMX 4-12-9	-8, Z
12	340	-	-	8.4...36	20 IMX 4-12-9	-8, M, K, Z
12	340	-	-	16.8...75	40 IMX 4-12-9	-8, M, K, Z
12	340	-	-	40...121	70 IMX 4-12-9	-8, Z
15	280	-	-	4.7...16.8	5 IMX 4-15-9	-8, Z
15	280	-	-	8.4...36	20 IMX 4-15-9	-8, M, K, Z
15	280	-	-	16.8...75	40 IMX 4-15-9	-8, M, K, Z
15	280	-	-	40...121	70 IMX 4-15-9	-8, Z
+5	350	-5	350	8.4...36	20 IMX 4-0505-9	-8, M, K, Z
+5	350	-5	350	16.8...75	40 IMX 4-0505-9	-8, M, K, Z
+5	350	-5	350	40...121	70 IMX 4-0505-9	-8, Z
+12	170	-12	170	8.4...36	20 IMX 4-1212-9	-8, M, K, Z
+12	170	-12	170	16.8...75	40 IMX 4-1212-9	-8, M, K, Z
+15	140	-15	140	8.4...36	20 IMX 4-1515-9	-8, M, K, Z
+15	140	-15	140	16.8...75	40 IMX 4-1515-9	-8, M, K, Z
+24	80	-24	80	8.4...36	20 IMX 4-2424-9	-8, M, Z
+24	80	-24	80	16.8...75	40 IMX 4-2424-9	-8, M, Z

<sup>1</sup> For minimum order quantity and lead time contact Power-One.

**Input**

Input voltage	5 IMX, continuous range, 5 V	4.7...16.8 V DC
	20 IMX, continuous range, 20 V	8.4...36 V DC
	40 IMX, continuous range, 40 V	18...75 V DC
	70 IMX, continuous range, 70 V	40...121 V DC

**Output**

Output voltage setting accuracy	$U_{i \text{ nom}}$ , 50% $I_{o \text{ nom}}$	$\pm 1\%$ $U_{o \text{ nom}}$
Minimum load	recommended	10% $I_{o \text{ nom}}$
Line regulation	$U_{i \text{ min}} \dots U_{i \text{ max}}$ , 50% $I_{o \text{ nom}}$	$\pm 1\%$ $U_{o \text{ nom}}$
Load regulation	$U_{i \text{ nom}}$ , 10...100% $I_{o \text{ nom}}$ , main output	$\pm 3\%$ $U_{o \text{ nom}}$
	tracking output	$\pm 3\%$ $U_{o \text{ nom}}$
Output voltage switching noise	$U_{i \text{ nom}}$ , 10...100% $I_{o \text{ nom}}$ , peak-peak, total	max. 2% $U_{o \text{ nom}}$
Efficiency	$U_{i \text{ nom}}$ , $I_{o \text{ nom}}$	up to typ. 83%

**Control and protection**

Input protection	suppressor diode (except 5 IMX 4)
Overload protection	$U_{i \text{ min}} \dots U_{i \text{ max}}$ , fully protected, hiccup mode
No-load protection	yes

**Safety and EMC**

Electric strength test voltage	I/O (5/20/40/70 IMX 4)	1/1.5/1.5/2 kV DC
Electromagnetic interference	conducted (5/20/40/70 IMX 4)	class -B/B/A

**Environmental**

Operating ambient temperature	$U_{i \text{ nom}}$ , $I_{o \text{ nom}}$	-40...71 °C
Storage temperature	non operational	-40...100 °C
Relative humidity	non condensing	93%
MTBF	Gf 40 °C (MIL-HDBK-217F-N2)	>349'000 h

**Options**

Extended temperature range	-40...85 °C, ambient, operating	-8
Alternative pinout		K
SMD version	with pins	M
Open frame version		Z

**Accessories**

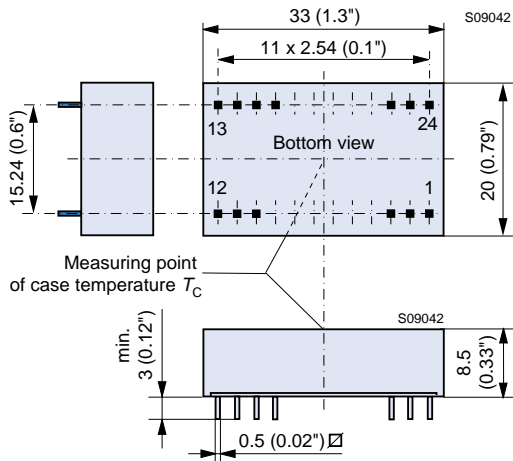
DIN and chassis mounting kit	
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**Mechanical data**

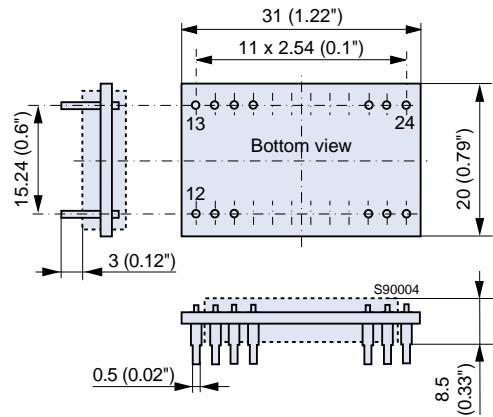
Tolerances  $\pm 0.3$  mm (0.012") unless otherwise indicated.



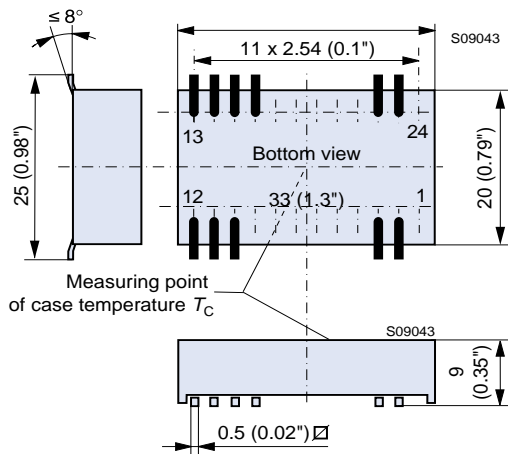
**Standard and alternative pinout**



**Option Z**



**Option M**



**Standard including option Z**

Pin	Single output units	Dual output units
2	Vi-	Vi-
3	Vi-	Vi-
10	n.c.	-
11	-	Vo-
14	Vo+	Vo+
16	Vo-	Go
22	Vi+	Vi+
23	Vi+	Vi+

**Option K**

Pin	Single output units	Dual output units
1	Vi+	Vi+
2	n.c.	-
10	-	Go
11	-	Go
12	Vo-	-
13	Vo+	Vo-
15	-	Vo+
24	Vi-	Vi-

**SMD pinout (option M)**

Pin	Single output units	Dual output units
2	Vi-	Vi-
3	Vi-	Vi-
10	n.c.	Go
11	Vo-	Vo-
12	Vo-	Vo-
13	Vo+	Vo-
14	Vo+	Vo+
15	Vo+	Vo+
16	Vo-	Go
22	Vi+	Vi+
23	Vi+	Vi+

**Solder lands for option M**

