



**FEATURES**

- Only using AEC-Q compliant component
- 3W Isolated DC-DC converter
- 6 to 16 Input Voltage range
- 16 x 27 x 8 mm max Size
- Surface mount module
- 1800Vac Input-Output Isolation
- Operating Temperature range -40 to +105°C

**PRODUCT OVERVIEW**

The MYISA Series is an isolated, regulated, module that has a wide input range of 6 - 16Vdc.

The MYISA Series is a small size with 1800 Volt AC isolation.

The MYISA Series is using AEC-Q compliant component only, so these are high quality and wide operating temperature product.

The MYISA series has self-protection features. These include short circuit protection. The outputs current limit is using the hiccup autorestart technique.

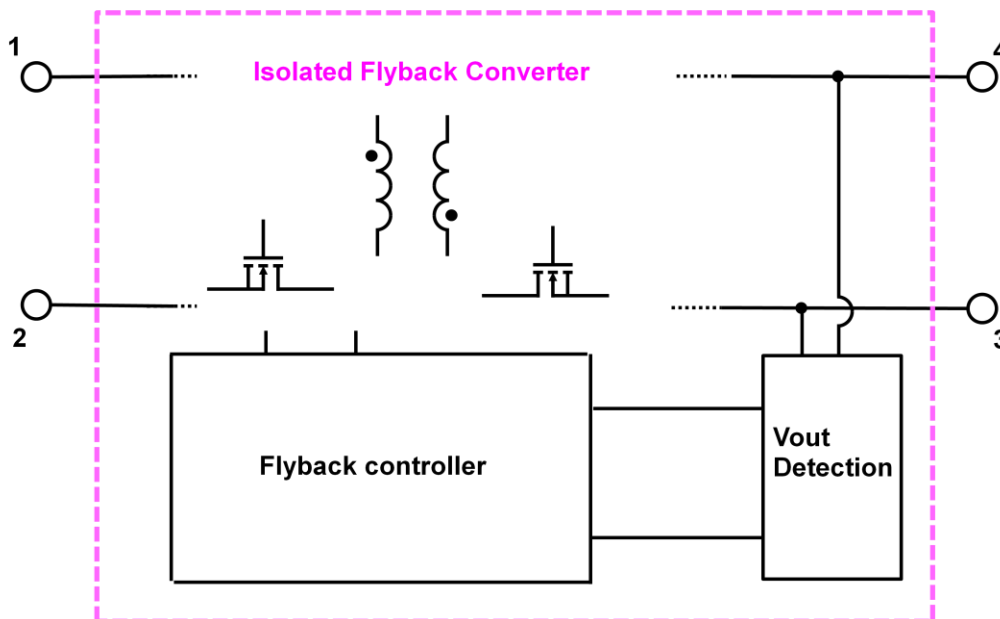
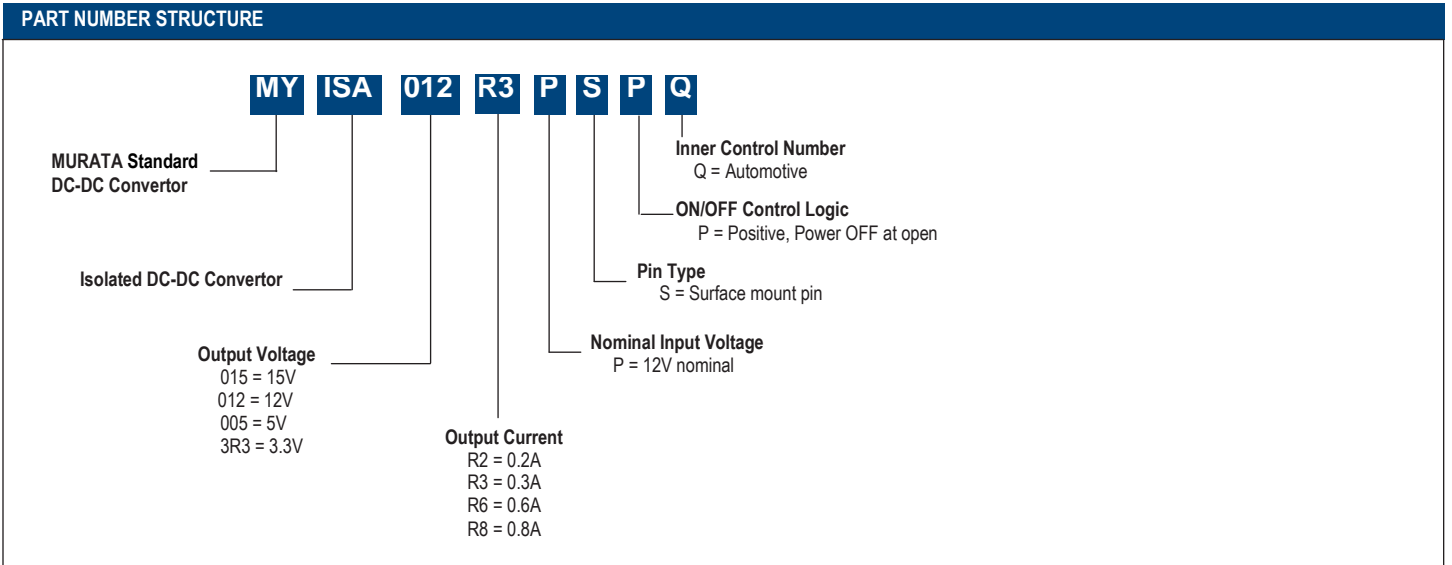


Figure 1. Simplified Block Diagram  
Typical topology is shown.



PERFORMANCE SPECIFICATIONS SUMMARY AND ORDERING GUIDE													
Model Number	Output						Input				Efficiency (%)		Package (mm)
	Vout (Vdc)	Iout (A, Max.)	Power (W)	R/N Max. (mVp-p)	Regulation Typ.		Vin Nom. (Vdc)	Range (Vdc)	Iin, no load Typ. (mA)	Iin, full load Typ. (A)	Min.	Typ.	
					Line (%)	Load (%)							
MYISA3R308PSPQ	3.3	0.8	3	100	±2	±3	12	6 - 16	0.04	0.31	60	70	16.0 x 27.0 x 8.0
MYISA005R6PSPQ	5	0.6	3	100	±2	±3	12	6 - 16	0.04	0.34	60	74	16.0 x 27.0 x 8.0
MYISA012R3PSPQ	12	0.25	3	100	±2	±3	12	6 - 16	0.04	0.34	60	74	16.0 x 27.0 x 8.0
MYISA015R2PSPQ	15	0.2	3	100	±2	±3	12	6 - 16	0.04	0.34	60	74	16.0 x 27.0 x 8.0

1. Please refer to the Part Number Structure for additional ordering information and options.
2. All specifications are at nominal line voltage, full load, +25°C unless otherwise stated.

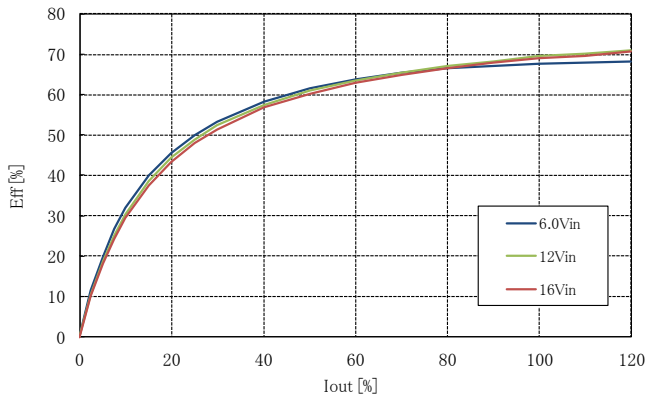


### FUNCTIONAL SPECIFICATIONS, MYISA3R3R8PSPQ

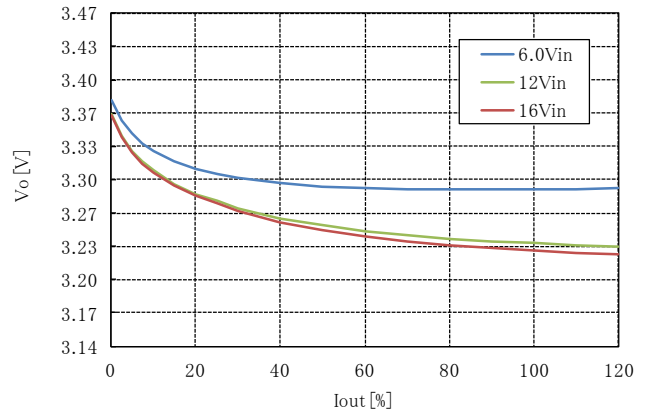
ABSOLUTE MAXIMUM RATINGS	Conditions	Minimum	Typical / Nominal	Maximum	Units
Input Voltage, Continuous		0		40	Vdc
Input Voltage, Transient	100ms max. duration	0		*1	Vdc
Isolation Voltage	Input to output, continuous			1800	Vac
Output Power				3	W
Output Current	Current-limited, no damage, short-circuit protected			0.8	A
Storage Temperature Range	Vin = Zero (no power)	-40		105	°C
Absolute maximums are stress ratings. Exposure of devices to greater than any of these conditions may adversely affect long-term reliability. Proper operation under conditions other than those listed in the Performance/Functional Specifications Table is not implied or recommended.					
<b>INPUT</b>					
Operating Voltage Range		6	12	16	Vdc
Start-up threshold	Rising input voltage		5.0	5.88	Vdc
Undervoltage shutdown	Falling input voltage		4.5		Vdc
Internal Filter Type			None		type
Input current					
Full Load Conditions	Vin = 12V		0.3		A
Low Line	Vin = 6V		0.7		A
No Load Current	Vin = 12V, Iout = 0A		0.04		A
<b>GENERAL and SAFETY</b>					
Efficiency	Vin = 12V, full load	60	70		%
Isolation					
Isolation Voltage	Primary to Secondary	1800			Vac
Insulation Safety Rating			Functional		Type
Isolation Capacitance			None		pF
Safety			UL60950(Pending)		
Calculated MTBF	Per Telcordia SR332, issue 1, class 3, ground fixed, Tambient = +25°C		*1		Hours x 10 <sup>6</sup>
<b>DYNAMIC CHARACTERISTIC</b>					
Fixed Switching Frequency *1	Iout = 0.8A		300		kHz
Vin Startup delay time	Power ON to Vout regulated		20		Ms
Dynamic Load Response	0-100-0% load step to 1% of Vout		4		mSec
Dynamic Load Peak Deviation	0-100-0% load step to 1% of Vout			20	%
<b>OUTPUT</b>					
Total Output Power		0		3.0	W
Voltage					
Nominal Output Voltage	all conditions	3.14	3.3	3.47	Vdc
Setting Accuracy	At 50% load		2		% of Vnom
Oversvoltage Protection			None		Vdc
Current					
Output Current Range		0		0.8	A
Current Limit Inception	90% of Vout, after warmup	2.2			A
Short Circuit					
Short circuit protection method	Current limiting		Hiccup		
Regulation					
Line Regulation				+2	% of Vout.
Load Regulation	Iout = min. to max.			+4	% of Vout.
Ripple and Noise	5 Hz- 20 MHz BW			96	mV pk-pk
Temperature Coefficient	At all outputs		±1		% of Vout./°C
Maximum Capacitive Loading	Low ESR / Ceramic Capacitor	94		*1	µF
<b>MECHANICAL</b>					
Outline Dimensions	L x W x H		16.0 x 27.0 x 8.0		mm
Weight			3.5		Grams
Pin Diameter			1.5		mm
Pin Material			Copper alloy		
Pin Plating Metal and Thickness	Ni	2		5	µm
	Sn	3		8	µm
<b>ENVIRONMENTAL</b>					
Operating Ambient Temperature Range		-40		105	°C
Storage Temperature	Vin = Zero (no power)	-40		105	°C
Thermal Protection/Shutdown	Measured in center		None		°C
Electromagnetic Interference					
Conducted, EN55022/CISPR22	External filter is required		B		Class
RoHS rating			RoHS-6		

PERFORMANCE DATA MYISA3R3R8PSPQ

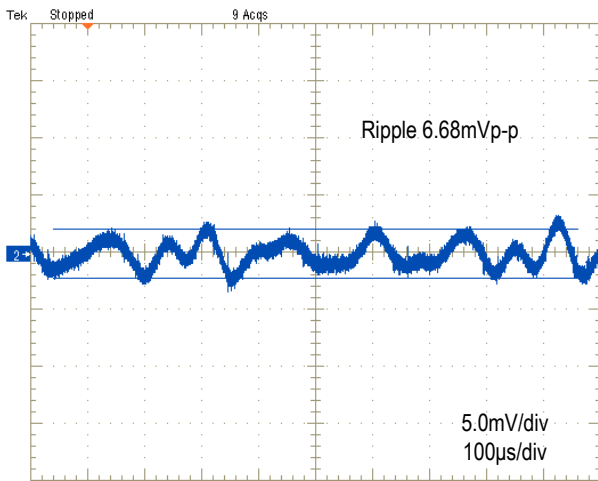
Efficiency vs. Line Voltage and Load Current (Ta=+25°C)



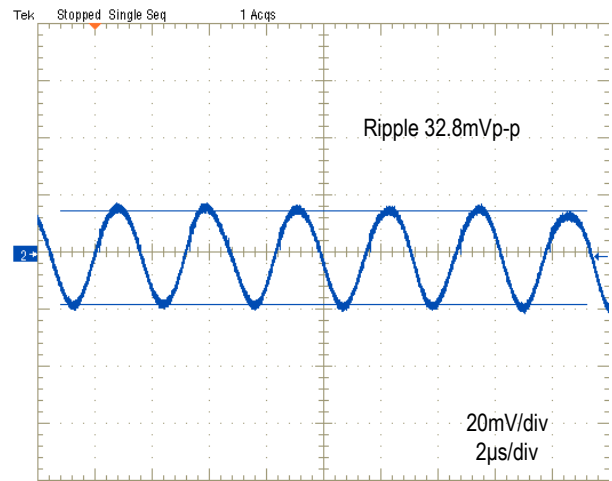
Load Regulation (Ta=+25°C)



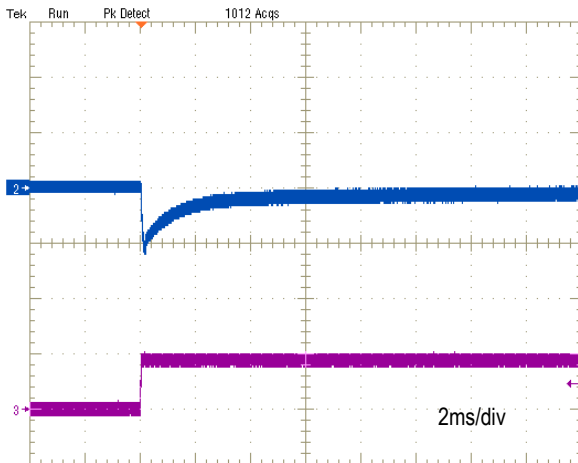
Output Ripple and Noise (Vin=12V, Iout=0A, Ta=+25°C)



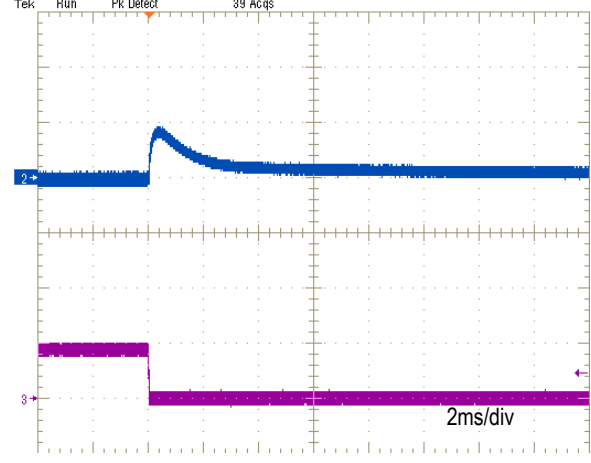
Output Ripple and Noise (Vin=12V, Iout=0.8A, Ta=+25°C)



Transient Response (Vin=12V, Iout=0A to 0.8A, Ta=+25°C)  
Ch2=Vout, 500mV/div, Ch3=Iout, 1A/div.

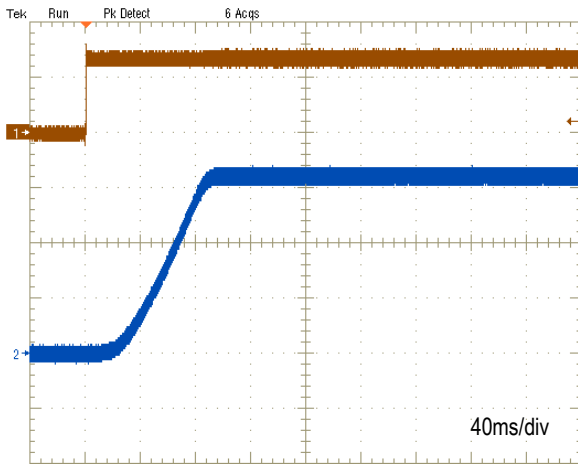


Transient Response (Vin=12V, Iout=0.8A to 0A, Ta=+25°C)  
Ch2=Vout, 500mV/div, Ch3=Iout, 1A/div.



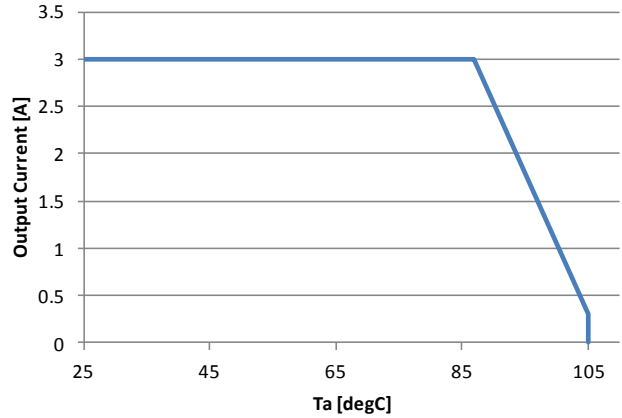
**PERFORMANCE DATA MYISA3R3R8PSPQ**

Start up ( $V_{in}=12V$ ,  $I_{out}=0.8A$ ,  $T_a=+25^{\circ}C$ )  
Ch1= $V_{in}$ , 10V/div, Ch2= $V_{out}$ , 1.0V/div.



Thermal Derating ( $V_{in}=6.0 - 16V$ )

Unit under test (UUT) is covered by acrylic box to avoid airflow.



Conduction Noise ( $V_{in}=48V$ ,  $I_{out}=2.125A$ ,  $T_a=+25^{\circ}C$ )  
with Input external common mode choke

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Conduction Noise ( $V_{in}=48V$ ,  $I_{out}=2.125A$ ,  $T_a=+25^{\circ}C$ )  
with Input external common mode choke

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**Specification Notes**

Unless otherwise noted, all specifications are typical at nominal input voltage, nominal output voltage and full load. General conditions are +25° Celsius ambient temperature, near sea level altitude, natural convection airflow. All models are tested and specified with external parallel 0.1µF and 10µF output capacitors (See Technical Notes).

\*1 Variable Frequency Operation at light load.

**FUNCTIONAL SPECIFICATIONS, MYISA005R6PSPQ**

ABSOLUTE MAXIMUM RATINGS		Conditions	Minimum	Typical / Nominal	Maximum	Units
Input Voltage, Continuous			0		40	Vdc
Input Voltage, Transient		100ms max. duration	0		* 1	Vdc
Isolation Voltage		Input to output, continuous			1800	Vac
Output Power					3	W
Output Current		Current-limited, no damage, short-circuit protected			0.6	A
Storage Temperature Range		Vin = Zero (no power)	-40		105	°C
Absolute maximums are stress ratings. Exposure of devices to greater than any of these conditions may adversely affect long-term reliability. Proper operation under conditions other than those listed in the Performance/Functional Specifications Table is not implied or recommended.						
<b>INPUT</b>						
Operating Voltage Range			6	12	16	Vdc
Start-up threshold		Rising input voltage		5.0	5.88	Vdc
Undervoltage shutdown		Falling input voltage		4.5		Vdc
Internal Filter Type				None		type
Input current						
Full Load Conditions		Vin = 12V		0.3		A
Low Line		Vin = 6V		0.7		A
No Load Current		Vin = 12V, Iout = 0A		0.04		A
<b>GENERAL and SAFETY</b>						
Efficiency		Vin = 12V, full load	60	74		%
Isolation						
Isolation Voltage		Primary to Secondary	1800			Vac
Insulation Safety Rating				Functional		Type
Isolation Capacitance				None		pF
Safety				UL60950(Pending)		
Calculated MTBF		Per Telcordia SR332, issue 1, class 3, ground fixed, Tambient = +25°C		*1		Hours x 10 <sup>6</sup>
<b>DYNAMIC CHARACTERISTIC</b>						
Fixed Switching Frequency *1		Iout = 0.8A		300		kHz
Vin Startup delay time		Power ON to Vout regulated		20		Ms
Dynamic Load Response		0-100-0% load step to 1% of Vout		4		mSec
Dynamic Load Peak Deviation		0-100-0% load step to 1% of Vout			20	%
<b>OUTPUT</b>		<b>Conditions</b>	<b>Minimum</b>	<b>Typical / Nominal</b>	<b>Maximum</b>	<b>Units</b>
Total Output Power			0		3.0	W
Voltage						
Nominal Output Voltage		all conditions	4.75	5.0	5.25	Vdc
Setting Accuracy		At 50% load		2		% of Vnom
Overvoltage Protection				None		Vdc
Current						
Output Current Range			0		0.6	A
Current Limit Inception		90% of Vout, after warmup	2.2			A
Short Circuit						
Short circuit protection method		Current limiting		Hiccup		
Regulation						
Line Regulation					+2	% of Vout.
Load Regulation		Iout = min. to max.			+4	% of Vout.
Ripple and Noise		5 Hz- 20 MHz BW			96	mV pk-pk
Temperature Coefficient		At all outputs		±1		% of Vout./°C
Maximum Capacitive Loading		Low ESR / Ceramic Capacitor	94		* 1	µF
<b>MECHANICAL</b>						
Outline Dimensions		L x W x H		16.0 x 27.0 x 8.0		mm
Weight				3.5		Grams
Pin Diameter				1.5		mm
Pin Material				Copper alloy		
Pin Plating Metal and Thickness		Ni	2		5	um
		Sn	3		8	um
<b>ENVIRONMENTAL</b>						
Operating Ambient Temperature Range			-40		105	°C
Storage Temperature		Vin = Zero (no power)	-40		105	°C
Thermal Protection/Shutdown		Measured in center		None		°C
Electromagnetic Interference						
Conducted, EN55022/CISPR22		External filter is required		B		Class
RoHS rating				RoHS-6		

### FUNCTIONAL SPECIFICATIONS, MYISA012R3PSPQ

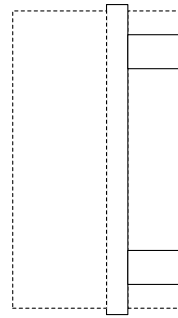
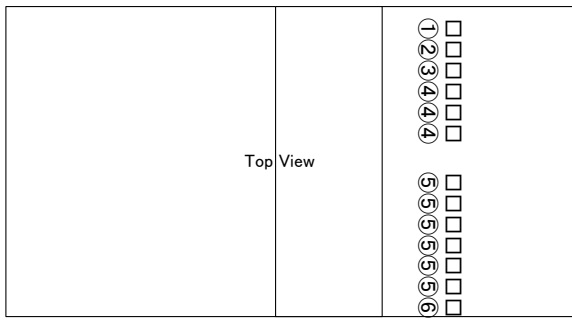
ABSOLUTE MAXIMUM RATINGS		Conditions	Minimum	Typical / Nominal	Maximum	Units
Input Voltage, Continuous			0		40	Vdc
Input Voltage, Transient		100ms max. duration	0		* 1	Vdc
Isolation Voltage		Input to output, continuous			1800	Vac
Output Power					3	W
Output Current		Current-limited, no damage, short-circuit protected			0.3	A
Storage Temperature Range		Vin = Zero (no power)	-40		105	°C
Absolute maximums are stress ratings. Exposure of devices to greater than any of these conditions may adversely affect long-term reliability. Proper operation under conditions other than those listed in the Performance/Functional Specifications Table is not implied or recommended.						
<b>INPUT</b>						
Operating Voltage Range			6	12	16	Vdc
Start-up threshold		Rising input voltage		5.0	5.88	Vdc
Undervoltage shutdown		Falling input voltage		4.5		Vdc
Internal Filter Type				None		type
Input current						
Full Load Conditions		Vin = 12V		0.3		A
Low Line		Vin = 6V		0.7		A
No Load Current		Vin = 12V, Iout = 0A		0.04		A
<b>GENERAL and SAFETY</b>						
Efficiency		Vin = 12V, full load	60	74		%
Isolation						
Isolation Voltage		Primary to Secondary	1800			Vac
Insulation Safety Rating				Functional		Type
Isolation Capacitance				None		pF
Safety				UL60950(Pending)		
Calculated MTBF		Per Telcordia SR332, issue 1, class 3, ground fixed, Tambient = +25°C		* 1		Hours x 10 <sup>6</sup>
<b>DYNAMIC CHARACTERISTIC</b>						
Fixed Switching Frequency *1		Iout = 0.8A		300		kHz
Vin Startup delay time		Power ON to Vout regulated		20		Ms
Dynamic Load Response		0-100-0% load step to 1% of Vout		4		mSec
Dynamic Load Peak Deviation		0-100-0% load step to 1% of Vout			20	%
<b>OUTPUT</b>		<b>Conditions</b>	<b>Minimum</b>	<b>Typical / Nominal</b>	<b>Maximum</b>	<b>Units</b>
Total Output Power			0		3.0	W
Voltage						
Nominal Output Voltage		all conditions	11.4	12	12.6	Vdc
Setting Accuracy		At 50% load		2		% of Vnom
Overvoltage Protection				None		Vdc
Current						
Output Current Range			0		0.3	A
Current Limit Inception		90% of Vout, after warmup	2.2			A
Short Circuit						
Short circuit protection method		Current limiting		Hiccup		
Regulation						
Line Regulation					+2	% of Vout.
Load Regulation		Iout = min. to max.			+4	% of Vout.
Ripple and Noise		5 Hz- 20 MHz BW			96	mV pk-pk
Temperature Coefficient		At all outputs		±1		% of Vout./°C
Maximum Capacitive Loading		Low ESR / Ceramic Capacitor	10		* 1	µF
<b>MECHANICAL</b>						
Outline Dimensions		L x W x H		16.0 x 27.0 x 8.0		mm
Weight				3.5		Grams
Pin Diameter				1.5		mm
Pin Material				Copper alloy		
Pin Plating Metal and Thickness		Ni	2		5	um
		Sn	3		8	um
<b>ENVIRONMENTAL</b>						
Operating Ambient Temperature Range			-40		105	°C
Storage Temperature		Vin = Zero (no power)	-40		105	°C
Thermal Protection/Shutdown		Measured in center		None		°C
Electromagnetic Interference						
Conducted, EN55022/CISPR22		External filter is required		B		Class
RoHS rating				RoHS-6		

### FUNCTIONAL SPECIFICATIONS, MYISA015R2PSPQ

ABSOLUTE MAXIMUM RATINGS		Conditions	Minimum	Typical / Nominal	Maximum	Units
Input Voltage, Continuous			0		40	Vdc
Input Voltage, Transient		100ms max. duration	0		* 1	Vdc
Isolation Voltage		Input to output, continuous			1800	Vac
Output Power					3	W
Output Current		Current-limited, no damage, short-circuit protected			0.2	A
Storage Temperature Range		Vin = Zero (no power)	-40		105	°C
Absolute maximums are stress ratings. Exposure of devices to greater than any of these conditions may adversely affect long-term reliability. Proper operation under conditions other than those listed in the Performance/Functional Specifications Table is not implied or recommended.						
<b>INPUT</b>						
Operating Voltage Range			6	12	16	Vdc
Start-up threshold		Rising input voltage		5.0	5.88	Vdc
Undervoltage shutdown		Falling input voltage		4.5		Vdc
Internal Filter Type				None		type
Input current						
Full Load Conditions		Vin = 12V		0.3		A
Low Line		Vin = 6V		0.7		A
No Load Current		Vin = 12V, Iout = 0A		0.04		A
<b>GENERAL and SAFETY</b>						
Efficiency		Vin = 12V, full load	60	74		%
Isolation						
Isolation Voltage		Primary to Secondary	1800			Vac
Insulation Safety Rating				Functional		Type
Isolation Capacitance				None		pF
Safety				UL60950(Pending)		
Calculated MTBF		Per Telcordia SR332, issue 1, class 3, ground fixed, Tambient = +25°C		* 1		Hours x 10 <sup>6</sup>
<b>DYNAMIC CHARACTERISTIC</b>						
Fixed Switching Frequency *1		Iout = 0.8A		300		kHz
Vin Startup delay time		Power ON to Vout regulated		20		Ms
Dynamic Load Response		0-100-0% load step to 1% of Vout		4		mSec
Dynamic Load Peak Deviation		0-100-0% load step to 1% of Vout			20	%
<b>OUTPUT</b>		<b>Conditions</b>	<b>Minimum</b>	<b>Typical / Nominal</b>	<b>Maximum</b>	<b>Units</b>
Total Output Power			0		3.0	W
Voltage						
Nominal Output Voltage		all conditions	14.25	15	15.75	Vdc
Setting Accuracy		At 50% load		2		% of Vnom
Overvoltage Protection				None		Vdc
Current						
Output Current Range			0		0.2	A
Current Limit Inception		90% of Vout, after warmup	2.2			A
Short Circuit						
Short circuit protection method		Current limiting		Hiccup		
Regulation						
Line Regulation					+2	% of Vout.
Load Regulation		Iout = min. to max.			+4	% of Vout.
Ripple and Noise		5 Hz- 20 MHz BW			96	mV pk-pk
Temperature Coefficient		At all outputs		±1		% of Vout./°C
Maximum Capacitive Loading		Low ESR / Ceramic Capacitor	10		* 1	µF
<b>MECHANICAL</b>						
Outline Dimensions		L x W x H		16.0 x 27.0 x 8.0		mm
Weight				3.5		Grams
Pin Diameter				1.5		mm
Pin Material				Copper alloy		
Pin Plating Metal and Thickness		Ni	2		5	um
		Sn	3		8	um
<b>ENVIRONMENTAL</b>						
Operating Ambient Temperature Range			-40		105	°C
Storage Temperature		Vin = Zero (no power)	-40		105	°C
Thermal Protection/Shutdown		Measured in center		None		°C
Electromagnetic Interference						
Conducted, EN55022/CISPR22		External filter is required		B		Class
RoHS rating				RoHS-6		



**MECHANICAL SPECIFICATIONS**



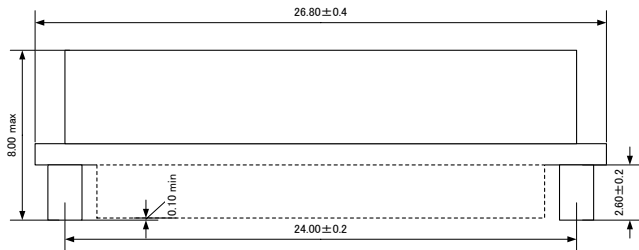
Marking

- (1) MFG ID **M**  
(2) Lot No. ①②③④④④ ⑤⑤⑤⑤⑤⑤⑥

- ① Production factory ID
- ② Production Year (Last 1 digit in Year)
- ③ Production Month (1,2,3,...9,X,Y,Z)
- ④ Production Lot No.(mass production only)
- ⑤ Production Name

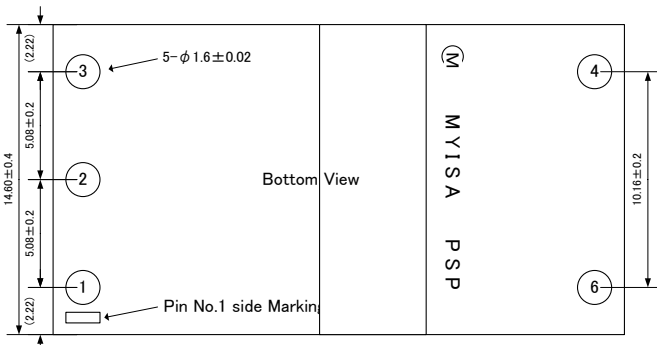
MYISA3R3R8PSPQ  
MYISA005R6PSPQ  
MYISA012R3PSPQ  
MYISA015R2PSPQ

- ⑥ Revision Code



【単位: mm】  
unit

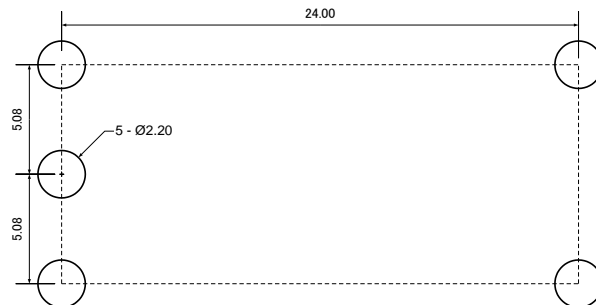
搭載部品  
Mounted Parts



INPUT / OUTPUT CONNECTIONS		
Pin	Designation	Function
1	+Vin	(+) Positive Input Voltage
2	-Vin	(-) Negative Input Voltage
3	ON / OFF	Remote ON / OFF
4	-Vout	(-) Negative Output Voltage
5	+Vout	(+) Positive Output Voltage

**RECOMMENDED FOOTPRINT**

Top View



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**TECHNICAL NOTES**

**Short Circuit Protection**

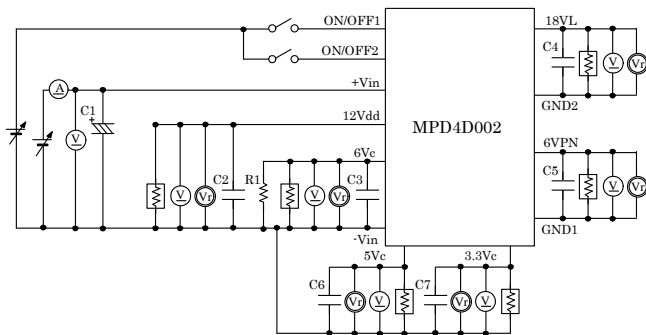
Over Current Protection operates with a controller circuit failure or over-load condition, and DC-DC converter will enter hiccup mode. After rejected the abnormal mode, DC-DC converter will automatically restart. However output short affect long-term reliability.

**External Input Capacitor**

Do not connect any capacitor between positive input and negative input to avoid large inrush current. It is one of the requirements of IEEE802.3at standard.

**Test Circuit**

In the following test circuit, the initial values in Functional Specification should be met.

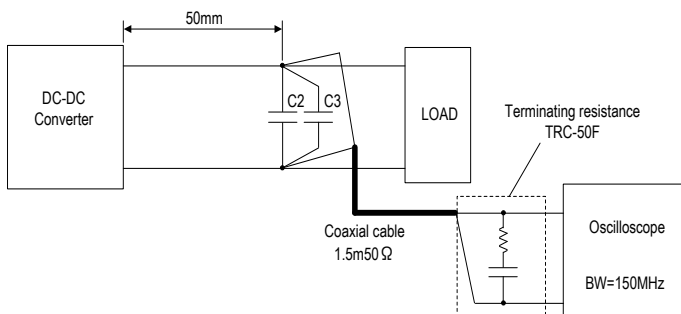


- C1 : Ceramic Capacitor 10 $\mu$ F
- C2 : Ceramic Capacitor 47 $\mu$ F x 2pcs
- RL : Electronic Load Device :Model ELL355 KEISOKUGIKEN equivalent
- Vin : DC Power Supply :Model HP6675A HP equivalent
- V : Digital Multimeter :Model HP34401A HP equivalent

When deviating from the above, DC-DC converter may operate abnormally. It should be fully confirmed on your board before use.

**Ripple Noise Test**

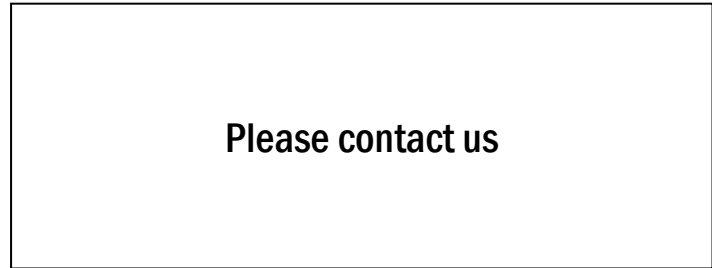
All models in this converter series are tested and specified for output ripple noise using designated external output components, circuits and layout as shown in the figures below.



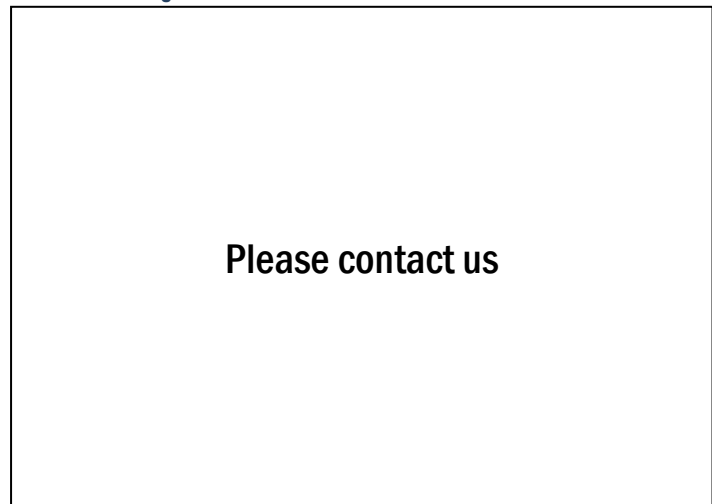
- C2 : Ceramic Capacitor 0.1 $\mu$ F
- C3 : Ceramic Capacitor 10 $\mu$ F

**Conduction Noise**

The input external common mode choke is installed and the circuit diagram is shown below.



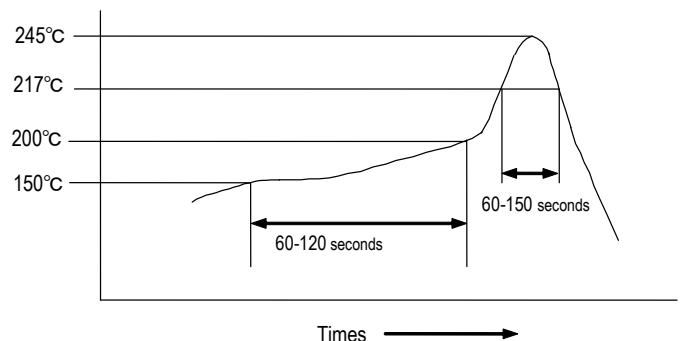
**Thermal Derating Condition**



**SMT Reflow Soldering Guidelines**

The surface-mount reflow solder profile is shown below. This graph should be used only as a guideline.

JEDEC IPC/JEDEC J-STD-020D  
Table 5-2 Classification Reflow Profiles Pb-Free Assembly Large Body



Soldering temperature	245°C +/-5
Soldering time	30 seconds, 240°C-245°C
Heating time	60~150 seconds, 217°C min
Preheating time	60~120 seconds, 150°C-200°C
Programming rate	3°C /sec. Max., 217°C-245°C
Descending rate	6°C /sec. Max
Total soldering time	8 minutes Max., 25°C-245°C
Time	1time

Do not vibrate for the products on reflow. Please need to take care temperature control because mounted parts may come off if the product is left under the high temperature. Do not mount on backside of the board. Many other factors influence the success of SMT reflow soldering. Since your production environment may differ, please thoroughly review these guidelines with your process engineers.

### Functional Specifications

Please contact Murata Sales before using this product for the applications listed below. These are applications that require very high reliability of prevention of defects which might directly cause damage to third party's life, body, or property.

1. Aircraft equipment
2. Aerospace equipment
3. Undersea equipment
4. Power plant control equipment
5. Medical equipment
6. Transportation equipment (cars, buses, trucks, trains, ships, etc.)
7. Traffic signal equipment
8. Disaster prevention /crime prevention equipment
9. Data-processing equipment
10. Application of similar complexity and /or reliability listed as above.

### Storage

Please store this product in an environment where the temperature/humidity is stable in the range 0 to 40°C/10 to 75%RH and no direct sunlight. Use the product within 6 months after delivery.

Please avoid storage conditions where humidity and temperature change rapidly, as that may cause condensation on the product, which might degrade the quality of the product.

Please do not store the product environments that are dusty, in direct exposure to sea breeze, or in an atmosphere containing corrosive gas (Cl<sub>2</sub>, NH<sub>3</sub>, SO<sub>2</sub>, NO<sub>x</sub> and so on).

### Operational environment and operational conditions

This product is not chemical-proof or rust-proof.

In order to prevent this product from leakage of electricity and/or abnormal temperature increase, do not use the product under the following circumstances:

- (1) in an atmosphere containing corrosive gas (Cl<sub>2</sub>, NH<sub>3</sub>, SO<sub>2</sub>, NO<sub>x</sub> and so on).
- (2) in a dusty place.
- (3) in a place exposed to direct sunlight.
- (4) in such a place where water splashes or in such a humid place where water condenses.
- (5) in a place exposed to sea breeze.
- (6) in any other places similar to the above (1)through (5).

### Operational conditions

Please use the product within specified values (power supply, temperature, input, output and load condition etc.). Input voltage drops for line impedance, so please make sure that input voltage is within in specified values.

If the product is used over the specified values, it may damage the product, reduce the quality, and even if the products can endure the condition for short time, it may cause degradation of the reliability.

### Note prior to use

If you apply high static electricity, voltage higher than rated voltage or reverse voltage to the product, it may cause defects in the products or degrade the reliability.

Please avoid the following items:

1. Over rating power supply, reverse power supply or not-enough connection of input voltage and 0V(DC)line
2. Electrostatic discharge by production line and/or operator
3. Electrified product by electrostatic induction

Do not subject product to excessive mechanical shock. If you drop the product on the floor it might cause a crack to the core of inductors and monolithic ceramic capacitors.

Also please pay attention to handling; the mounted parts can be dislodged if subjected to excessive force.

### Transportation

If you transport the product, please pack it so that the package will not be damaged by mechanical vibration or mechanical shock, and please educate and guide the carrier to prevent rough handling.

### Note

1. Please make sure that the product has been evaluated and confirmed against your specifications when it is mounted to your product.
2. All the items and parameters in this product specification have been prescribed on the premise that our product is used for the purpose, under the conditions and in the environment agreed upon between you and us. You are requested not to use our product deviating from such agreement.
3. We consider it not appropriate to include other terms and conditions for transaction warranty in product specifications, drawings or other technical documents. Therefore, if your technical documents as above include such terms and conditions as warranty clause, product liability clause, or intellectual property infringement liability clause, we will not be able to accept such terms and conditions unless they are based on the governmental regulation or they are stated in a separate contract agreement.