



Product / Process Change Notification (PCN)							
<input checked="" type="checkbox"/> Major Change <input type="checkbox"/> Minor Change							
PCN Number: PCN_WPME-FISM_1769205341_20250120 Affected Series: WPME-FISM Affected Part Number: 1769205341 PCN Date: 2024-12-20 (YYYY-MM-DD) Effective Date: 2025-01-20 (YYYY-MM-DD)	Change Category: <input checked="" type="checkbox"/> Equipment/Location <input checked="" type="checkbox"/> General Data <input checked="" type="checkbox"/> Material <input type="checkbox"/> Process <input checked="" type="checkbox"/> Product Design <input checked="" type="checkbox"/> Shipping/Packaging <input checked="" type="checkbox"/> Supplier <input type="checkbox"/> Software						
Contact: Product Management Phone: +49 (0) 7942 - 945 5001 Fax: +49 (0) 7942 - 945 5179 E-Mail: pcn.eisos@we-online.com	Datasheet Change: <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No Attachment: <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No						
DESCRIPTION OF CHANGE: <p>Due to an improvement of the production capability, Würth Elektronik eiSos has shifted the production of the affected part number to a new factory location.</p> <p>With the aim of an extended product applicability, Würth Elektronik eiSos has updated the BOM used in the module to ensure the best performance and the electrical specifications.</p> <p>There will be no change in fit or quality of the product.</p> <p>The new revision of the affected part number will be sent out after the previous revision is out of stock (according to FIFO - first-in, first-out).</p>							
DETAILS OF CHANGE: All changes indicated below apply to the part number in this PCN.							
<table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="text-align: left; color: red;">Previous production line</th> <th style="text-align: left; color: green;">New production line</th> </tr> </thead> <tbody> <tr> <td style="padding: 2px;">Lot number beginning with: 489xxxxxxxxxxxx</td> <td style="padding: 2px;">Lot number beginning with: 676xxxxxxxxxxxx</td> </tr> <tr> <td style="padding: 2px;">Country of origin: China</td> <td style="padding: 2px;">Country of origin: China</td> </tr> </tbody> </table>		Previous production line	New production line	Lot number beginning with: 489xxxxxxxxxxxx	Lot number beginning with: 676xxxxxxxxxxxx	Country of origin: China	Country of origin: China
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The part numbers of the FSM series are now distributed in single datasheets instead of the previous family datasheet approach

Before Change	After Change
<p>1769205x41 MagI³C Power Module WPME-FISM - Fixed Isolated SIP/SMT Module</p> <p>3.3V, 5V, 12V or 24V Input / 1W / 3kV Functional Isolated / Unregulated 5V Output</p> <p>DESCRIPTION</p> <p>The FISM 1769205x41 MagI³C power module series are unregulated, functionally isolated, fully integrated DC/DC converters.</p> <p>The modules integrate the switching power stage, control circuitry, transformer and input/output capacitors.</p> <p>The modules require no external components for operation thus reducing design effort and complexity to a minimum.</p> <p>The FISM family ensures fast time to market and low development costs.</p> <p>The 1769205x41 series of the FISM family achieves an efficiency of 84% to 90.5%.</p> <p>FEATURES</p> <ul style="list-style-type: none"> • 3kV DC functional isolation for 60s • Nominal input voltage rails: 3.3V / 5V / 12V / 24V • Output voltage: 5V unregulated • Low output voltage ripple: Typ. 55mV at full load • Output voltage accuracy: Typ. -2.5% at full load • Output power: 1W (0.2A) • Dynamic power boost up to 0.3A for 0.5s • Continuous short-circuit protection • Isolation capacitance of typ. 20pF • Integrated C_{IN}, C_{OUT} and transformer • Operating ambient temperature range: -40°C to 105°C • RoHS & REACH compliant • Complies with EN55032 (CISPR-32) class B conducted and radiated emissions standard • UL62368-1 approved 	<p>1769205341 MagI³C Power Module WPME-FISM - Fixed Isolated SIP/SMT Module</p> <p>24V Input / 1W / 4kV Functional Isolated / Unregulated 5V Output</p> <p>DESCRIPTION</p> <p>The FISM 1769205341 MagI³C power module is an unregulated, functionally isolated, fully integrated DC/DC converter.</p> <p>The module integrates the switching power stage, control circuitry, transformer and input/output capacitors.</p> <p>The module requires no external components for operation thus reducing design effort and complexity to a minimum.</p> <p>The FISM module ensures fast time to market and low development costs.</p> <p>The 1769205341 module achieves an efficiency up to 88%.</p> <p>FEATURES</p> <ul style="list-style-type: none"> • 4kV DC functional isolation for 1s • Nominal input voltage rail: 24V • Output voltage: 5V unregulated • Low output voltage ripple: Typ. 55mV at full load • Output voltage accuracy: Typ. -0.4% at full load • Output power: 1W (0.2A) • Dynamic power boost up to 0.3A for 0.5s • Continuous short-circuit protection • Isolation capacitance of typ. 20pF • Integrated C_{IN}, C_{OUT} and transformer • Operating ambient temperature range: -40°C to 105°C • RoHS & REACH compliant • Complies with EN55032 (CISPR-32) class B conducted and radiated emissions standard • UL62368-1 recognized

The datasheet electrical specifications (absolute maximum / electrical) have been adjusted based on the new design.

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<p>5 ABSOLUTE MAXIMUM RATINGS</p> <p>Caution: Exceeding the listed absolute maximum ratings may affect the device negatively and may cause permanent damage.</p> <p>Table 5: Absolute maximum ratings.</p> <table border="1"> <thead> <tr> <th rowspan="2">SYMBOL</th> <th rowspan="2">PARAMETER</th> <th colspan="2">LIMIT</th> <th rowspan="2">UNIT</th> </tr> <tr> <th>MIN⁽¹⁾</th> <th>MAX⁽¹⁾</th> </tr> </thead> <tbody> <tr> <td rowspan="4">VIN</td> <td rowspan="4">Input pin voltage</td> <td>3.3V_{IN} / 5V_{OUT} version (1769205041)</td> <td>-0.4</td> <td>9</td> <td>V</td> </tr> <tr> <td>5V_{IN} / 5V_{OUT} version (1769205141)</td> <td>-0.4</td> <td>10</td> <td>V</td> </tr> <tr> <td>12V_{IN} / 5V_{OUT} version (1769205241)</td> <td>-0.4</td> <td>16</td> <td>V</td> </tr> <tr> <td>24V_{IN} / 5V_{OUT} version (1769205341)</td> <td>-0.4</td> <td>50</td> <td>V</td> </tr> <tr> <td rowspan="4">VOUT</td> <td rowspan="4">Output pin voltage</td> <td>3.3V_{IN} / 5V_{OUT} version (1769205041)</td> <td>-0.7</td> <td>16</td> <td>V</td> </tr> <tr> <td>5V_{IN} / 5V_{OUT} version (1769205141)</td> <td>-0.7</td> <td>16</td> <td>V</td> </tr> <tr> <td>12V_{IN} / 5V_{OUT} version (1769205241)</td> <td>-0.7</td> <td>25</td> <td>V</td> </tr> <tr> <td>24V_{IN} / 5V_{OUT} version (1769205341)</td> <td>-0.7</td> <td>16</td> <td>V</td> </tr> <tr> <td>V_{ISO}</td> <td>Isolation voltage input to output for 1s⁽²⁾</td> <td>—</td> <td>4</td> <td>kV</td> </tr> <tr> <td></td> <td>Isolation voltage input to output, 100% tested for 60s⁽³⁾</td> <td>—</td> <td>3</td> <td>kV</td> </tr> <tr> <td>T_{storage}</td> <td>Assembled, non-operating storage temperature</td> <td>-55</td> <td>125</td> <td>°C</td> </tr> <tr> <td>V_{ESD}</td> <td>ESD Voltage (HBM), according to EN61000-4-2⁽⁴⁾</td> <td>-4</td> <td>4</td> <td>kV</td> </tr> </tbody> </table>	SYMBOL	PARAMETER	LIMIT		UNIT	MIN ⁽¹⁾	MAX ⁽¹⁾	VIN	Input pin voltage	3.3V _{IN} / 5V _{OUT} version (1769205041)	-0.4	9	V	5V _{IN} / 5V _{OUT} version (1769205141)	-0.4	10	V	12V _{IN} / 5V _{OUT} version (1769205241)	-0.4	16	V	24V _{IN} / 5V _{OUT} version (1769205341)	-0.4	50	V	VOUT	Output pin voltage	3.3V _{IN} / 5V _{OUT} version (1769205041)	-0.7	16	V	5V _{IN} / 5V _{OUT} version (1769205141)	-0.7	16	V	12V _{IN} / 5V _{OUT} version (1769205241)	-0.7	25	V	24V _{IN} / 5V _{OUT} version (1769205341)	-0.7	16	V	V _{ISO}	Isolation voltage input to output for 1s ⁽²⁾	—	4	kV		Isolation voltage input to output, 100% tested for 60s ⁽³⁾	—	3	kV	T _{storage}	Assembled, non-operating storage temperature	-55	125	°C	V _{ESD}	ESD Voltage (HBM), according to EN61000-4-2 ⁽⁴⁾	-4	4	kV	<p>5 ABSOLUTE MAXIMUM RATINGS</p> <p>Caution: Exceeding the listed absolute maximum ratings may affect the device negatively and may cause permanent damage.</p> <p>Table 6: Absolute maximum ratings.</p> <table border="1"> <thead> <tr> <th rowspan="2">SYMBOL</th> <th rowspan="2">PARAMETER</th> <th colspan="2">LIMIT</th> <th rowspan="2">UNIT</th> </tr> <tr> <th>MIN⁽¹⁾</th> <th>MAX⁽¹⁾</th> </tr> </thead> <tbody> <tr> <td>VIN</td> <td>Input pin voltage</td> <td>-0.3</td> <td>38</td> <td>V</td> </tr> <tr> <td>VOUT</td> <td>Output pin voltage</td> <td>-0.3</td> <td>25</td> <td>V</td> </tr> <tr> <td>V_{ISO}</td> <td>Isolation voltage input to output for 1s⁽²⁾</td> <td>—</td> <td>4</td> <td>kV</td> </tr> <tr> <td></td> <td>Isolation voltage input to output for 60s⁽³⁾</td> <td>—</td> <td>3</td> <td>kV</td> </tr> <tr> <td>T_{storage}</td> <td>Assembled, non-operating storage temperature</td> <td>-55</td> <td>125</td> <td>°C</td> </tr> <tr> <td>V_{ESD}</td> <td>ESD Voltage (HBM), according to EN61000-4-2⁽⁴⁾</td> <td>-4</td> <td>4</td> <td>kV</td> </tr> </tbody> </table>	SYMBOL	PARAMETER	LIMIT		UNIT	MIN ⁽¹⁾	MAX ⁽¹⁾	VIN	Input pin voltage	-0.3	38	V	VOUT	Output pin voltage	-0.3	25	V	V _{ISO}	Isolation voltage input to output for 1s ⁽²⁾	—	4	kV		Isolation voltage input to output for 60s ⁽³⁾	—	3	kV	T _{storage}	Assembled, non-operating storage temperature	-55	125	°C	V _{ESD}	ESD Voltage (HBM), according to EN61000-4-2 ⁽⁴⁾	-4	4	kV
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8 ELECTRICAL SPECIFICATIONS						
Caution: MIN and MAX limits are valid for the recommended ambient temperature range of -40°C to 105°C. Typical values represent statistically the utmost probable values at the following conditions: T _a = 25°C, unless otherwise noted.						
Table 8: Electrical specifications.						
SYMBOL	PARAMETER	TEST CONDITIONS	MIN ⁽¹⁾	TYP ⁽²⁾	MAX ⁽³⁾	UNIT
Output Current						
I _{MO}	Maximum overload current		—	—	0.3 ⁽³⁾	A
Accuracy						
V _{OUT}	Line regulation	per 1.0% change in input voltage ⁽³⁾	—	—	1.2	%
	Load Regulation	V _{IN} nominal, V _{OUT} = 5V I _{OUT} = 0.02A to 0.2A	—	10	15	%
	Output voltage accuracy	V _{IN} nominal, I _{OUT} = 0.2A	—	-2.5	—	%
	Output voltage at no load	V _{IN} nominal	—	5.5	—	V
Switching Frequency						
f _{sw}	Switching frequency, internal clock	V _{IN} nominal, I _{OUT} = 0.2A (1769205041)	—	220	—	kHz
	Switching frequency, input current	V _{IN} nominal, I _{OUT} = 0.2A (1769205041)	—	440 ⁽¹⁾⁽²⁾	—	kHz
	Switching frequency, output voltage ripple	V _{IN} nominal, I _{OUT} = 0.2A (1769205041)	—	440 ⁽¹⁾⁽²⁾	—	kHz
	Switching frequency, internal clock	V _{IN} nominal, I _{OUT} = 0.2A (remaining versions)	—	300	—	kHz
	Switching frequency, input current	V _{IN} nominal, I _{OUT} = 0.2A (remaining versions)	—	600 ⁽¹⁾⁽²⁾	—	kHz
	Switching frequency, output voltage ripple	V _{IN} nominal, I _{OUT} = 0.2A (remaining versions)	—	600 ⁽¹⁾⁽²⁾	—	kHz
Input Current						
I _{IN}	No load input current (operating, switching)	V _{IN} = 3.3V, I _{OUT} = 0A (1769205041)	—	8	—	mA
		V _{IN} = 5V, I _{OUT} = 0A (1769205141)	—	5	—	mA
		V _{IN} = 12V, I _{OUT} = 0A (1769205241)	—	4	—	mA
		V _{IN} = 24V, I _{OUT} = 0A (1769205341)	—	4	—	mA
Efficiency						
η	Efficiency	V _{IN} = 3.3V, I _{OUT} = 0.2A (1769205041)	—	84	—	%
		V _{IN} = 5V, I _{OUT} = 0.2A (1769205141)	—	90.5	—	%
		V _{IN} = 12V, I _{OUT} = 0.2A (1769205241)	—	90	—	%
		V _{IN} = 24V, I _{OUT} = 0.2A (1769205341)	—	86	—	%
Isolation Characteristics						
C _{ISO}	Isolation capacitance	100kHz/0.1V	—	20	—	pF
R _{ISO}	Isolation resistance	500VDC	1	—	—	GΩ

8 ELECTRICAL SPECIFICATIONS						
Caution: MIN and MAX limits are valid for the recommended ambient temperature range of -40°C to 105°C. Typical values represent statistically the utmost probable values at the following conditions: T _a = 25°C, unless otherwise noted.						
Table 9: Electrical specifications.						
SYMBOL	PARAMETER	TEST CONDITIONS	MIN ⁽¹⁾	TYP ⁽²⁾	MAX ⁽³⁾	UNIT
Output Current						
I _{MO}	Maximum overload current		—	—	0.3 ⁽³⁾	A
Accuracy						
V _{OUT}	Line regulation	per 1.0% change in input voltage ⁽³⁾	—	1.2	—	%
	Load Regulation	V _{IN} nominal, V _{OUT} = 5V I _{OUT} = 0.02A to 0.2A	—	10	15	%
	Output voltage accuracy	V _{IN} nominal, I _{OUT} = 0.2A	—	-0.4	—	%
	Output voltage at no load	V _{IN} nominal	—	5.5	—	V
Switching Frequency						
f _{sw}	Switching frequency, internal clock	V _{IN} nominal, I _{OUT} = 0.2A	—	250	—	kHz
	Switching frequency, input current	V _{IN} nominal, I _{OUT} = 0.2A	—	500 ⁽¹⁾⁽²⁾	—	kHz
Input Current						
I _{IN}	No load input current	V _{IN} = 24V, I _{OUT} = 0A	—	2.3	—	mA
Efficiency						
η	Efficiency	V _{IN} = 24V, I _{OUT} = 0.2A	—	88	—	%
Isolation Characteristics						
C _{ISO}	Isolation capacitance	100kHz/0.1V	—	20	—	pF
R _{ISO}	Isolation resistance	500VDC	1	—	—	GΩ

Due to the change in production line the isolation voltage test specification has changed. The modules are now 100% production tested for 1 second. Therefore, the specified isolation voltage has been increased to the 1 second value.

Before Change	After Change
<p>3.3V, 5V, 12V or 24V Input / 1W 3kV Functional Isolated / Unregulated 5V Output</p> <p>DESCRIPTION</p> <p>The FISM 1769205x41 Mag²C power module series are unregulated, functionally isolated, fully integrated DC/DC converters.</p> <p>The modules integrate the switching power stage, control circuitry, transformer and input/output capacitors.</p> <p>The modules require no external components for operation thus reducing design effort and complexity to a minimum.</p> <p>The FISM family ensures fast time to market and low development costs.</p> <p>The 1769205x41 series of the FISM family achieves an efficiency of 84% to 90.5%.</p> <p>The series is available in an SMT-8 package (13.2 x 11.4 x 7.25)mm.</p> <p>FEATURES</p> <ul style="list-style-type: none"> 3kV DC functional isolation for 60s Nominal input voltage ranges: 3.3V/5V / 12V / 24V Output voltage: 5V unregulated Low output voltage ripple: Typ. 55mV at full load Output voltage accuracy: Typ. -2.5% at full load Output power: 1W (0.2A) Dynamic power boost up to 0.3A for 0.5s Continuous short-circuit protection Isolation capacitance of typ. 20pF Integrated C_{IN}, C_{OUT} and transformer Operating ambient temperature range: -40°C to 105°C RoHS & REACH compliant Complies with EN55032 (CISPR-32) class B conducted and radiated emissions standard UL62368-1 approved 	<p>24V Input / 1W / 4kV Functional Isolated / Unregulated 5V Output</p> <p>DESCRIPTION</p> <p>The FISM 1769205341 Mag²C power module is an unregulated, functionally isolated, fully integrated DC/DC converter.</p> <p>The module integrates the switching power stage, control circuitry, transformer and input/output capacitors.</p> <p>The module requires no external components for operation thus reducing design effort and complexity to a minimum.</p> <p>The FISM module ensures fast time to market and low development costs.</p> <p>The 1769205341 module achieves an efficiency up to 88%.</p> <p>FEATURES</p> <ul style="list-style-type: none"> 4kV DC functional isolation for 1s Nominal input voltage range: 24V Output voltage: 5V unregulated Low output voltage ripple: Typ. 55mV at full load Output voltage accuracy: Typ. -0.4% at full load Output power: 1W (0.2A) Dynamic power boost up to 0.3A for 0.5s Continuous short-circuit protection Isolation capacitance of typ. 20pF Integrated C_{IN}, C_{OUT} and transformer Operating ambient temperature range: -40°C to 105°C RoHS & REACH compliant Complies with EN55032 (CISPR-32) class B conducted and radiated emissions standard UL62368-1 recognized



5 ABSOLUTE MAXIMUM RATINGS					
Caution: Exceeding the listed absolute maximum ratings may affect the device negatively and may cause permanent damage.					
Table 5: Absolute maximum ratings.					
SYMBOL	PARAMETER	LIMIT		UNIT	
		MIN ⁽¹⁾	MAX ⁽¹⁾		
VIN	Input pin voltage	3.3V _{IN} / 5V _{OUT} version (1769205041)	-0.4	9	V
		5V _{IN} / 5V _{OUT} version (1769205141)	-0.4	10	V
		12V _{IN} / 5V _{OUT} version (1769205241)	-0.4	16	V
		24V _{IN} / 5V _{OUT} version (1769205341)	-0.4	50	V
VOUT	Output pin voltage	3.3V _{IN} / 5V _{OUT} version (1769205041)	-0.7	16	V
		5V _{IN} / 5V _{OUT} version (1769205141)	-0.7	16	V
		12V _{IN} / 5V _{OUT} version (1769205241)	-0.7	25	V
		24V _{IN} / 5V _{OUT} version (1769205341)	-0.7	16	V
V _{ISO}	Isolation voltage input to output for 1s ⁽²⁾	—	4	kV	
	Isolation voltage input to output, 100% tested for 60s ⁽²⁾	—	3	kV	
T _{storage}	Assembled, non-operating storage temperature	-55	125	°C	
V _{ESD}	ESD Voltage (HBM), according to EN61000-4-2 ⁽³⁾	-4	4	kV	

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Table 6: Absolute maximum ratings.				
SYMBOL	PARAMETER	LIMIT		UNIT
		MIN ⁽¹⁾	MAX ⁽¹⁾	
VIN	Input pin voltage	-0.3	38	V
VOUT	Output pin voltage	-0.3	25	V
V _{ISO}	Isolation voltage input to output for 1s ⁽²⁾	—	4	kV
	Isolation voltage input to output for 60s ⁽²⁾	—	3	kV
T _{storage}	Assembled, non-operating storage temperature	-55	125	°C
V _{ESD}	ESD Voltage (HBM), according to EN61000-4-2 ⁽³⁾	-4	4	kV

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Before Change	After Change																										
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The diagrams shown in chapter TYPICAL PERFORMANCE CURVES are updated based on new electrical specifications. The used test conditions stay the same as before.

The modules still are based on either a full bridge or a push-pull topology. In some cases the single part number topology switched from previous full bridge topology to a push-pull topology or vice versa. The topology change is indicated in the BLOCK DIAGRAM chapter.

Before Change

16 BLOCK DIAGRAM

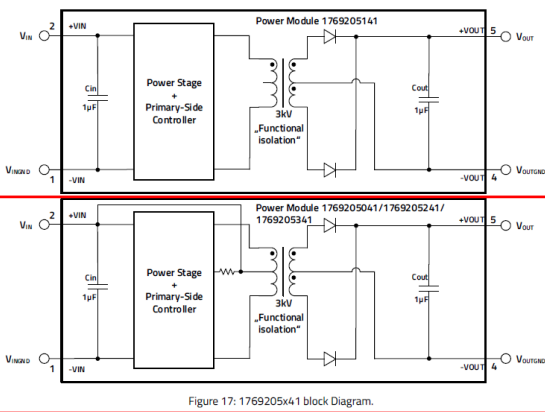


Figure 17: 1769205x41 block Diagram.

17 CIRCUIT DESCRIPTION

The Mag³C power module 1769205141 is based on full bridge topology whereas the Mag³C power modules 1769205041 / 1769205241 / 1769205341 are based on a push-pull converter. All modules have an integrated IC, rectifying diodes, input and output capacitors and a transformer.

Since there is no feedback path from the output to the input, the duty cycle is fixed at 50% and is independent of the load (zero load to full load). The output voltage is unregulated and defined by the turns ratio of the transformer.

After Change

16 BLOCK DIAGRAM

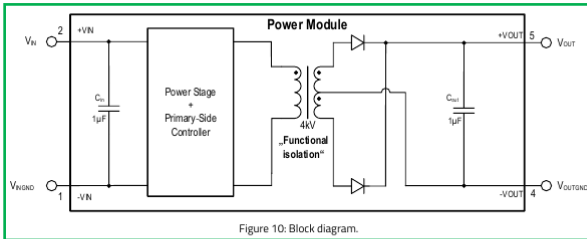


Figure 10: Block diagram.

17 CIRCUIT DESCRIPTION

The Mag³C power module 1769205341 is based on a full bridge topology. The module has an integrated IC, rectifying diodes, input and output capacitors and a transformer.

Since there is no feedback path from the output to the input, the duty cycle is fixed at 50% and is independent of the load (zero load to full load). The output voltage is unregulated and defined by the turns ratio of the transformer.

The mechanical dimensions have been updated based on new production. SMT-8 package shape is changed but neither pinout, footprint or recommended land pattern are affected by the change in shape. Production tolerances have been changed based on new production line.

Before Change	After Change
<p>22 PHYSICAL DIMENSIONS</p> <p>22.1 Component</p> <p>Figure 26: Physical dimensions.</p>	<p>22 PHYSICAL DIMENSIONS</p> <p>22.1 Component</p> <p>Figure 19: Physical dimensions.</p>

The packaging specifications have been adjusted.

Before Change	After Change																																																																																																																																	
<p>22.3 Packaging</p> <p>Tape and Reel (mm)</p> <p>Figure 21: Packaging dimensions.</p> <p>Table 16: Tape dimensions.</p> <table border="1" style="border: 2px solid red;"> <thead> <tr> <th>AO</th> <th>BO</th> <th>D0 / D1</th> <th>E1</th> <th>E2</th> <th>K0</th> <th>P0</th> <th>P1</th> <th>P2</th> <th>T</th> <th>T1</th> <th>T2</th> <th>W</th> </tr> </thead> <tbody> <tr> <td>±0.10</td> <td>±0.10</td> <td>±0.10</td> <td>±0.10</td> <td>±0.10</td> <td>±0.10</td> <td>±0.10</td> <td>±0.10</td> <td>±0.05</td> <td>0.50</td> <td>0.35</td> <td>±0.10</td> <td>±0.10</td> </tr> <tr> <td>11.70</td> <td>13.10</td> <td>1.50</td> <td>1.75</td> <td>22.25</td> <td>7.50</td> <td>4.00</td> <td>16.00</td> <td>2.00</td> <td>0.50</td> <td>0.35</td> <td>8.00</td> <td>24.00</td> </tr> </tbody> </table> <p>Tape material is polystyrene</p> <p>Table 17: Reel dimensions.</p> <table border="1" style="border: 2px solid red;"> <thead> <tr> <th>A</th> <th>B</th> <th>C</th> <th>D</th> <th>N</th> <th>W1</th> <th>W2</th> <th>W3</th> </tr> </thead> <tbody> <tr> <td>±2.0</td> <td>±0.30</td> <td>±0.20</td> <td>±0.50</td> <td>±1.00</td> <td>+1.00 -0.50</td> <td>±2.00</td> <td>+1.00 -0.50</td> </tr> <tr> <td>330.00</td> <td>2.30</td> <td>13.00</td> <td>21.00</td> <td>100.00</td> <td>24.5</td> <td>28.50</td> <td>24.50</td> </tr> </tbody> </table>	AO	BO	D0 / D1	E1	E2	K0	P0	P1	P2	T	T1	T2	W	±0.10	±0.10	±0.10	±0.10	±0.10	±0.10	±0.10	±0.10	±0.05	0.50	0.35	±0.10	±0.10	11.70	13.10	1.50	1.75	22.25	7.50	4.00	16.00	2.00	0.50	0.35	8.00	24.00	A	B	C	D	N	W1	W2	W3	±2.0	±0.30	±0.20	±0.50	±1.00	+1.00 -0.50	±2.00	+1.00 -0.50	330.00	2.30	13.00	21.00	100.00	24.5	28.50	24.50	<p>22.3 Packaging</p> <p>Tape and Reel (mm)</p> <p>Figure 21: Packaging dimensions.</p> <p>Table 16: Tape dimensions.</p> <table border="1" style="border: 2px solid green;"> <thead> <tr> <th>AO</th> <th>BO</th> <th>D0 / D1</th> <th>E1</th> <th>E2</th> <th>F</th> <th>K0</th> <th>P0</th> <th>P1</th> <th>P2</th> <th>T</th> <th>T1</th> <th>T2</th> <th>W</th> </tr> </thead> <tbody> <tr> <td>typ.</td> <td>typ.</td> <td>min. j +0.1/ -0.0</td> <td>±0.10</td> <td>min.</td> <td>±0.10</td> <td>typ.</td> <td>±0.10</td> <td>±0.10</td> <td>±0.10</td> <td></td> <td>ref.</td> <td>typ.</td> <td>+0.30/ -0.1</td> </tr> <tr> <td>12.00</td> <td>13.50</td> <td>1.50</td> <td>1.75</td> <td>22.25</td> <td>11.50</td> <td>7.00</td> <td>4.00</td> <td>16.00</td> <td>2.00</td> <td>0.50</td> <td>0.1</td> <td>7.70</td> <td>24.00</td> </tr> </tbody> </table> <p>Tape material is polystyrene</p> <p>Table 17: Reel dimensions.</p> <table border="1" style="border: 2px solid green;"> <thead> <tr> <th>A</th> <th>B</th> <th>C</th> <th>D</th> <th>N</th> <th>W1</th> <th>W2</th> <th>W3</th> </tr> </thead> <tbody> <tr> <td>±2.0</td> <td>min.</td> <td>min.</td> <td>min.</td> <td>min.</td> <td>+2.00</td> <td>max.</td> <td>min. max.</td> </tr> <tr> <td>330.00</td> <td>1.50</td> <td>12.80</td> <td>20.20</td> <td>60.00</td> <td>24.40</td> <td>30.40</td> <td>23.90 27.40</td> </tr> </tbody> </table>	AO	BO	D0 / D1	E1	E2	F	K0	P0	P1	P2	T	T1	T2	W	typ.	typ.	min. j +0.1/ -0.0	±0.10	min.	±0.10	typ.	±0.10	±0.10	±0.10		ref.	typ.	+0.30/ -0.1	12.00	13.50	1.50	1.75	22.25	11.50	7.00	4.00	16.00	2.00	0.50	0.1	7.70	24.00	A	B	C	D	N	W1	W2	W3	±2.0	min.	min.	min.	min.	+2.00	max.	min. max.	330.00	1.50	12.80	20.20	60.00	24.40	30.40	23.90 27.40
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RELIABILITY / QUALIFICATION OF CHANGE:

An additional reliability testing was performed and approved. Sample size is valid for every single partnumber stated in this PCN unless otherwise noted.

Additional details of the tests can be found in the table below:

Test Item	Sample Size	Reference	Test Conditions	Acceptance
Temperature Cycling	25	JESD22 Method JA-104	Temperature: -40°C to 85°C Testing Time: 500 cycles Test Cycles/h: 3 Min. soak time: 1 min	Approved
Five Times Reflow	25	Internal	Peak reflow temperature acc. datasheet solder profile reference	Approved
Electrical Characterization	30	User Spec.	Measure electrical DC performance @25 °C, - 40 °C, 105 °C Transient performance tests @25°C Thermal derating measurement.	Approved
Low Temperature Storage Life	25	JESD22-A119	500hrs @ -55°C	Approved
High Temperature Storage Life	25	JESD22-A119	500hrs @ 125°C	Approved
High Pot Test	5	UL62368-1	Specified isolation voltage value tested for 60s. Given design parameter tested for 1s	Approved
Moisture Resistance	25	MIL-STD-202 Method 106G	Temp: 25-65C (± 2 °C) Humidity: 95%RH Test time: 160h, 10 cycle each 16h, ramp up 2.5h, ramp down 2.5h, soak 3h	Approved
Mechanical Shock	30	MIL-STD-202-213	3 shocks in each direction (x, -x, y, -y, z, -z), peak value of 100 g, duration 6 ms, half-sine, velocity change 12.3 ft/s.	Approved
Vibration	30	MIL-STD-202-204	5 g for 20 min, 12 cycles each of 3 orientations. Test from 10 Hz to 2000 Hz.	Approved

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