AMFE305150

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Encapsulated

Aimtec's AMFE305150 series is designed to offer protection against AC power surges. These filters can assist the AC-DC converters in meeting the Surge level of IEC/EN61000-4-5 standard ±2KV (2Ω internal resistance) or ±4KV (12Ω internal resistance) and EMI requirement of CISPR32/EN55032 Class B standard.

With a wide input voltage range of 85-305 VAC in a compact package these filter modules are best suited for AC-DC application that are sensitive to noise interference.

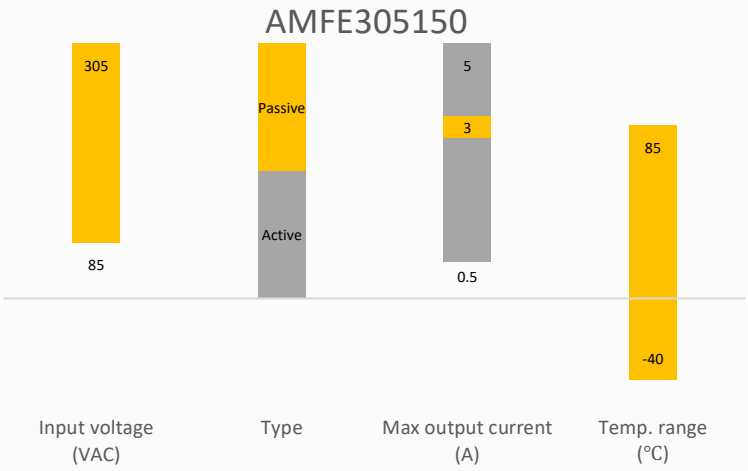
Features

- Universal Input: 85 - 305VAC
- Operating Temp: -40 °C to +85 °C
- High isolation voltage: 2000VAC
- Surge Suppression Ability: L-N:up to ±4KV, L-G: up to ±6KV
- Attenuation Ability: Up to 30dB@150k~1GHz
- EMI meet EN55032 Class B

RoHS

3yr Warranty

Summary



Training

Product Training Video (click to open)

Press Release

Coming Soon!

Application Notes

Applications

Power Grid

Industrial

Telecom

Instrumentation

Models & Specifications

Models			
Model	Input Voltage (VAC)	Max Current (A)	Surge Level (IEC/EN61000-4-5, GB/T17626.5)
AMFE305150-LN22	85 - 305	1.5	L-N: ±2KV (2Ω internal) L-GND: ±4KV (12Ω internal)
AMFE305150-LN42	85 - 305	1.5	L-N: ±4KV (2Ω internal) L-GND: ±6KV (12Ω internal)
Note: Use suffix "ST" for chassis and suffix "STD" for DIN-Rail mounting (ex. AMFE305150-LN22-ST is chassis mounting and AMFE305150-LN22-STD is DIN-Rail mounting version).			

Output Specifications				
Parameters	Tested Conditions	Typical	Maximum	Units
Suppressed Output Peak Voltage (AMFE305150-LN22)	Input surge voltage L-N: 2KV Input surge voltage L-GND: 4KV		1.13 3.18	KV
Suppressed Output Peak Voltage (AMFE305150-LN42)	Input surge voltage L-N: 4KV Input surge voltage L-GND: 6KV		3.16 5.06	KV

Frequency Attenuation Specifications				
Parameters	Tested Conditions	Typical	Maximum	Units
The attenuation coefficient of frequency	150KHz ~ 1GHz, AMFE305150-LN22	20		dB
	150KHz ~ 1GHz, AMFE305150-LN42	30		dB

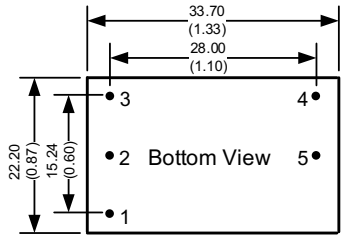
General Specifications				
Parameters	Conditions	Typical	Maximum	Units
Operating temperature		-40 to +85		°C
Storage temperature		-55 to +125		°C
Case temperature rise	220VAC / 0.5A		5	°C
	220VAC / 1.0A		20	°C
	220VAC / 1.5A		30	°C
Isolation Voltage (L/PE; N/PE)	1 min,5mA leakage current	2000		VAC
Case material	Heat resistant black Plastic (flammability to UL 94V-0)			
Weight (AMFE305150-LN22)	PCB mountable models With optional -ST mounting plate With optional -STD mounting plate	20 40 60		g
Weight (AMFE305150-LN42)	PCB mountable models With optional -ST mounting plate With optional -STD mounting plate	45 65 85		g
Dimensions (L x W x H) (AMFE305150-LN22)	PCB mountable models With optional -ST mounting plate With optional -STD mounting plate	1.33 x 0.87 x 0.71 inches (33.70 x 22.20 x 18.00mm) 2.99 x 1.24 x 1.06 inches (76.00 x 31.50 x 26.80mm) 2.99 x 1.24 x 1.24 inches (76.00 x 31.50 x 31.40mm)		
Dimensions (L x W x H)	PCB mountable models	2.12 x 1.13 x 0.75 inches (53.80 x 28.80 x 19.00mm)		

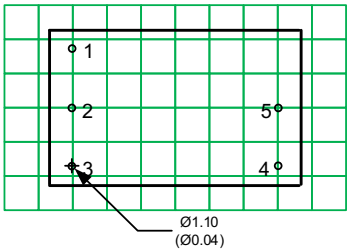
(AMFE305150-LN42)	With optional -ST mounting plate With optional -STD mounting plate	2.99 x 1.24 x 1.09 inches (76.00 x 31.50 x 27.80mm) 2.99 x 1.24 x 1.28 inches (76.00 x 31.50 x 32.40mm)
NOTE: All specifications in this datasheet are measured at an ambient temperature of 25°C, humidity<75%, nominal input voltage and at rated output load unless otherwise specified.		

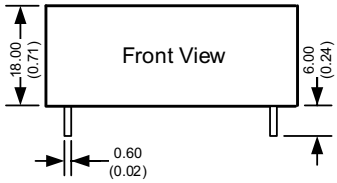
Safety Specifications	
Parameters	
Standards	Put AMFE305150-LN22 on to the input of AC/DC module can ensure the module meet Surge level of IEC/EN61000-4-5 standard ±2KV (2Ω internal resistance) / ±4KV (12Ω internal resistance).
	Put AMFE305150-LN42 on to the input of AC/DC module can ensure the module meet Surge level of IEC/EN61000-4-5 standard ±4KV (2Ω internal resistance) / ±6KV (12Ω internal resistance) and EMI requirement of CISPR32/EN55032 Class B.

Dimensions

AMFE305150-LN22



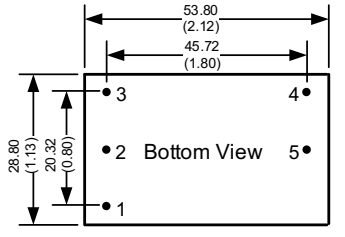


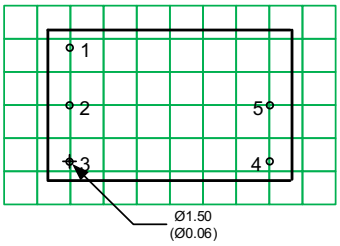


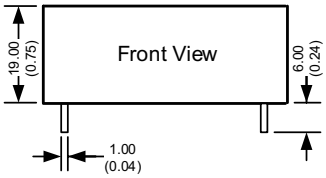
Dimensions mm (inch).
Pin diameter tolerance ±0.1 (±0.004)
Pin height tolerance ±0.5 (±0.02)

Pin Output Specifications	
Pin	Single
1	GND
2	-V Input
3	+V Input
4	+V Output
5	-V Output

AMFE305150-LN42





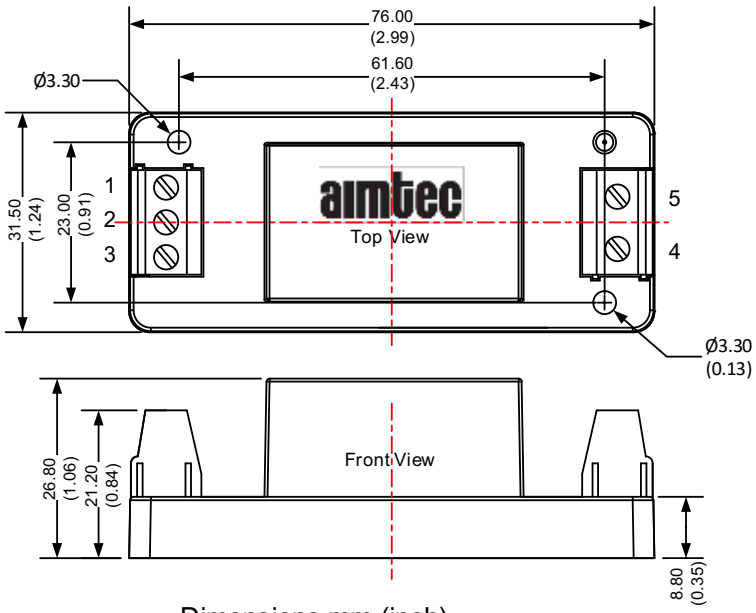


Dimensions mm (inch).
Pin diameter tolerance ±0.1 (±0.004)
Pin height tolerance ±0.5 (±0.02)

Pin Output Specifications	
Pin	Single
1	GND
2	-V Input
3	+V Input
4	+V Output
5	-V Output

Dimensions with ST Optional

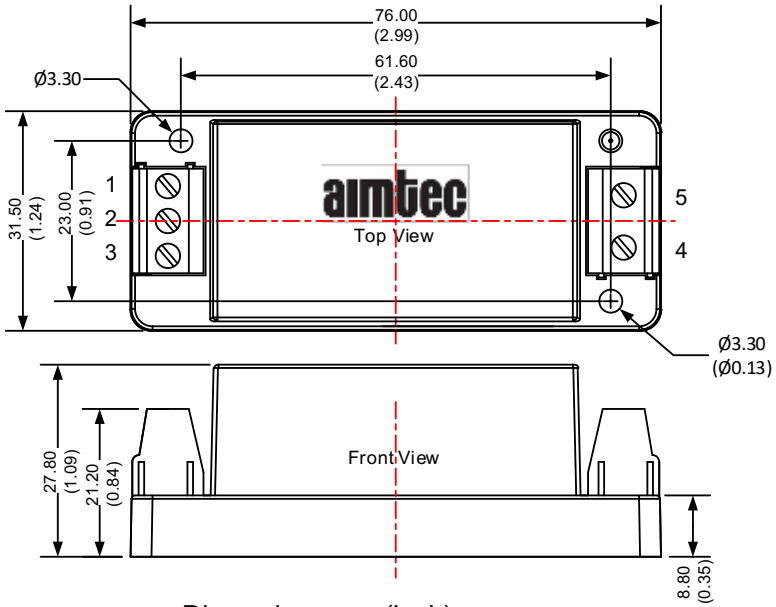
AMFE305150-LN22-ST



Pin Output Specifications	
Pin	Single
1	GND
2	-V Input
3	+V Input
4	+V Output
5	-V Output

Dimensions mm (inch)
Wire range: 24-12 AWG
General tolerances ±0.50 (±0.02)

AMFE305150-LN42-ST

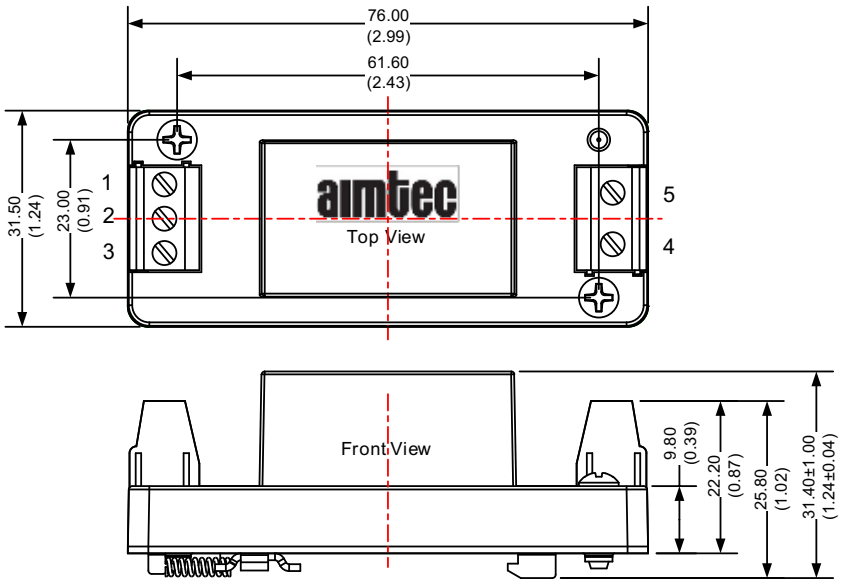


Pin Output Specifications	
Pin	Single
1	GND
2	-V Input
3	+V Input
4	+V Output
5	-V Output

Dimensions mm (inch)
Wire range: 24-12 AWG
General tolerances ±0.50 (±0.02)

Dimensions with STD Optional

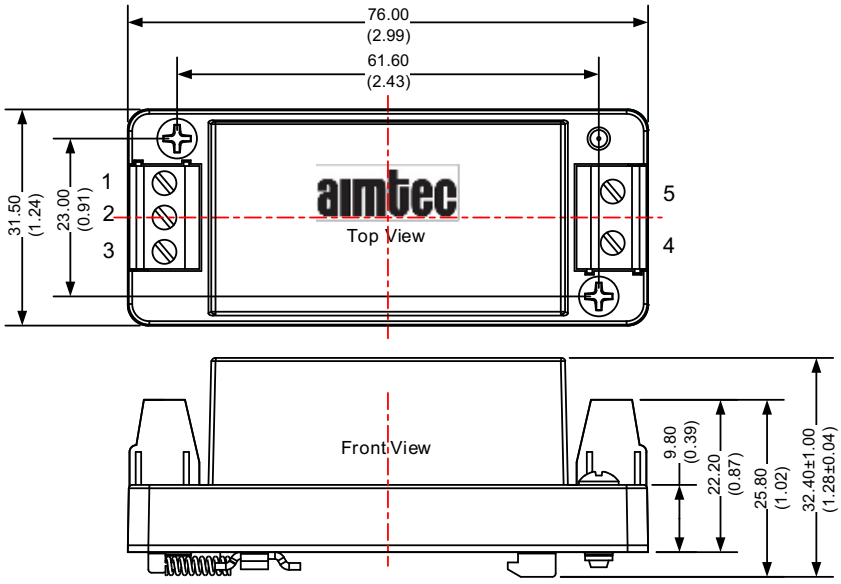
AMFE305150-LN22-STD



Pin Output Specifications	
Pin	Single
1	GND
2	-V Input
3	+V Input
4	+V Output
5	-V Output

Dimensions mm (inch)
Wire range: 24-12 AWG
General tolerances: ±0.50 (±0.02)

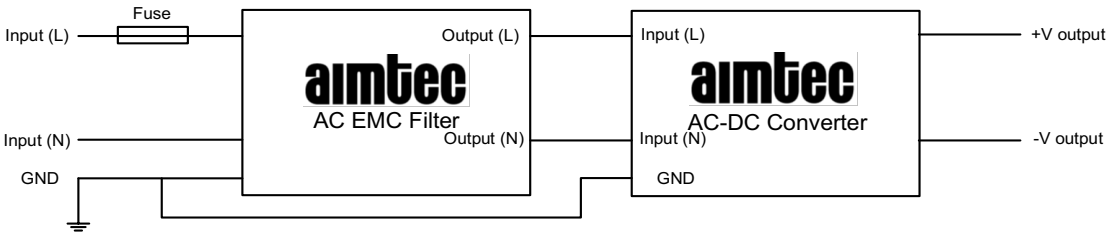
AMFE305150-LN42-STD



Pin Output Specifications	
Pin	Single
1	GND
2	-V Input
3	+V Input
4	+V Output
5	-V Output

Dimensions mm (inch)
Wire range: 24-12 AWG
General tolerances: ±0.50 (±0.02)

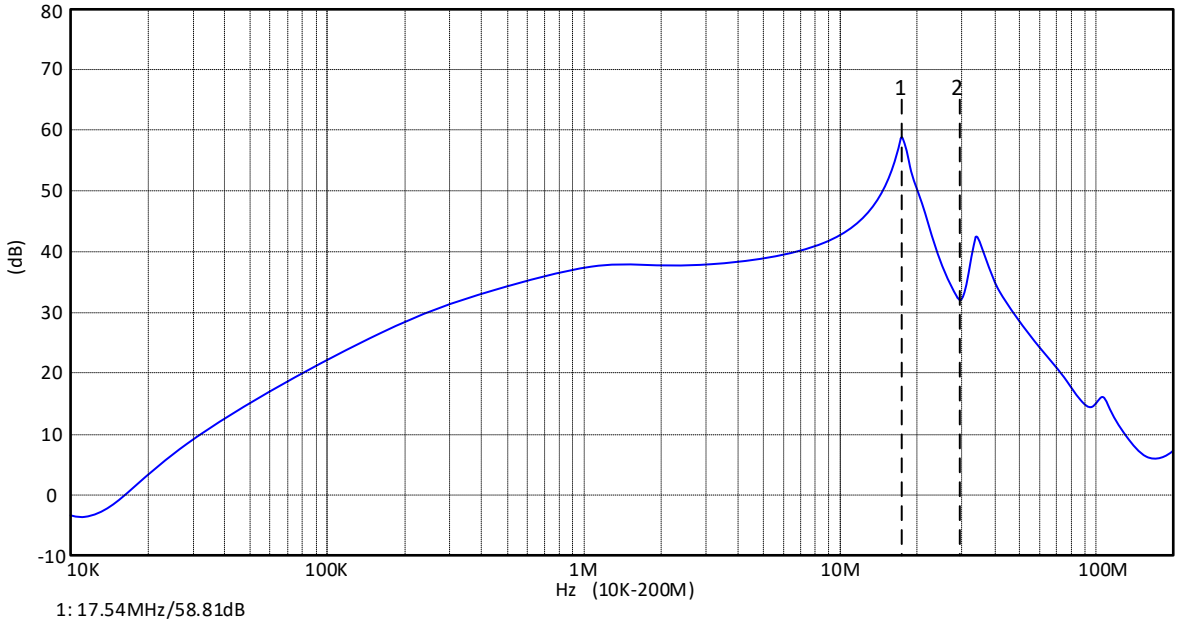
Application Circuit



Model	Recommended external circuit parameters
Fuse	The fuse value varies with different power modules and must be selected in accordance with the specified input current of the corresponding power converter, but not exceeding the filter specifications.

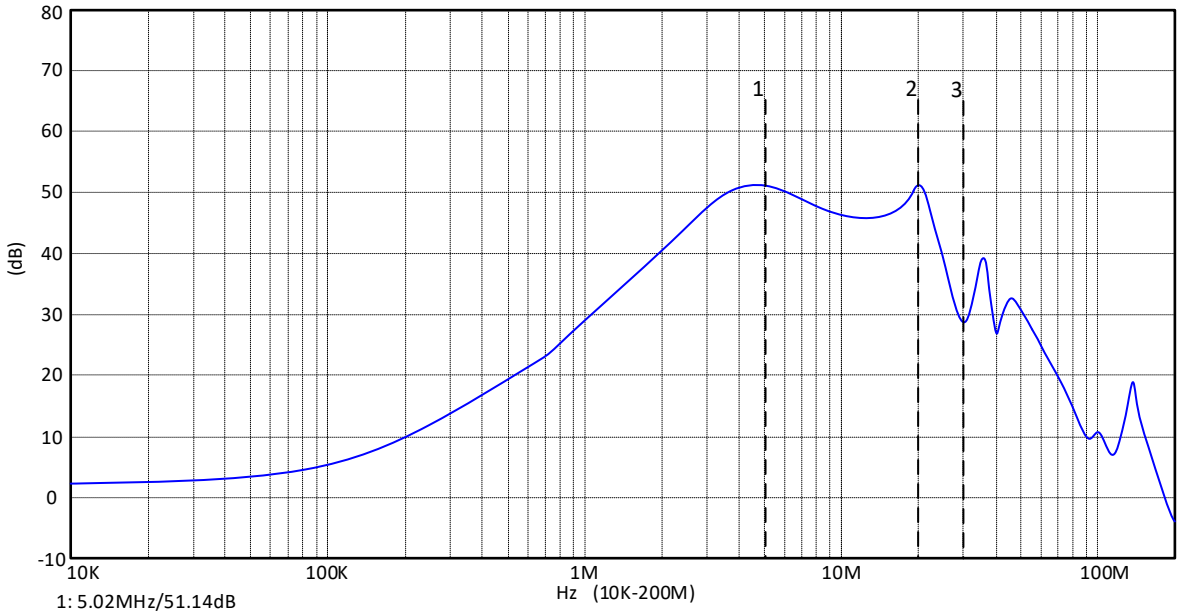
Frequency Attenuation

AMFE305150-LN22 common mode



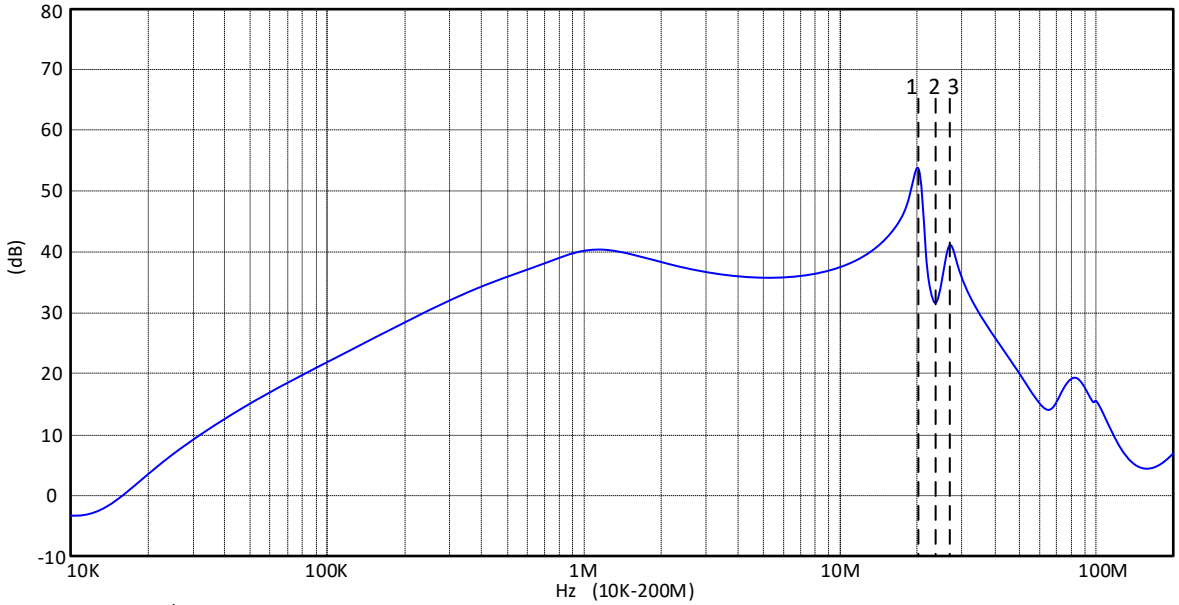
1: 17.54MHz/58.81dB
2: 29.51MHz/32.14dB

AMFE305150-LN22 differential mode



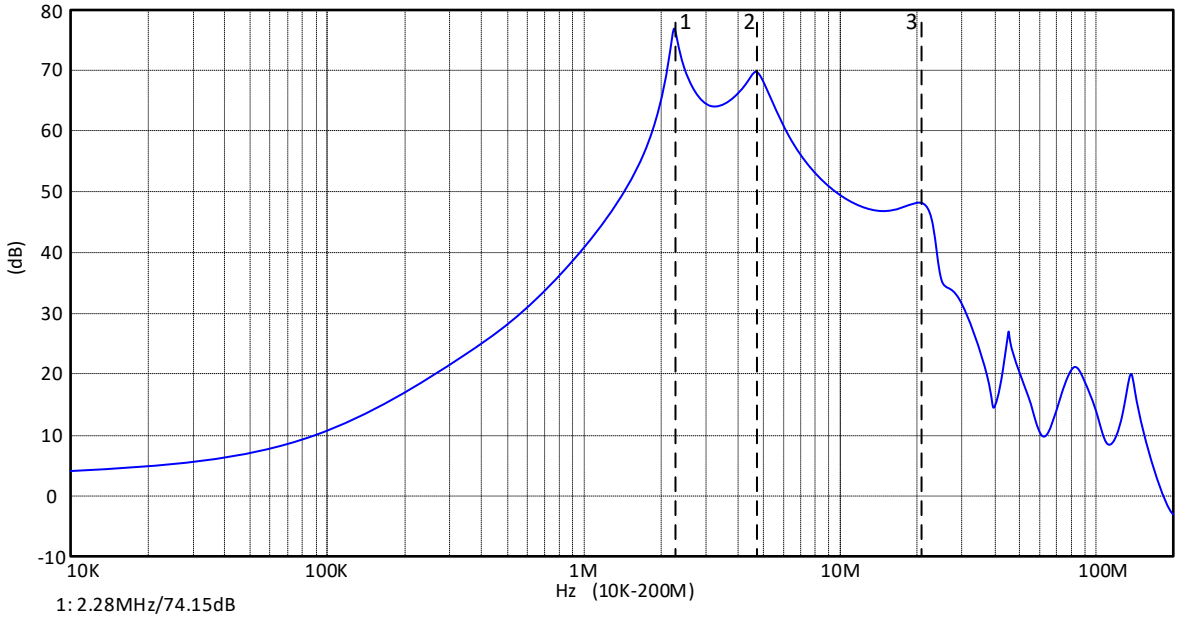
1: 5.02MHz/51.14dB
2: 19.82MHz/51.09dB
3: 29.98MHz/28.69dB

AMFE305150-LN42 common mode



1: 20.02MHz/54.16dB
2: 23.53MHz/31.92dB
3: 26.83MHz/41.51dB

AMFE305150-LN42 differential mode



1: 2.28MHz/74.15dB
2: 4.77MHz/68.62dB
3: 20.84MHz/48.06dB

Supporting the power module product model

Model	EMI (Without External Circuit)	EMI (With EMC filter)	EFT (Without External Circuit)	EFT (With EMC filter)	Surge (Without External Circuit)	Surge (With AMFE305150-LN22)	Surge (With AMFE305150-LN42)
AME1-JZ AME2-JZ	CISPR32/ EN55032 Class B			IEC/EN61000-4-4 ± 2KV		IEC/EN61000-4-5 ± 1KV / ± 2KV	
AME3-CJZ	CISPR32/ EN55032 Class A	CISPR32/EN55032 Class B		IEC/EN61000-4-4 ± 2KV		IEC/EN61000-4-5 ± 1KV / ± 2KV	
AMEL5-CJZ	CISPR32/ EN55032 Class A	CISPR32/EN55032 Class B	IEC/EN61000-4-4 ± 2KV	IEC/EN61000-4-4 ± 4KV	IEC/EN61000-4-5 ± 1KV / ± 2KV	IEC/EN61000-4-4 ± 2KV / ± 4KV	
AMEL5-JZ	CISPR32/ EN55032 Class B		IEC/EN61000-4-4 ± 2KV	IEC/EN61000-4-4 ± 4KV	IEC/EN61000-4-5 ± 1KV	IEC/EN61000-4-4 ± 2KV / ± 4KV	
AMEL10-MJZ	CISPR32/ EN55032 Class A	CISPR32/EN55032 Class B	IEC/EN61000-4-4 ± 2KV	IEC/EN61000-4-4 ± 4KV	IEC/EN61000-4-5 ± 1KV	IEC/EN61000-4-4 ± 2KV / ± 4KV	
AMEL12-CJZ AMEL20-CJZ	CISPR32/ EN55032 Class B		IEC/EN61000-4-4 ± 4KV		IEC/EN61000-4-5 ± 2KV		IEC/EN61000-4-4 ± 4KV / ± 6KV
AME5-CJZ AME5-JZ AME10-CJZ AME10-JZ AME15-CJZ AME15-JZ AME15-MJZ AME20-CJZ AME20-JZ AME25-CJZ AME25-JZ AME25-MJZ AME40-CJZ AME40-MJZ AME60-MJZ	CISPR32/ EN55032 Class B		IEC/EN61000-4-4 ± 2KV	IEC/EN61000-4-4 ± 4KV	IEC/EN61000-4-5 ± 1KV / ± 2KV	IEC/EN61000-4-4 ± 2KV / ± 4KV	

NOTE: 1. Datasheets are updated as needed and as such, specifications are subject to change without notice. Once printed or downloaded, datasheets are no longer controlled by Aimtec; refer to www.aimtec.com for the most current product specifications. **2.** Product labels shown, including safety agency certifications on labels, may vary based on the date manufactured. **3.** Mechanical drawings and specifications are for reference only. **4.** All specifications are measured at an ambient temperature of 25°C, humidity<75%, nominal input voltage and at rated output load unless otherwise specified. **5.** Aimtec may not have conducted destructive testing or chemical analysis on all internal components and chemicals at the time of publishing this document. CAS numbers and other limited information are considered proprietary and may not be available for release. **6.** This product is not designed for use in critical life support systems, equipment used in hazardous environments, nuclear control systems or other such applications which necessitate specific safety and regulatory standards other the ones listed in this datasheet. **7.** Warranty is in accordance with Aimtec's standard Terms of Sale available at www.aimtec.com.