

Series AM3T-VZ

3 Watt | DC-DC Converter



FEATURES:

- Wide 2:1 Input Range
- 24 Pin DIP Package
- High Efficiency up to 82%
- Metal Package
- Operating Temperature -40°C to +85°C
- Input / Output Isolation 1500 or 3500 VDC
- Pin Compatible with Multiple Manufacturers
- Continuous Short Circuit Protection



Models

Single output

Model	Input Voltage (V)	Output Voltage (V)	Output Current Max (mA)	Capacitive Load Max (μF)	Input Current Full No Load (mA)		Efficiency (%)
AM3T-0503S-VZ	4.5-9	3.3	800	2200	650	70	73
AM3T-0505S-VZ	4.5-9	5	600	2200	600	70	70
AM3T-0507S-VZ	4.5-9	7.2	417	1000	417	72	72
AM3T-0509S-VZ	4.5-9	9	333	470	333	72	72
AM3T-0512S-VZ	4.5-9	12	250	470	250	74	74
AM3T-0515S-VZ	4.5-9	15	200	470	200	74	74
AM3T-0518S-VZ	4.5-9	18	167	220	167	74	74
AM3T-0524S-VZ	4.5-9	24	125	220	125	70	70
AM3T-1203S-VZ	9-18	3.3	800	2200	650	70	73
AM3T-1205S-VZ	9-18	5	600	2200	600	70	76
AM3T-1207S-VZ	9-18	7.2	417	1000	417	72	74
AM3T-1209S-VZ	9-18	9	333	470	333	72	77
AM3T-1212S-VZ	9-18	12	250	470	250	74	79
AM3T-1215S-VZ	9-18	15	200	470	200	74	79
AM3T-1218S-VZ	9-18	18	167	220	167	74	79
AM3T-1224S-VZ	9-18	24	125	220	125	70	79
AM3T-2403S-VZ	18-36	3.3	800	2200	650	70	70
AM3T-2405S-VZ	18-36	5	600	2200	600	70	80
AM3T-2407S-VZ	18-36	7.2	417	1000	417	72	77
AM3T-2409S-VZ	18-36	9	333	470	333	72	80
AM3T-2412S-VZ	18-36	12	250	470	250	74	82
AM3T-2415S-VZ	18-36	15	200	470	200	74	82
AM3T-2418S-VZ	18-36	18	167	220	167	74	79
AM3T-2424S-VZ	18-36	24	125	220	125	70	80
AM3T-4803S-VZ	36-72	3.3	800	2200	650	70	77
AM3T-4805S-VZ	36-72	5	600	2200	600	70	77
AM3T-4807S-VZ	36-72	7.2	417	1000	417	72	78
AM3T-4809S-VZ	36-72	9	333	470	333	72	78
AM3T-4812S-VZ	36-72	12	250	470	250	74	80
AM3T-4815S-VZ	36-72	15	200	470	200	74	80
AM3T-4818S-VZ	36-72	18	167	220	167	74	77
AM3T-4824S-VZ	36-72	24	125	220	125	70	80
AM3T-0503SH35-VZ	4.5-9	3.3	800	2200	650	70	73
AM3T-0505SH35-VZ	4.5-9	5	600	2200	600	70	70
AM3T-0507SH35-VZ	4.5-9	7.2	417	1000	417	72	72
AM3T-0509SH35-VZ	4.5-9	9	333	470	333	72	72
AM3T-0512SH35-VZ	4.5-9	12	250	470	250	74	74
AM3T-0515SH35-VZ	4.5-9	15	200	470	200	74	74
AM3T-0518SH35-VZ	4.5-9	18	167	220	167	74	74
AM3T-0524SH35-VZ	4.5-9	24	125	220	125	70	70
AM3T-1203SH35-VZ	9-18	3.3	800	2200	650	70	73
AM3T-1205SH35-VZ	9-18	5	600	2200	600	70	76
AM3T-1207SH35-VZ	9-18	7.2	417	1000	417	72	74
AM3T-1209SH35-VZ	9-18	9	333	470	333	72	77
AM3T-1212SH35-VZ	9-18	12	250	470	250	74	79

Models

Single output (continued)

Model	Input Voltage (V)	Output Voltage (V)	Output Current Max (mA)	Capacitive Load Max (μF)	Input Current Full No Load (mA)		Efficiency (%)
AM3T-1215SH35-VZ	9-18	15	200	470	200	74	79
AM3T-1218SH35-VZ	9-18	18	167	220	167	74	79
AM3T-1224SH35-VZ	9-18	24	125	220	125	70	79
AM3T-2403SH35-VZ	18-36	3.3	800	2200	650	70	70
AM3T-2405SH35-VZ	18-36	5	600	2200	600	70	80
AM3T-2407SH35-VZ	18-36	7.2	417	1000	417	72	77
AM3T-2409SH35-VZ	18-36	9	333	470	333	72	80
AM3T-2412SH35-VZ	18-36	12	250	470	250	74	82
AM3T-2415SH35-VZ	18-36	15	200	470	200	74	82
AM3T-2418SH35-VZ	18-36	18	167	220	167	74	79
AM3T-2424SH35-VZ	18-36	24	125	220	125	70	80
AM3T-4803SH35-VZ	36-72	3.3	800	2200	650	70	77
AM3T-4805SH35-VZ	36-72	5	600	2200	600	70	77
AM3T-4807SH35-VZ	36-72	7.2	417	1000	417	72	78
AM3T-4809SH35-VZ	36-72	9	333	470	333	72	78
AM3T-4812SH35-VZ	36-72	12	250	470	250	74	80
AM3T-4815SH35-VZ	36-72	15	200	470	200	74	80
AM3T-4818SH35-VZ	36-72	18	167	220	167	74	77
AM3T-4824SH35-VZ	36-72	24	125	220	125	70	80

Models

Dual output

Model	Input Voltage (V)	Output Voltage (V)	Output Current Max (mA)	Capacitive Load Max (μF)	Input Current Full No Load (mA)		Efficiency (%)
AM3T-0505D-VZ	4.5-9	±5	±300	±1000	±300	±75	69
AM3T-0507D-VZ	4.5-9	±7.2	±208	±220	±208	±52	67
AM3T-0509D-VZ	4.5-9	±9	±167	±220	±167	±42	70
AM3T-0512D-VZ	4.5-9	±12	±125	±220	±125	±31	72
AM3T-0515D-VZ	4.5-9	±15	±100	±220	±100	±25	74
AM3T-0518D-VZ	4.5-9	±18	±83	±220	±83	±21	74
AM3T-0524D-VZ	4.5-9	±24	±63	±100	±63	±16	70
AM3T-1205D-VZ	9-18	±5	±300	±1000	±300	±75	76
AM3T-1207D-VZ	9-18	±7.2	±208	±220	±208	±52	77
AM3T-1209D-VZ	9-18	±9	±167	±220	±167	±42	77
AM3T-1212D-VZ	9-18	±12	±125	±220	±125	±31	79
AM3T-1215D-VZ	9-18	±15	±100	±220	±100	±25	79
AM3T-1218D-VZ	9-18	±18	±83	±220	±83	±21	78
AM3T-1224D-VZ	9-18	±24	±63	±100	±63	±16	79
AM3T-2405D-VZ	18-36	±5	±300	±1000	±300	±75	80
AM3T-2407D-VZ	18-36	±7.2	±208	±220	±208	±52	78
AM3T-2409D-VZ	18-36	±9	±167	±220	±167	±42	80
AM3T-2412D-VZ	18-36	±12	±125	±220	±125	±31	82
AM3T-2415D-VZ	18-36	±15	±100	±220	±100	±25	82
AM3T-2418D-VZ	18-36	±18	±83	±220	±83	±21	80
AM3T-2424D-VZ	18-36	±24	±63	±100	±63	±16	80
AM3T-4805D-VZ	36-72	±5	±300	±1000	±300	±75	78
AM3T-4807D-VZ	36-72	±7.2	±208	±220	±208	±52	78
AM3T-4809D-VZ	36-72	±9	±167	±220	±167	±42	79
AM3T-4812D-VZ	36-72	±12	±125	±220	±125	±31	80
AM3T-4815D-VZ	36-72	±15	±100	±220	±100	±25	80

Models

Dual output (continued)

Model	Input Voltage (V)	Output Voltage (V)	Output Current Max (mA)	Capacitive Load Max (μF)	Input Current Full No Load (mA)		Efficiency (%)
AM3T-4818D-VZ	36-72	±18	±83	±220	±83	±21	78
AM3T-4824D-VZ	36-72	±24	±63	±100	±63	±16	80
AM3T-0505DH35-VZ	4.5-9	±5	±300	±1000	±300	±75	69
AM3T-0507DH35-VZ	4.5-9	±7.2	±208	±220	±208	±52	67
AM3T-0509DH35-VZ	4.5-9	±9	±167	±220	±167	±42	70
AM3T-0512DH35-VZ	4.5-9	±12	±125	±220	±125	±31	72
AM3T-0515DH35-VZ	4.5-9	±15	±100	±220	±100	±25	74
AM3T-0518DH35-VZ	4.5-9	±18	±83	±220	±83	±21	74
AM3T-0524DH35-VZ	4.5-9	±24	±63	±100	±63	±16	70
AM3T-1205DH35-VZ	9-18	±5	±300	±1000	±300	±75	76
AM3T-1207DH35-VZ	9-18	±7.2	±208	±220	±208	±52	77
AM3T-1209DH35-VZ	9-18	±9	±167	±220	±167	±42	77
AM3T-1212DH35-VZ	9-18	±12	±125	±220	±125	±31	79
AM3T-1215DH35-VZ	9-18	±15	±100	±220	±100	±25	79
AM3T-1218DH35-VZ	9-18	±18	±83	±220	±83	±21	78
AM3T-1224DH35-VZ	9-18	±24	±63	±100	±63	±16	79
AM3T-2405DH35-VZ	18-36	±5	±300	±1000	±300	±75	80
AM3T-2407DH35-VZ	18-36	±7.2	±208	±220	±208	±52	78
AM3T-2409DH35-VZ	18-36	±9	±167	±220	±167	±42	80
AM3T-2412DH35-VZ	18-36	±12	±125	±220	±125	±31	82
AM3T-2415DH35-VZ	18-36	±15	±100	±220	±100	±25	82
AM3T-2418DH35-VZ	18-36	±18	±83	±220	±83	±21	80
AM3T-2424DH35-VZ	18-36	±24	±63	±100	±63	±16	80
AM3T-4805DH35-VZ	36-72	±5	±300	±1000	±300	±75	78
AM3T-4807DH35-VZ	36-72	±7.2	±208	±220	±208	±52	78
AM3T-4809DH35-VZ	36-72	±9	±167	±220	±167	±42	79
AM3T-4812DH35-VZ	36-72	±12	±125	±220	±125	±31	80
AM3T-4815DH35-VZ	36-72	±15	±100	±220	±100	±25	80
AM3T-4818DH35-VZ	36-72	±18	±83	±220	±83	±21	78
AM3T-4824DH35-VZ	36-72	±24	±63	±100	±63	±16	80

Input Specifications

Parameters	Nominal	Typical	Maximum	Units
Voltage Range	5	4.5-9		VDC
	12	9-18		
	24	18-36		
	48	36-72		
Filter	π (Pi) Network			
Start-up Time		20		Ms
Absolute Maximum Rating	5 Vin	-0.7-15		VDC
	12 Vin	-0.7-24		
	24 Vin	-0.7-40		
	48 Vin	-0.7-80		
Peak Input Voltage Time		15		Ms

Isolation Specifications

Parameters	Conditions	Typical	Rated	Units
Tested I/O Voltage	60 sec		1500 (3500 'H35' model)	VDC
Resistance		> 1000		MOhm
Capacitance		60		pF

Output Specifications

Parameters	Conditions	Typical	Maximum	Units
Voltage Accuracy		±1		%
Voltage Balance	Balanced Load	±1		%
Short Circuit Protection	Continuous			
Short Circuit Restart	Auto Recovery			
Line Voltage Regulation		±0.5		%
Load Voltage Regulation		±0.5		%
Temperature Coefficient		±0.02		%/°C
Ripple & Noise*	At 20MHz Bandwidth	60		mV p-p

* In order to achieve ripple and noise specification, a 100µF capacitor is required to be connected to the output of the converter

General Specifications

Parameters	Conditions	Typical	Maximum	Units
Switching Frequency	100% load	100-400		KHz
Operating Temperature	Full Load		-40 to +85	°C
Storage Temperature			-40 to +125	°C
Max Case Temperature			100	°C
Cooling	Free air convection			
Humidity			95	%
Case Material	Nickel coated copper			
Weight		12.16		G
Dimensions (L x W x H)	Tolerance ±0.5 mm or ±0.02 inches	1.25 x 0.8 x 0.4 inches	31.75 x 20.32 x 10.16 mm	
MTBF	>1,000,000 hrs (MIL-HDBK -217F, Ground Benign, t=+25°C)			

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.

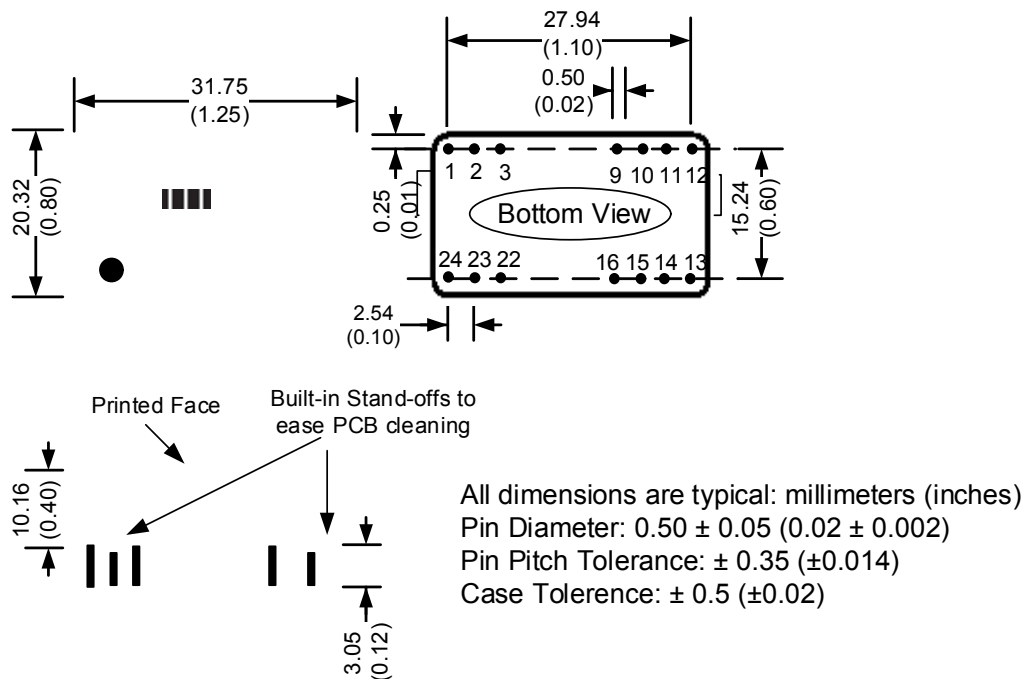
Safety Specifications

Parameters	
Agency Approvals	CE
Standards	Designed to meet IEC 60950-1

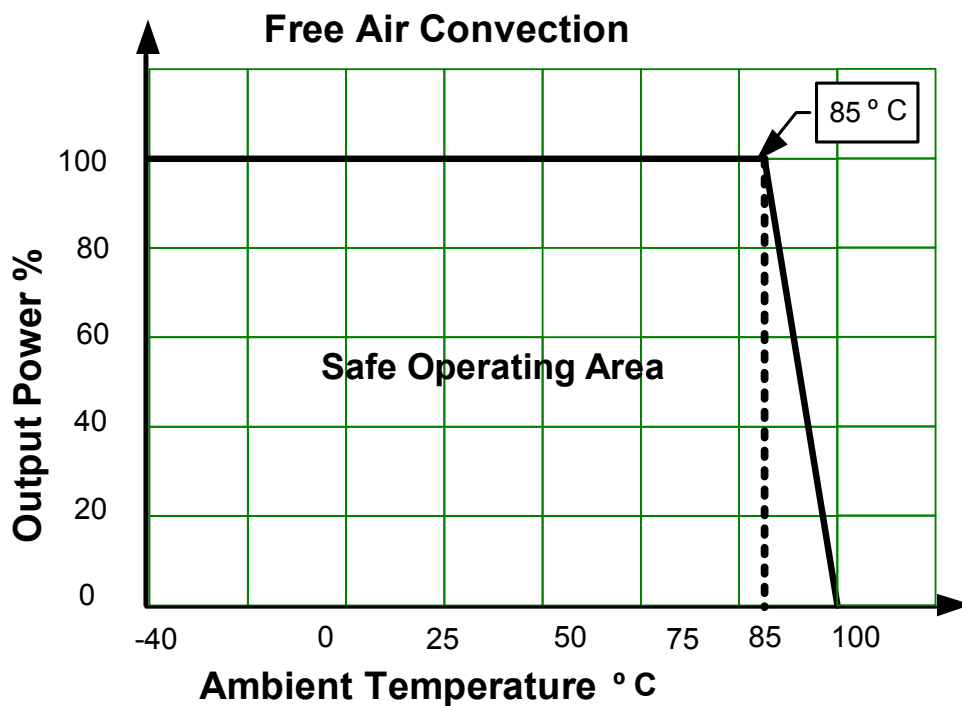
Pin Out Specifications

Pin	1500 VDC Isolation		3500 VDC Isolation	
	Single	Dual	Single	Dual
1	+V Input	+V Input	No Pin	No Pin
2	N.C.	-V Output	-V Input	-V Input
3	N.C.	Common	-V Input	-V Input
9	No pin	No pin	No pin	Common
10	-V Output	Common	No pin	No pin
11	+V Output	+V Output	N.C.	-V Output
12	-V Input	-V Input	No pin	No pin
13	-V Input	-V Input	No pin	No pin
14	+V Output	+V Output	+V Output	+V Output
15	-V Output	Common	No pin	No pin
16	No pin	No pin	-V Output	Common
22	N.C.	Common	+V Input	+V Input
23	N.C.	-V Output	+V Input	+V Input
24	+V Input	+V Input	No pin	No pin

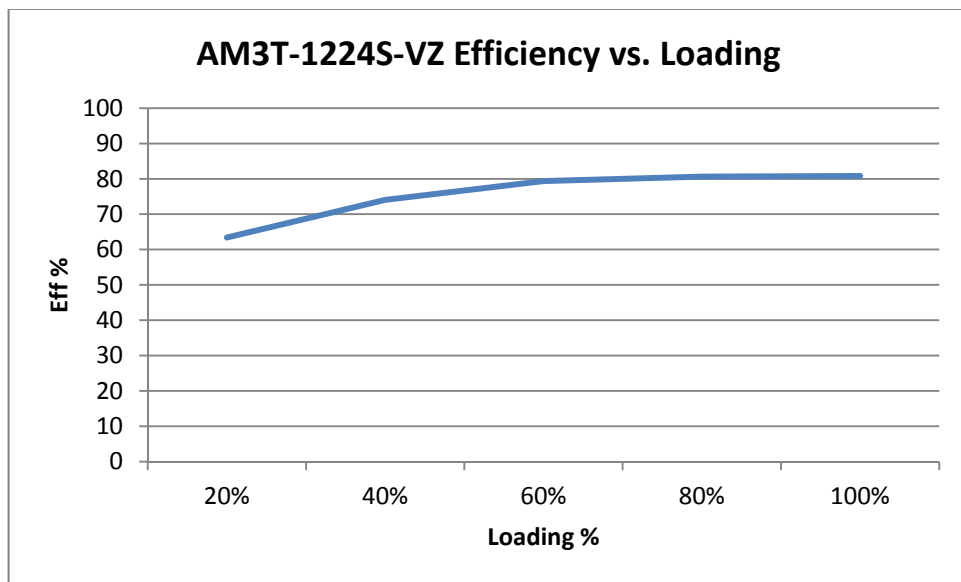
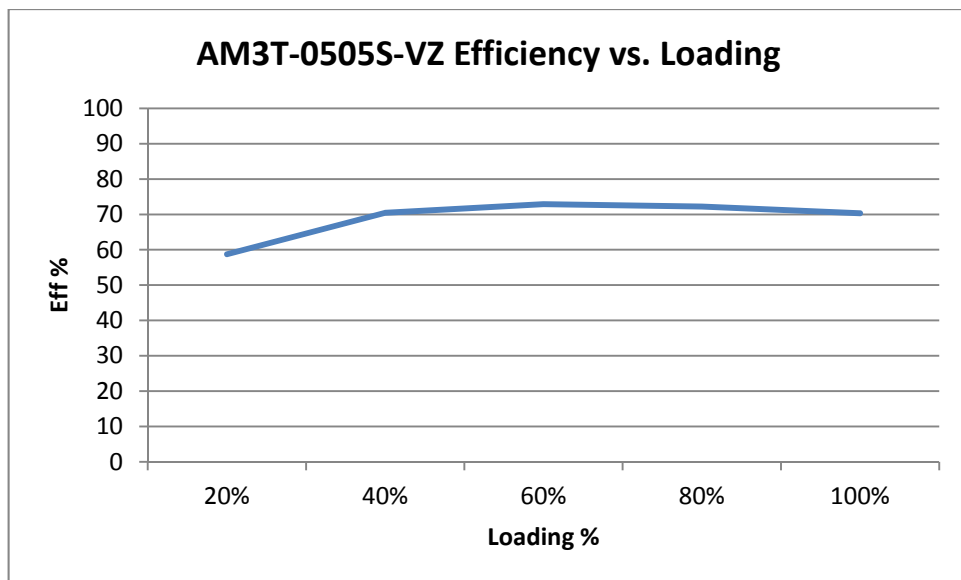
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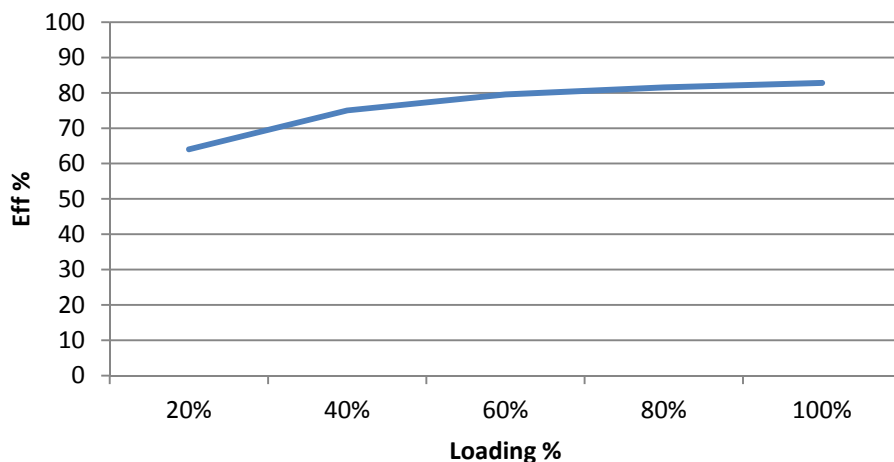
Derating



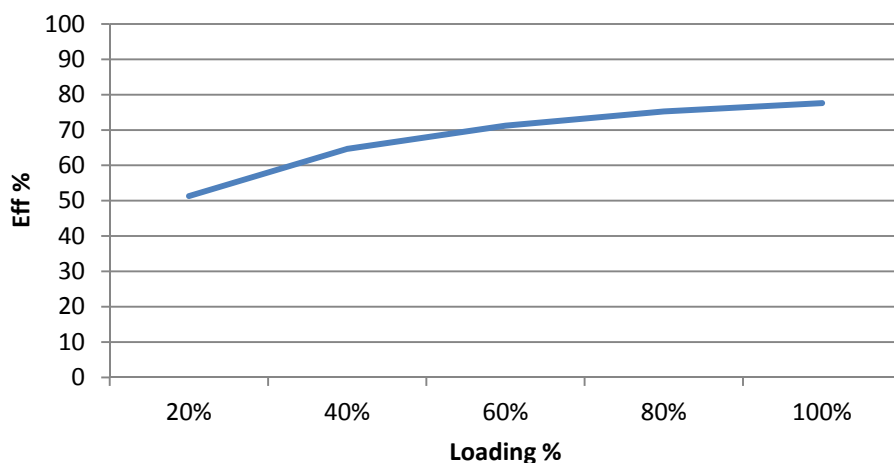
Typical Efficiency Example Charts



AM3T-2412S-VZ Efficiency vs. Loading



AM3T-4815S-VZ Efficiency vs. Loading



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