aimtec
Your Power Partner

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 -40ºC to +85ºC
- Input / Output Isolation 1500 or 3500 VDC
- Pin Compatible with Multiple Manufacturers
- Continuous Short Circuit Protection

RoHS

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.

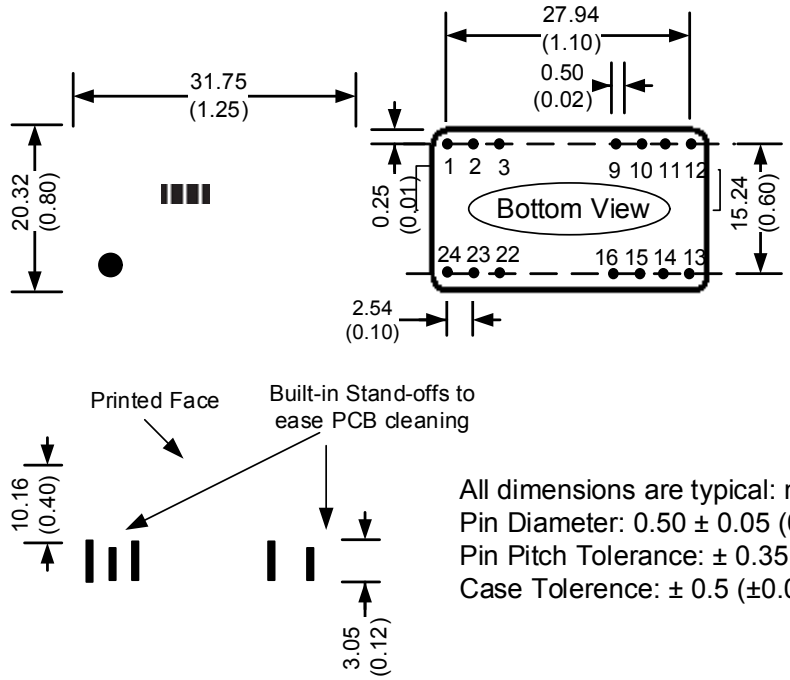
Safety Specifications

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

Pin Out Specifications

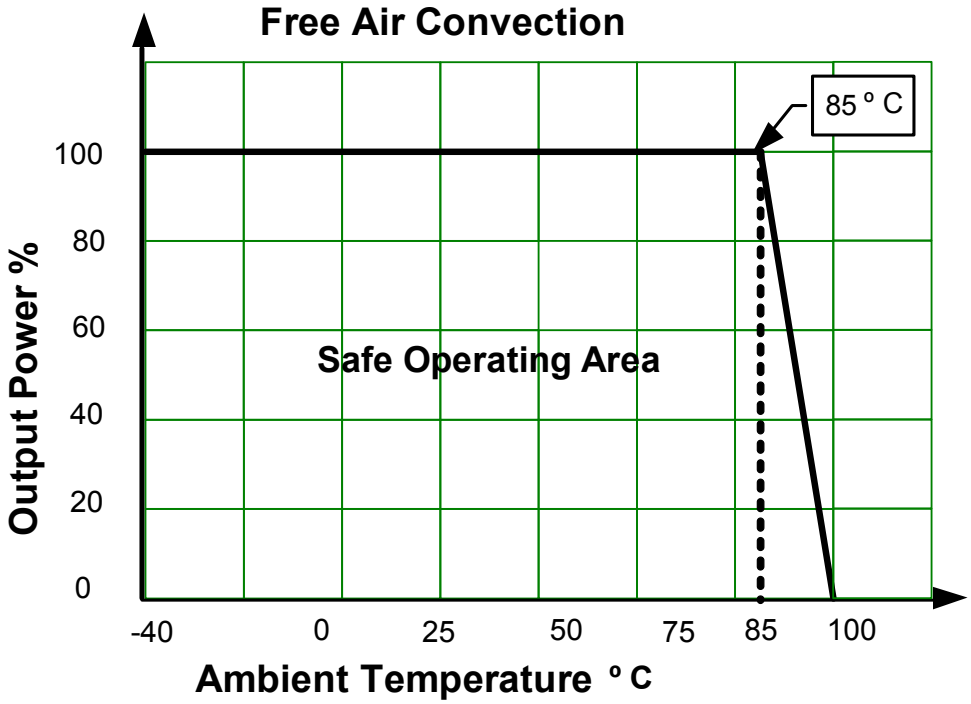
Pin	1500 VDC Isolation		3500 VDC Isolation	
	Single	Dual	Single	Dual
1	+V Input	+V Input	No Pin	No Pin
2	N.C.	-V Output	-V Input	-V Input
3	N.C.	Common	-V Input	-V Input
9	No pin	No pin	No pin	Common
10	-V Output	Common	No pin	No pin
11	+V Output	+V Output	N.C.	-V Output
12	-V Input	-V Input	No pin	No 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

Dimensions

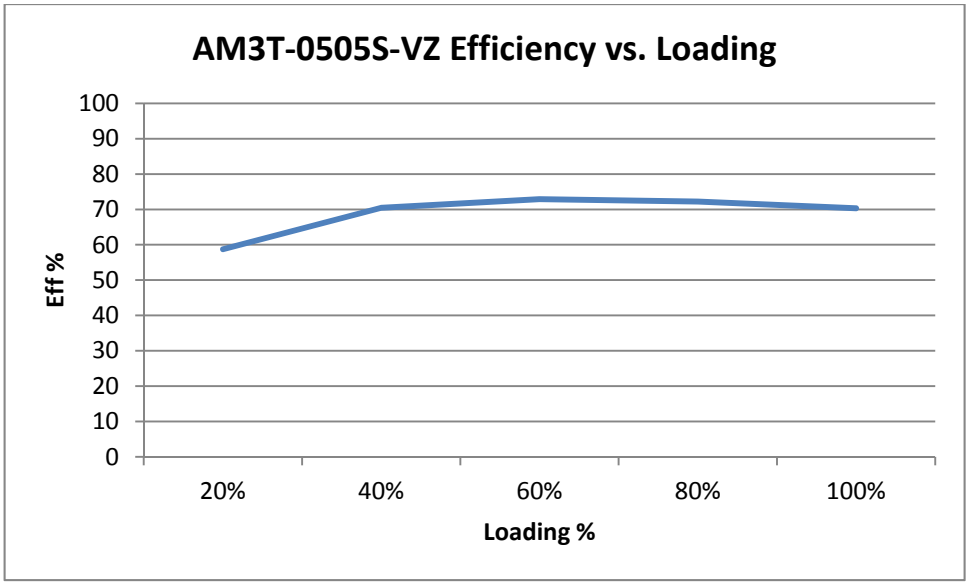


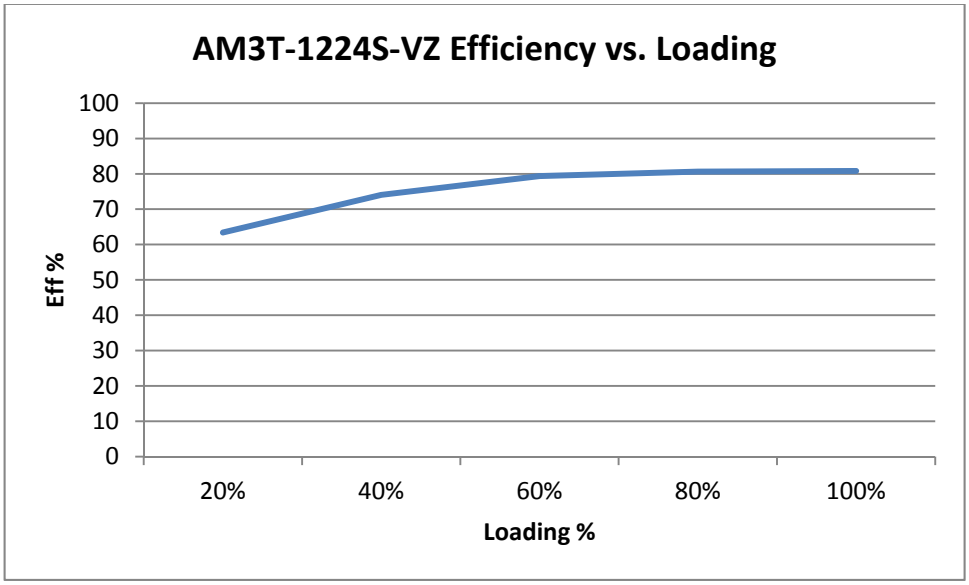
All dimensions are typical: millimeters (inches)
Pin Diameter: 0.50 ± 0.05 (0.02 ± 0.002)
Pin Pitch Tolerance: ± 0.35 (±0.014)
Case Tolerence: ± 0.5 (±0.02)

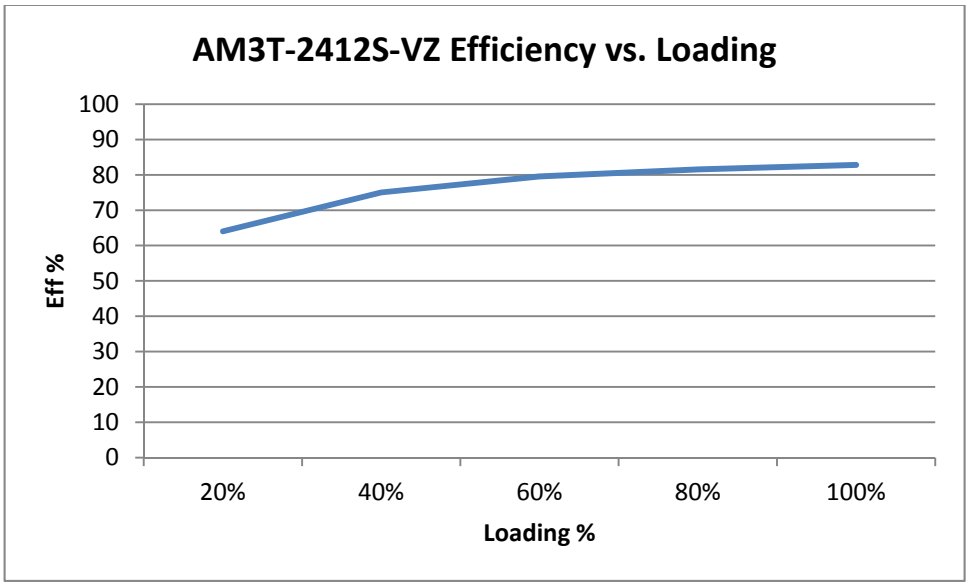
Derating

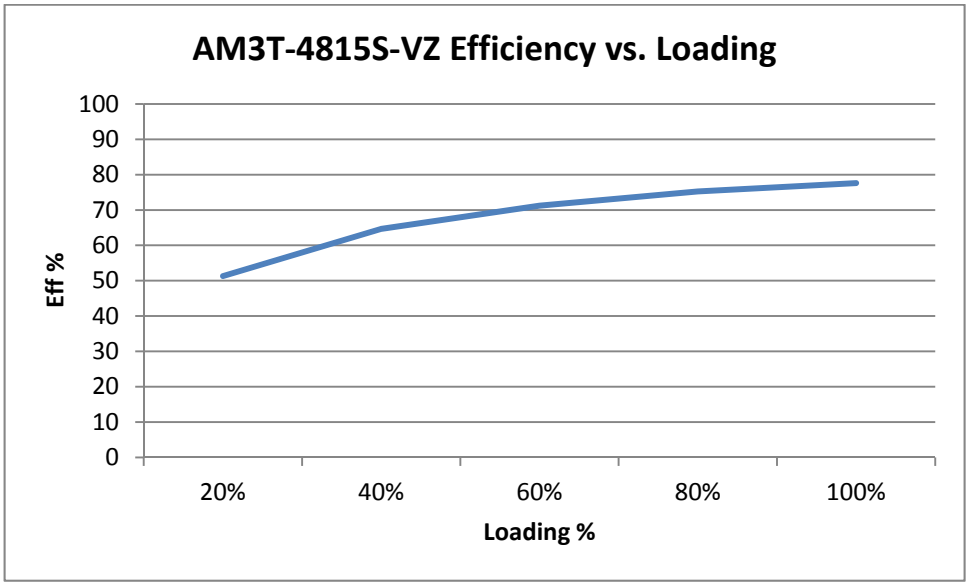


Typical Efficiency Example Charts









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