Features

- Low THD, 10% Max up to 240Vac
- Compact Metal Case with Excellent Thermal Performance
- Input Surge Protection: DM 4kV, CM 6kV
- High Reliability & Long Lifetime: 80,000 hrs. at 70°C Case Temperature
- Suitable for Built-in Use and Class I Luminaires
- IUVP&IOVP
- IP66 and UL Dry/Damp Location
- Class 2 & SELV Output
- TYPE HL, for Use in a Class I, Division 2 Hazardous (Classified) Location
- 5 Years Warranty

Description

The *EUC-035SxxxSTM000x* series is a 35W, constant-current IP66 LED driver that operates from 90-305 Vac input with excellent power factor and THD feature. It is created for many lighting applications including low bay, tunnel and street lights, etc. The high efficiency of these drivers and compact metal case enable them to run cooler, significantly improving reliability and extending product life. To ensure trouble-free operation, protection is provided against input surge, input under voltage, input over voltage, output over voltage, short circuit, and over temperature.

Models

Output Current	Input Voltage Range(1)	Output Voltage Range	Max. Output Power	Typical Efficiency (2)	Typical Power Factor		Model Number (3)
					120 Vac	220 Vac	
500 mA	90 ~ 305 Vac 127 ~ 300 Vdc	32 ~ 64 Vdc	32 W	87.0%	0.99	0.96	EUC-035S070STM0004
700 mA	90 ~ 305 Vac 127 ~ 300 Vdc	25 ~ 47 Vdc	33 W	86.0%	0.99	0.96	EUC-035S105STM0007(4)
860 mA	90 ~ 305 Vac 127 ~ 300 Vdc	20 ~ 41 Vdc	35 W	86.0%	0.99	0.96	EUC-035S105STM0004(4)
1050 mA	90 ~ 305 Vac 127 ~ 300 Vdc	18 ~ 33 Vdc	35 W	86.0%	0.99	0.96	EUC-035S105STM(4)

Notes: (1) certified input voltage range: UL, FCC 120-277Vac or 127-300Vdc; otherwise: 120-240Vac or 127-250Vdc.
(2) Measured at 100% load and 220 Vac input.
(3) SELV output.
(4) Class 2 output.

Input Specifications

Parameter	Min.	Typ.	Max.	Notes
Input AC Voltage	90 Vac	-	305 Vac	

Input Specifications (Continued)

Parameter	Min.	Typ.	Max.	Notes
Input DC Voltage	127 Vdc	-	300 Vdc	
Input Frequency	47 Hz	-	63 Hz	
Leakage Current	-	-	0.75 MIU	UL 8750; 277Vac/ 60Hz
	-	-	0.70 mA	IEC 60598-1; 240Vac/ 60Hz
Input AC Current	-	-	0.42 A	Measured at 100% load and 120 Vac input.
	-	-	0.2 A	Measured at 100% load and 220 Vac input.
Inrush Current(I^2t)	-	-	0.002 A^2s	At 220Vac input, 25℃ cold start, duration=40 μs, 10%Ipk-10%Ipk. See Inrush Current Waveform for the details.
PF	0.90	-	-	120-277Vac, 50-60Hz, 75%-100%Load (26~35W)
THD	-	-	15%	
	-	-	10%	120-240Vac, 50-60Hz, 75%-100%Load (26~35W)

Output Specifications

Parameter	Min.	Typ.	Max.	Notes
Output Current Tolerance	-8%Io	-	8%Io	At 100% load condition
Total Output Current Ripple (pk-avg)	-	50%Io	75%Io	At 100% load condition
Startup Overshoot Current	-	-	10%Io	At 100% load condition
No Load Output Voltage EUC-035S070STM0004 EUC-035S105STM0007 EUC-035S105STM0004 EUC-035S105STM	 - - - -	 - - - -	 82 V 60 V 60 V 60 V	
Line Regulation	-	-	±5.0%	Measured at 100% load
Load Regulation	-	-	±5.0%	
Turn-on Delay Time	-	1.5 s	2.0 s	Measured at 120Vac input, 75%-100%Load.
	-	1.0 s	1.5 s	Measured at 220Vac input, 75%-100%Load.
Temperature Coefficient of Iomax	-	0.06%/°C	-	Case temperature = 0°C ~Tc max

Note: All specifications are tested by Cree XLamp XP-G at 220Vac unless otherwise stated.

General Specifications

Parameter	Min.	Typ.	Max.	Notes
Efficiency at 120 Vac input: EUC-035S070STM0004 EUC-035S105STM0007 EUC-035S105STM0004 EUC-035S105STM	 85.0% 84.0% 84.0% 83.5%	 86.0% 85.0% 85.0% 84.5%	 - - - -	Measured at 100% load and steady-state temperature in 25°C ambient; (Efficiency will be about 1.0% lower if measured immediately after startup.)
Efficiency at 220 Vac input: EUC-035S070STM0004 EUC-035S105STM0007 EUC-035S105STM0004 EUC-035S105STM	 86.0% 85.0% 85.0% 85.0%	 87.0% 86.0% 86.0% 86.0%	 - - - -	Measured at 100% load and steady-state temperature in 25°C ambient; (Efficiency will be about 1.0% lower if measured immediately after startup.)
Efficiency at 277 Vac input: EUC-035S070STM0004 EUC-035S105STM0007 EUC-035S105STM0004 EUC-035S105STM	 86.0% 85.0% 85.0% 85.0%	 87.0% 86.0% 86.0% 86.0%	 - - - -	Measured at 100% load and steady-state temperature in 25°C ambient; (Efficiency will be about 1.0% lower if measured immediately after startup.)
MTBF	-	1172,000 Hours	-	Measured at 220Vac input, 80%Load and 25°C ambient temperature (MIL-HDBK-217F)
Lifetime	-	80,000 Hours	-	Measured at 120Vac input, 80%Load and 70°C case temperature; See lifetime vs. Tc curve for the details
Operating Case Temperature for Safety Tc_s	-40 °C	-	+90 °C	
Operating Case Temperature for Warranty Tc_w	-40 °C	-	+75 °C	Case temperature for 5 years warranty. Humidity: 10% RH to 95% RH;
Storage Temperature	-40 °C	-	+85°C	Humidity: 5%RH to 95%RH;
Dimensions Inches (L × W × H) Millimeters (L × W × H)	 3.15 × 2.52 × 1.26 80 × 64 × 32			With mounting ear 3.82 × 2.52 × 1.26 97 × 64 × 32
Net Weight	-	330 g	-	

Note: All specifications are tested by Cree XLamp XP-G unless otherwise stated.

Safety & EMC Compliance

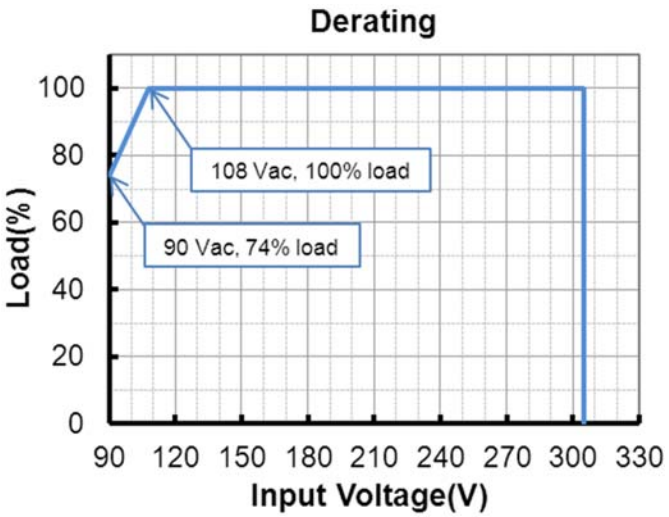
Safety Category	Standard
UL/CUL	UL 8750, UL 1310, CAN/CSA-C22.2 No. 250.13, CAN/CSA-C22.2 No. 223-M91
CE	EN 61347-1, EN 61347-2-13
CB	IEC 61347-1, IEC 61347-2-13
CCC	GB 19510.1, GB 19510.14
KS	KS C 7655
NOM	NOM-058-SCFI
EMI Standards	**Notes**
EN IEC 55015/GB/T 17743(1)	Conducted emission Test &Radiated emission Test
EN IEC 61000-3-2/GB 17625.1	Harmonic current emissions

Safety & EMC Compliance (Continued)

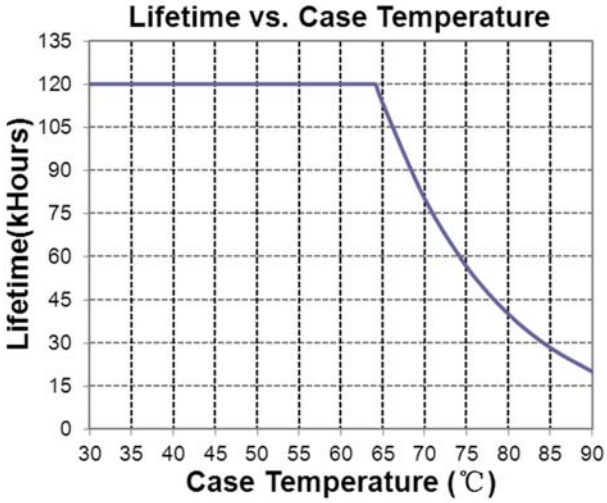
EMI Standards	Notes
EN 61000-3-3	Voltage fluctuations & flicker
FCC Part 15(1)	ANSI C63.4 Class B
	This device complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions: [1] this device may not cause harmful interference, and [2] this device must accept any interference received, including interference that may cause undesired operation.
EMS Standards	**Notes**
EN 61000-4-2	Electrostatic Discharge (ESD): 8 kV air discharge, 4 kV contact discharge
EN 61000-4-3	Radio-Frequency Electromagnetic Field Susceptibility Test-RS
EN 61000-4-4	Electrical Fast Transient / Burst-EFT
EN 61000-4-5	Surge Immunity Test: AC Power Line: Differential Mode 4 kV, Common Mode 6 kV
EN 61000-4-6	Conducted Radio Frequency Disturbances Test-CS
EN 61000-4-8	Power Frequency Magnetic Field Test
EN 61000-4-11	Voltage Dips
EN 61547	Electromagnetic Immunity Requirements Applies To Lighting Equipment

Note: (1) This LED driver meets the EMI specifications above, but EMI performance of a luminaire that contains it depends also on the other devices connected to the driver and on the fixture itself.

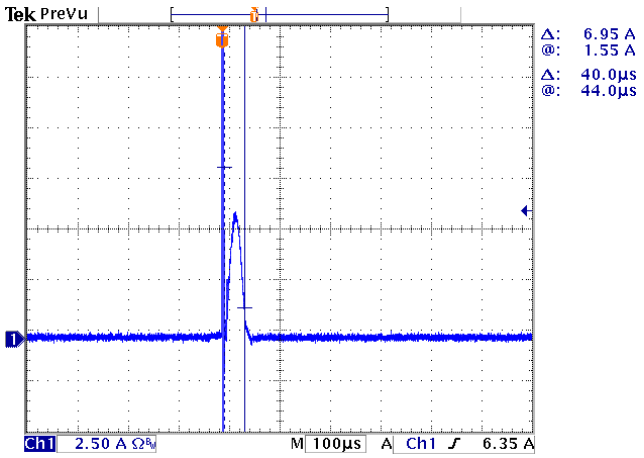
Derating



Lifetime vs. Case Temperature

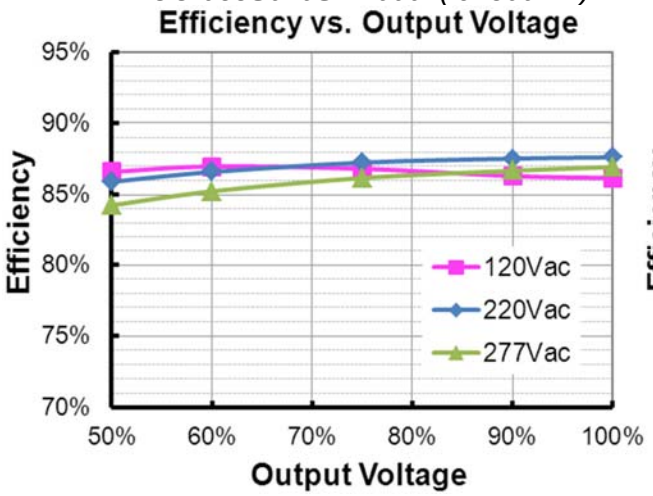


Inrush Current Waveform

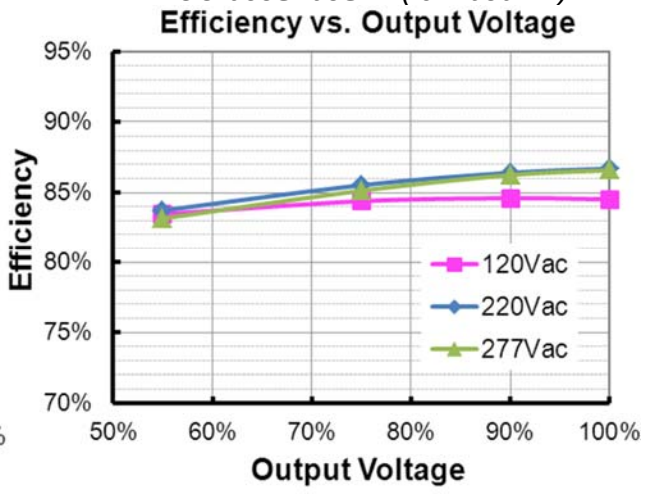


Efficiency vs. Load

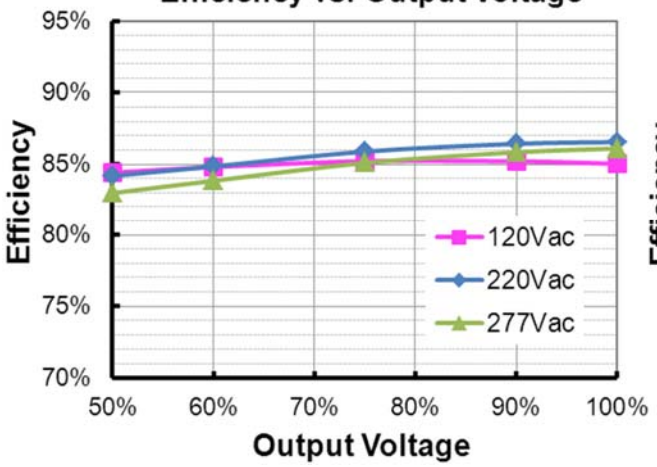
EUC-035S070STM0004(Io=500mA)



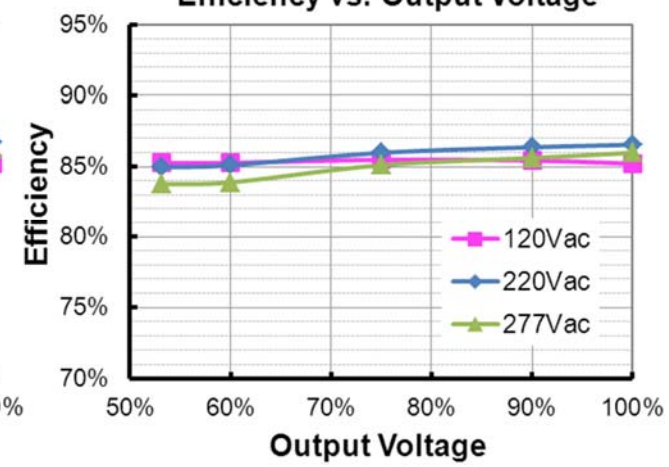
EUC-035S105STM(Io=1050mA)



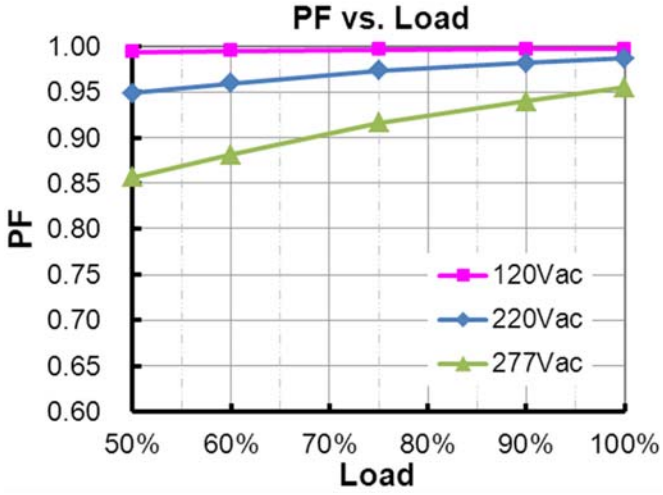
EUC-035S105STM0004(Io=860mA)



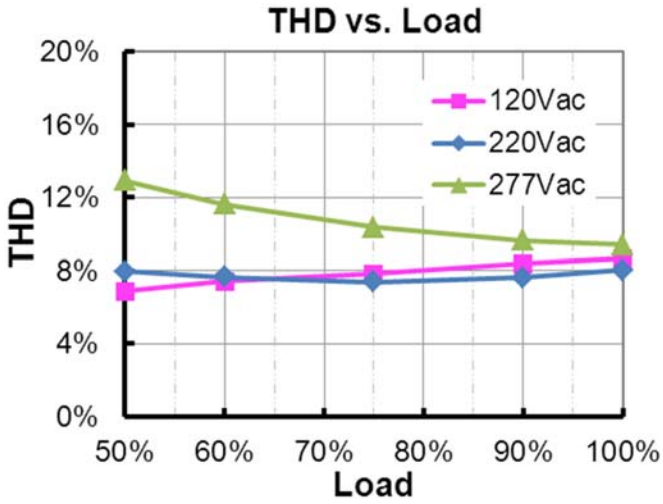
EUC-035S105STM0007(Io=700mA)



Power Factor



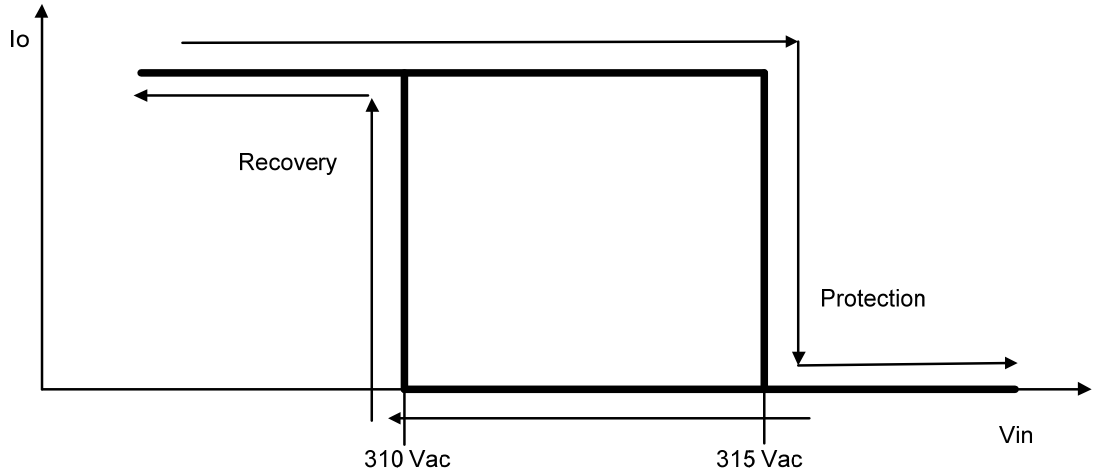
Total Harmonic Distortion



Protection Functions

Parameter		Min.	Typ.	Max.	Notes
Over Voltage Protection		Limits output voltage at no load and in case the normal voltage limit fails.			
Short Circuit Protection		Auto Recovery. No damage shall occur when any output operating in a short circuit condition. The power supply shall be self-recovery when the fault condition is removed.			
Over Temperature Protection		Decreases output current. Returning to normal after over temperature is removed.			
Input Under Voltage Protection		Auto Recovery. Turn off the output when the input voltage falls below 80±10V. And the driver will restart when the input voltage exceeds 85±10V.			
Input Over Voltage Protection	Input Protection Voltage	305 Vac	315 Vac	325 Vac	Turn off the output when the input voltage exceeds protection voltage.
	Recovery Voltage	290 Vac	310 Vac	330 Vac	Auto Recovery. The driver will restart when the input voltage falls below recovery voltage.
	Max. of Input Over Voltage	-	-	380 Vac	

- **Input Over Voltage Protection Diagram**



Specifications are subject to changes without notice. *All specifications are typical at 25℃ unless otherwise stated.*

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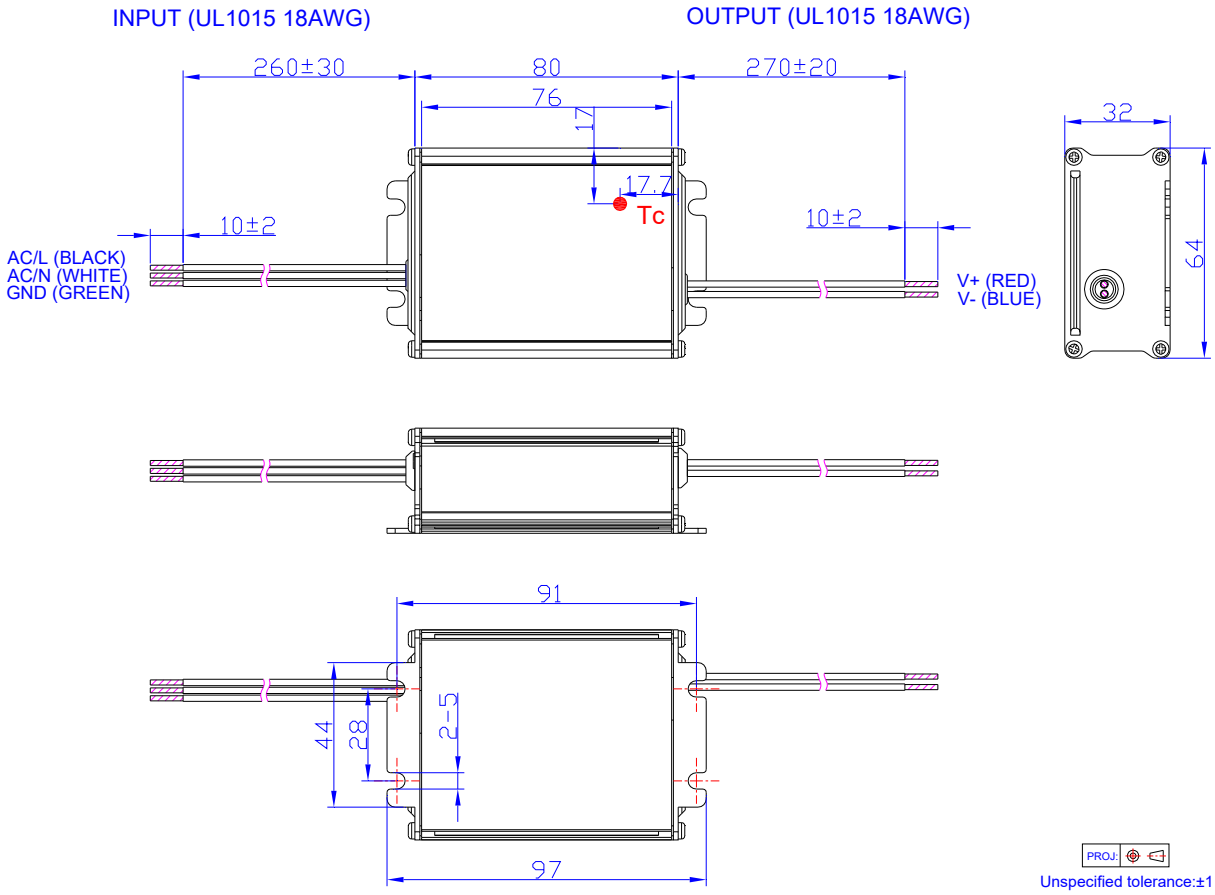
Mechanical Outline



RoHS Compliance

Our products comply with reference to RoHS Directive (EU) 2015/863 amending 2011/65/EU, calling for the elimination of lead and other hazardous substances from electronic products.

Revision History

Change Date	Rev.	Description of Change		
		Item	From	To
2016-04-29	A	Datasheet Release	/	/
2016-12-26	B	Input Voltage Range(Vac)	108 ~ 305 Vac	90 ~ 305 Vac
		Input Voltage Range(Vdc)	127 ~ 300 Vdc	Deleted
		Model Number - EUC-036S070STM(Io=700mA)	EUC-035S070STM0000	EUC-035S070STM
		Model Number - EUC-035S105STM(Io=1050mA)	EUC-035S105STM0000	EUC-035S105STM
		Total Output Current Ripple	Total Output Current Ripple (pk-pk) Max.= 150%Io	Total Output Current Ripple (pk-avg) Max.= 75%Io
		FCC Certificate Regulation	/	Added
		Derating Curve	/	Added
2017-03-21	C	Features	/	Updated
		Description	/	Updated
		Models - EUC-035S070STM0000	/	Deleted
		Models - EUC-035S105STM0007	/	Added
		MTBF	Min.=600,000Hours	Typ.=1172,000 Hours
		Protection Functions - Recovery Voltage	/	Added
		Protection Functions - Max. of Input Over Voltage	/	Added
		Input Over Voltage Protection Diagram	/	Added
2021-08-26	D	BIS	/	Deleted
		NOM	/	Added
		Features	/	Updated
		Description	/	Updated
		Models	Input Voltage Range(1)	Updated
		Models	Notes: (1)	Updated
		Input Specifications	Input DC Voltage	Added
		Safety & EMC Compliance	TUV/ CB/ CCC/ NOM	Added
		Safety & EMC Compliance	EN 61000-4-5	Updated
		RoHS Compliance	/	Updated

Revision History (Continued)

Change Date	Rev.	Description of Change		
		Item	From	To
2023-08-24	E	TUV logo	/	Deleted
		Product Photograph	/	Updated
		Safety & EMC Compliance	/	Updated