



ZORANTECH
卓然照明

160W 0/1-10V Double channel Dimmable C.C. Waterproof LED Driver



■ Features

- Constant Current (C.C.) output
- Metal housing ground surface design
- Built-in active PFC function
- Input voltage/Full range(up to 305VAC)
- High efficiency up to 92%
- Protections:Short circuit/Over current/Over voltage/Over load /Over temperature
- Cooling by free air convection
- No-load/standby power consumption≤1.0W
- IP67/IP65 design for indoor or outdoor installations
- Transformer copper wire is F class,Temperature up to 155°C
- THD:Unipolar plate≤25%,Bipolar plate≤10%
- Built-in 4 in 1 dimming function(1-10V or PWM or Resistor)
- Dimming range:0-100%/10-100%
- Lifetime≥50000H,5-7 years warranty
- Take imported ruby and black diamond capacitance mainly
- Noise free,flicker free
- OEM & ODM, no MOQ, Support customization
- Compliance to worldwide safety regulations for lighting

■ Description

The 0-10V constant current waterproof series produced by Zoran Technology is an AC-to-DC dimmable driver. operates from 90~305VAC and offers models with different rated voltage ranging ~between 20V and 200V. Thanks to the high efficiency up to 92%, with the fanless design, the entire series is able to operate for -40~ +90 °C case temperature under free air convection. It can be widely matched with all European dimmers and lighting control systems, Australian mainstream dimmers and lighting control systems, such as: Philips, Qisheng, etc., Lutron series and Leviton series dimmers and systems, flicker free,achieve perfect soft dimming.

■ Applications

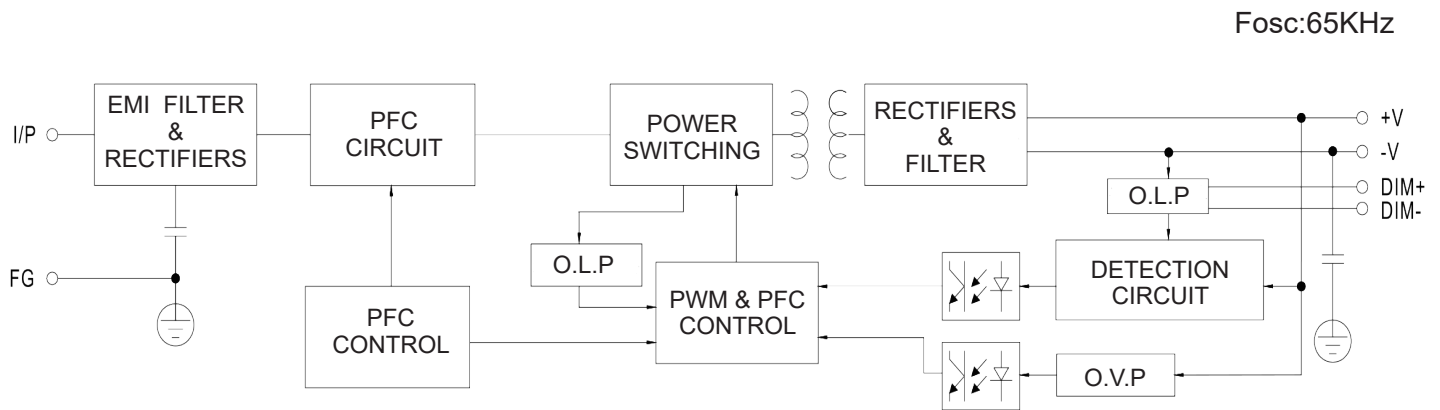
- LED outdoor lighting
- LED landscape light
- LED architectural light
- LED street light
- LED flood light
- LED wall washer light
- LED high light
- LED underground light
- LED tunel light
- LED garden lights
- LED line light
- LED stage lights
- LED Spot light

■ Electrical Specification

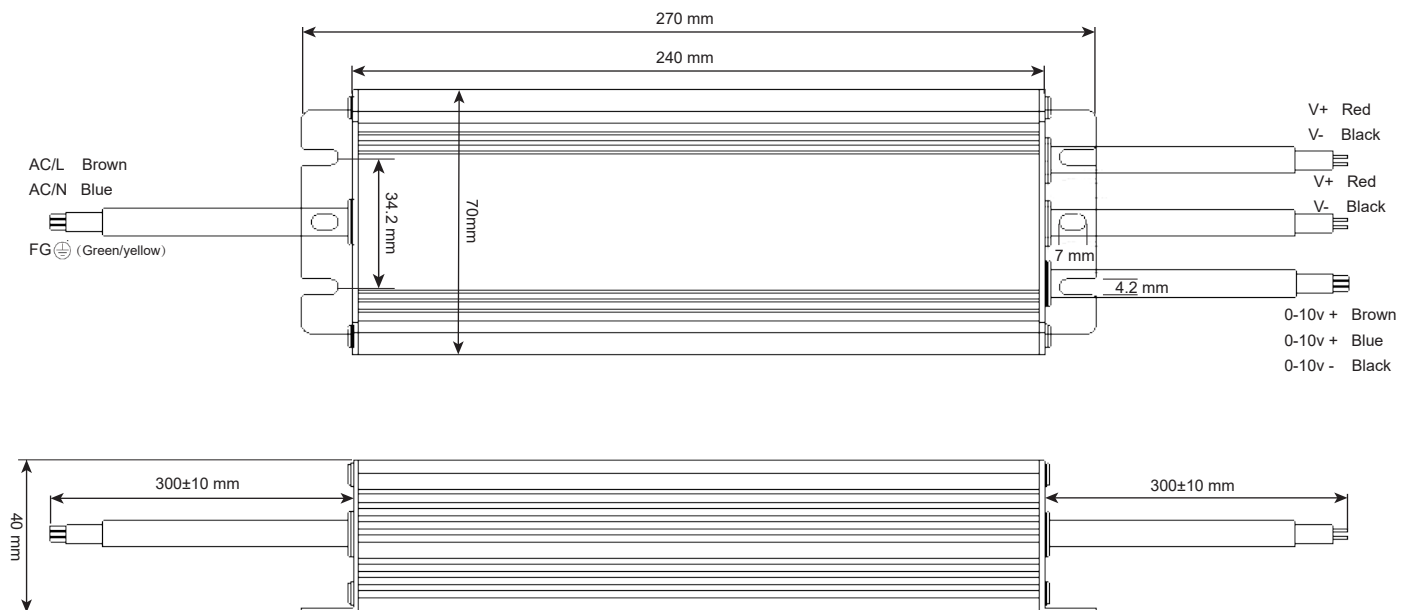
MODEL		ZR-HCM**NE-80W*2 (** Represents the highest output voltage)				
Output	Output Voltage Note.1	15-30 VDC*2	27-42 VDC*2	45-60 VDC*2	60-80 VDC*2	80-100 VDC*2
	Output Current Note.2	2670 mA*2	1900 mA*2	1330 mA*2	1000 mA*2	800 mA*2
	Rated Power	160 W	160 W	160 W	160 W	160 W
	Ripple & Noise Note.3	120mVp-p	120mVp-p	120mVp-p	150mVp-p	150mVp-p
	Voltage Tolerance Note.4	±3%	±3%	±3%	±2%	±2%
	Line Regulation	±0.5%	±0.5%	±0.5%	±0.5%	±0.5%
	Load Regulation	±1.5%	±1.5%	±1.0%	±1.0%	±0.5%
	Setup,Rise Time Note.6	1600ms,800ms/115VAC 500ms,1000ms/230VAC				
	Hold Up Time (Typ.)	10ms/115VAC 230VAC				
Input	Rate Voltage Note.5	90~265VAC OR 100-277VAC				
	Frequency Range	48-62Hz				
	Power Factor	PF≥0.98/115VAC PF≥0.96/230VAC PF≥0.95/265VAC at full load				
	THD	THD≤25%(unipolar load≥50%/115VAC load≥60%/230VAC load≥75%/265VAC) THD≤10%(Bipolar)				
	Full load Efficiency	≥89%	≥90%	≥90%	≥91%	≥91%
	AC Current (Typ.)	1.53A/115VAC 0.77A/230VAC 0.66A/265VAC				
	Leakage Current	0.7mA/265VAC				
	No-load power consumption	≤1.0W				
Protection	Over Current	95-108%				
		Protection type:Constant current limiting,recovers automatically after fault condition is removed				
	Over Load	≤120% Recovers automatically after fault condition is removed				
	Short Circuit	Hiccup Mode,Recovers automatically after fault condition is removed				
	Over Voltage	Protection type:Shut down O/P voltage,re-power on to recover				
	Over Temperature	Shut down O/P voltage,re-power on to recover				
Environment	Working Temperature	Tcase=-40~+80℃ (Refer to “Derating curve”)				
	Max Case Temperature	Tcase=+90℃				
	Working Humidity	20-95%RH non-condensing				
	Storage TEMP. Humidity	-40~+80℃ 10-95%RH				
	TEMP. Coefficient	±0.03%/℃ (0-50℃)				
	Vibration	10-500Hz, 5G 12min/1 cycle period for 72 min.each along X,Y,Z axes				
Safety & EMC	Safe Standards	U8750,CSA C22.2 No.250.13-12;ENEC AS/NZS IEC EN61347-1;AS/NZS IEC EN61347-2-13 independent EN62348;GB19510.14 IP65 or IP67				
	DALI Standards	Compliance to IEC-62386-101,102,207(only to YD/ND series)				
	Withstand Voltage	I/P-O/P:3.75KVAC I/P-FG:2.0KVAC O/P-FG:1.0KVAC				
	Isolation Resistance	I/P-O/P,I/P-FG,O/P-FG:100M ohms/500VDC/25℃/70%RH				
	EMC Emission	Compliance to EN55015,EN61000-3-2 Class C(≥60% load);EN61000-3-3;GB17743;GB17625.1				
	EMC Immunity	Compliance to EN61000-4-2,3,4,5,6,8,11;EN61547 heavy industry level(surge 4KV),criteria A				
Others	MTBF	≥250K hrs min,MIL-HDBK-217F(25℃)				
	Dimension	L 270*W 70*H 40 mm				
	Weight	1500g				
	Packing	15pcs/22.5Kg/ctn/0.72CUFT				
Note	1.All parameters not specially mentioned are measured at 230VAC input, rated load and 25℃ of ambient temperature. 2.Ripple&Noise are measured at 20MHz of bandwidth by using a 12"twisted pair-wire terminated with a 0.1uf & 47uf parallel capacitor. 3.Tolerance: includes set up tolerance, line regulation and load regulation. 4.Derating may be needed under low input voltages. Please check the static characteristics for more details. 5.Length of seting time is measured at first cold starting. Turning ON/OFF the power supply may increase of the length of seting time. 6.The power supply is considered as a component that will be operated in combination with final equipment. Since EMC performance will be affected by the complete installation, the final equipment manufactures must re-qualify EMC Directive on the complete installation again. 7.When the maximum temperature point Tc of the shell of this series is lower than 80℃, the working life is more than 50,000 hours. 8.Please refer to the product warranty on Zoran Technology website http://www.zorantech.com . 9.If you need other special parameters, please contact our customer service for consultation!					



Block Diagram

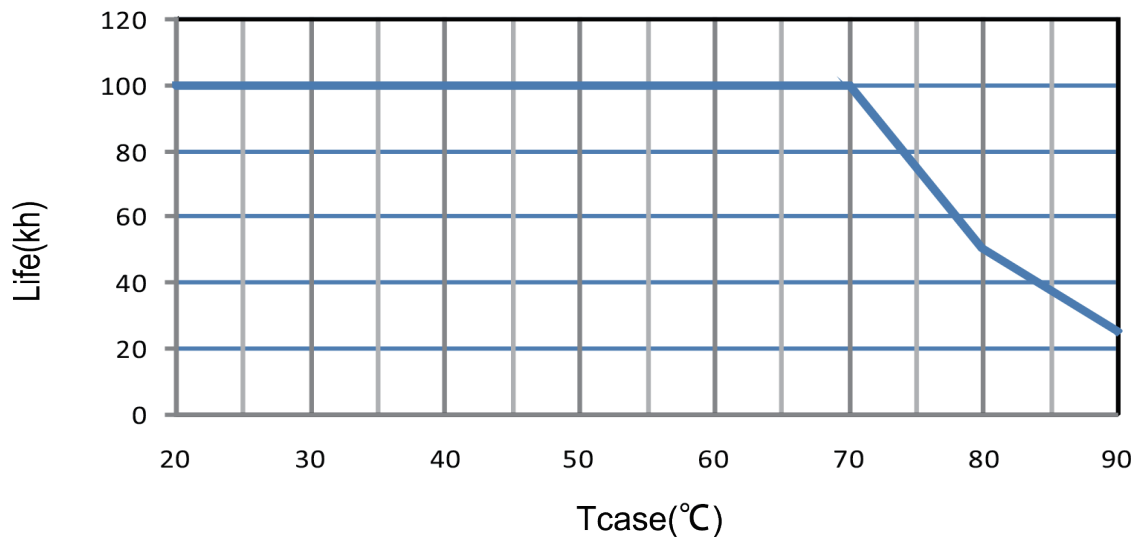


Mechanical Specification

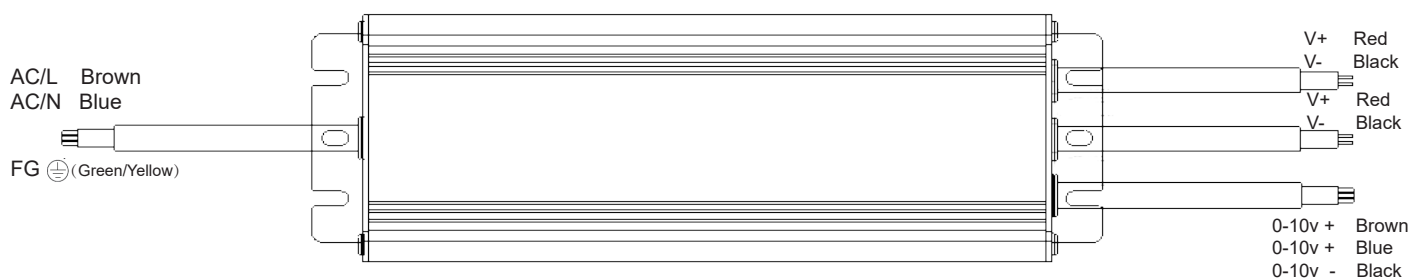


- ※ The input is a 3*1.0mm² core wire, in which the green yellow wire is the ground (YG), the brown wire is the AC phase wire(L), and blue wire is the AC neutral wire (N);
- ※ The output is a 3*0.75mm² core, where the brown line and the blue line is the positive dimming signal (DIM+) the black line is the dimming signal negative (DIM -);
- ※ The output is a 2*1.0mm² core, the red line is the positive output voltage (V+), and the black line is the negative output voltage (V-);
- ※ Connect the corresponding DALI, 0/1-10V, PWM, and resistance dimmers according to the label on the power supply case;
- ※ In addition, the length and thickness of the input and output lines can be customized according to customer requirements. Please contact Zoran Customer Service for details;

Life



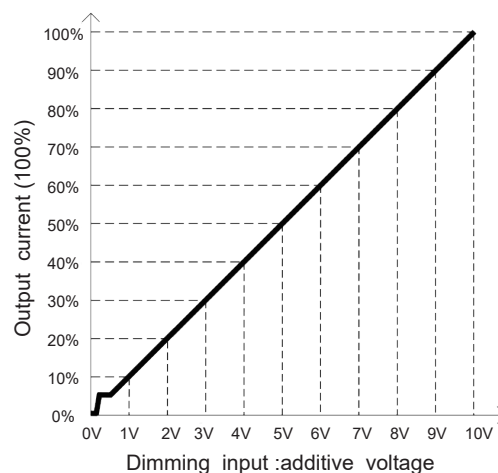
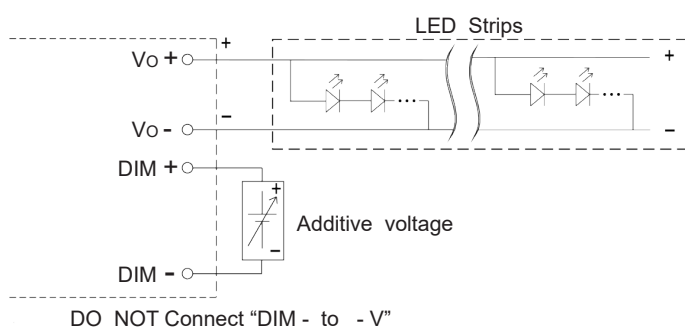
■ Dimming Operation



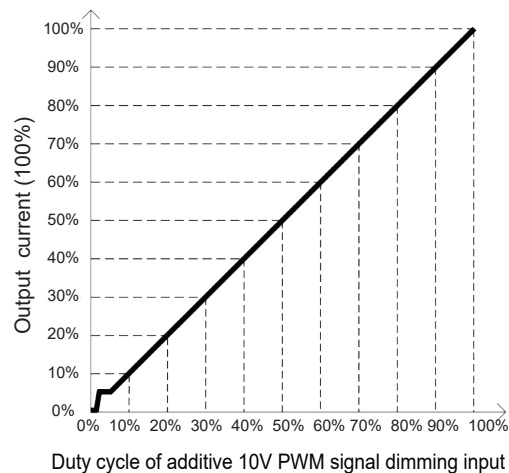
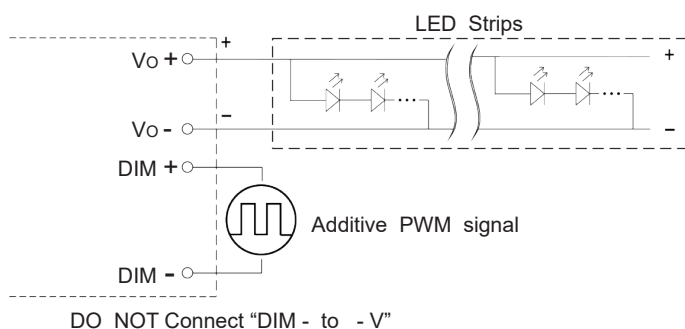
※ 4 in 1 dimming function(for E/A-Type)

- Output constant current level can be adjusted by applying one of the three methodologies between DIM+ and DIM-: 0-10VDC, or 1-10VDC, or 10V PWM Signal or resistance.
- Direct connecting to LED is suggested. It is not suitable to be used with additional drivers.
- Dimming source current from power supply: 100 μ A(typ.)

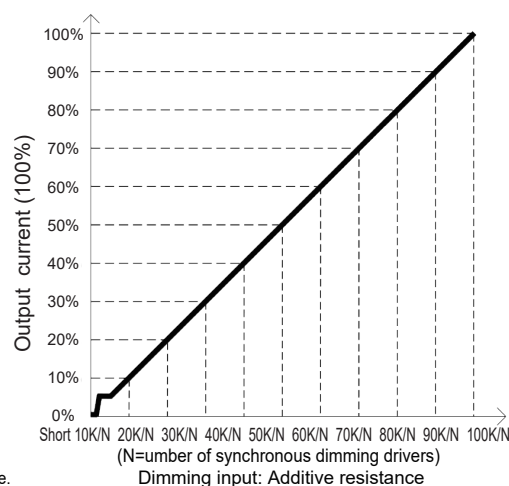
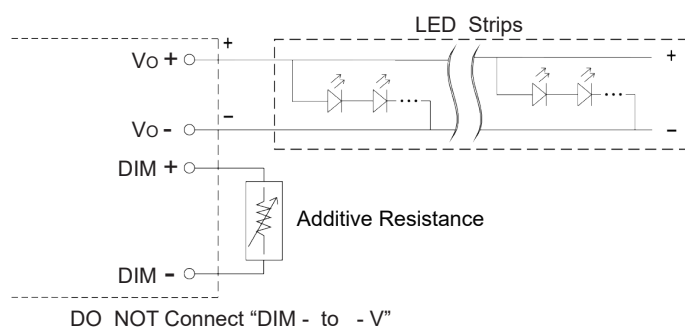
◎ Applying additive 0~10VDC:



◎ Applying additive 10V PWM signal(frequency range 100Hz~3KHz):



◎ Applying additive resistance:

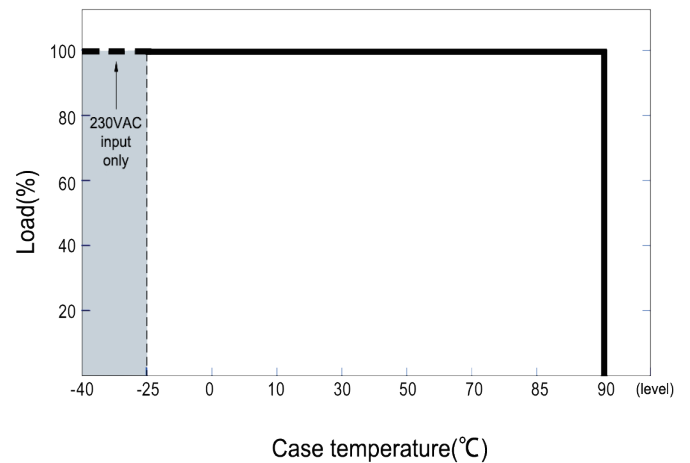
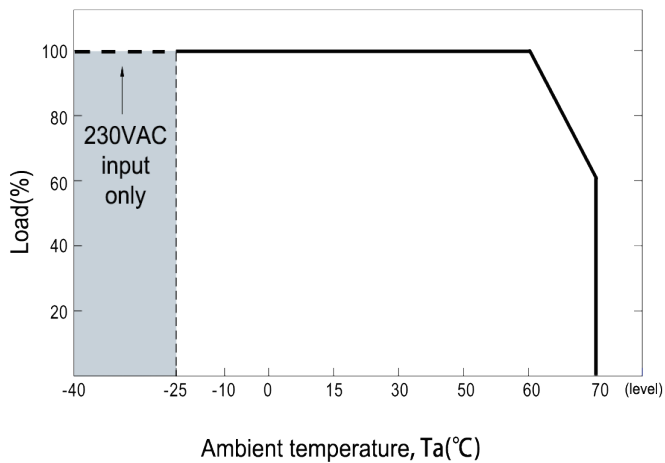


Note:

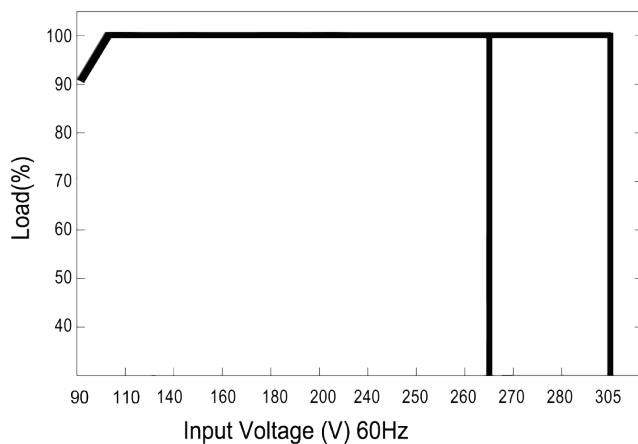
1. Min. dimming level is about 3% and the output current is not defined when $0\% < I_{out} < 3\%$.
2. The output current could drop down to 0% when dimming input is about 0k Ω or 0Vdc, or 10V PWM signal with 0% duty cycle.



Output load VS Temperature



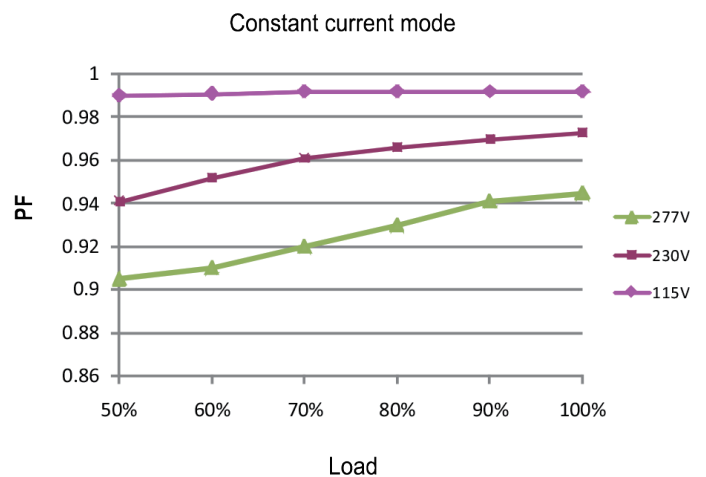
Static characteristic curve



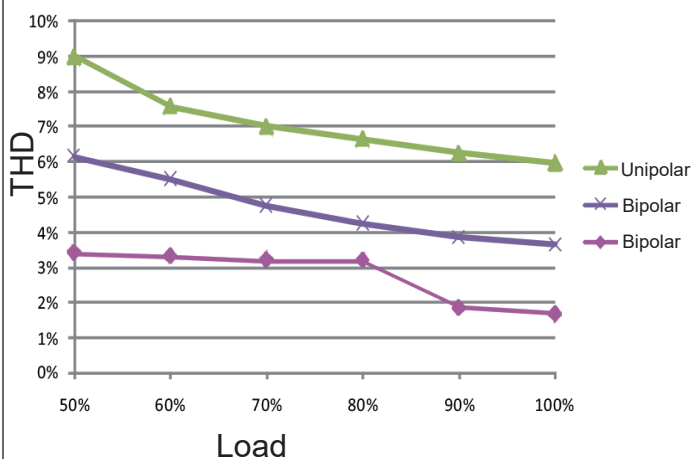
※ Derating output at low input voltage

PF characteristic curve

※ Tcase at 80°C



THD characteristic curve



Efficiency VS Load

