



ZORANTECH
卓然照明

300W 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 \leq 1.0W
- IP67/IP65 design for indoor or outdoor installations
- Transformer copper wire is F class, Temperature up to 155°C
- THD:Unipolar plate \leq 25%,Bipolar plate \leq 10%
- Built-in 4 in 1 dimming function(1-10V or PWM or Resistor)
- Dimming range:0-100%/10-100%
- Lifetime \geq 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.

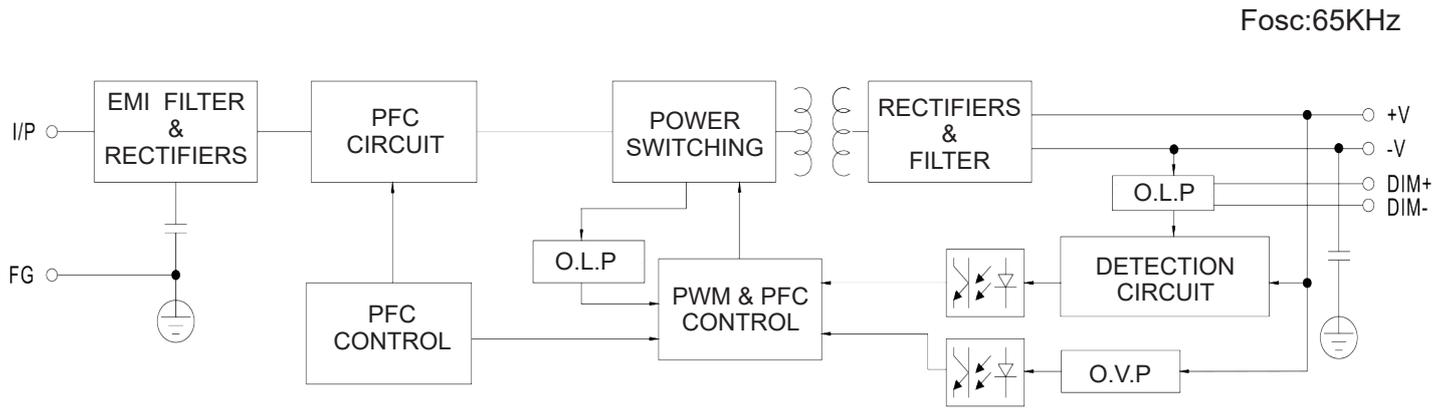
■ Applications

- 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

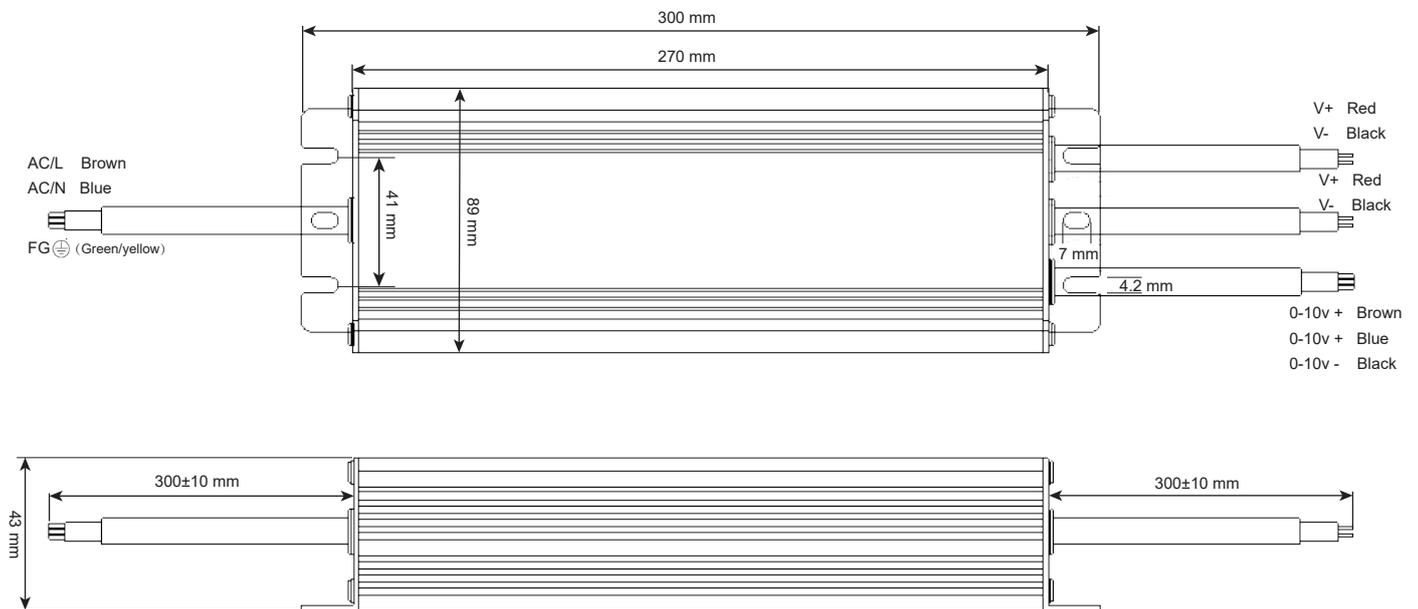
■ Electrical Specification

MODEL		ZR-HCM**NE-150W*2 (** Represents the highest output voltage)				
Output	Output Voltage <small>Note.1</small>	15-30 VDC*2	27-42 VDC*2	45-60 VDC*2	60-80 VDC*2	80-100 VDC*2
	Output Current <small>Note.2</small>	5000 mA*2	3570 mA*2	2500 mA*2	1500 mA*2	1500 mA*2
	Rated Power	300 W	300 W	300 W	300 W	300 W
	Ripple & Noise <small>Note.3</small>	150mVp-p	200mVp-p	200mVp-p	250mVp-p	250mVp-p
	Voltage Tolerance <small>Note.4</small>	±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 <small>Note.6</small>	1600ms,800ms/115VAC 500ms,1000ms/230VAC				
Hold Up Time <small>(Typ.)</small>	10ms/115VAC 230VAC					
Input	Rate Voltage <small>Note.5</small>	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 <small>(Typ.)</small>	2.87A/115VAC 1.43A/230VAC 1.24A/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 °C (Refer to "Derating curve")				
	Max Case Temperature	Tcase=+90 °C				
	Working Humidity	20-95%RH non-condensing				
	Storage TEMP. Humidity	-40~+80 °C 10-95%RH				
	TEMP. Coefficient	±0.03%/°C (0-50 °C)				
Safety & EMC	Vibration	10-500Hz, 5G 12min/1 cycle period for 72 min.each along X,Y,Z axes				
	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 °C/70%RH				
Others	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				
	MTBF	≥250K hrs min,MIL-HDBK-217F(25 °C)				
	Dimension	L 300*W 89*H 43 mm				
Note	Weight	1800g				
	Packing	10pcs/18Kg/ctn/0.72CUFT				
<p>1.All parameters not specially mentioned are measured at 230VAC input, rated load and 25 °C of ambient temperature.</p> <p>2.Ripple&Noise are measured at 20MHz of bandwidth by using a 12"twisted pair-wire terminated with a 0.1uf & 47uf parallel capacitor.</p> <p>3.Tolerance: includes set up tolerance, line regulation and load regulation.</p> <p>4.Derating may be needed under low input voltages. Please check the static characteristics for more details.</p> <p>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.</p> <p>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.</p> <p>7.When the maximum temperature point Tc of the shell of this series is lower than 80 °C , the working life is more than 50,000 hours.</p> <p>8.Please refer to the product warranty on Zoran Technology website http://www.zorantech.com.</p> <p>9.If you need other special parameters, please contact our customer service for consultation!</p>						

Block Diagram

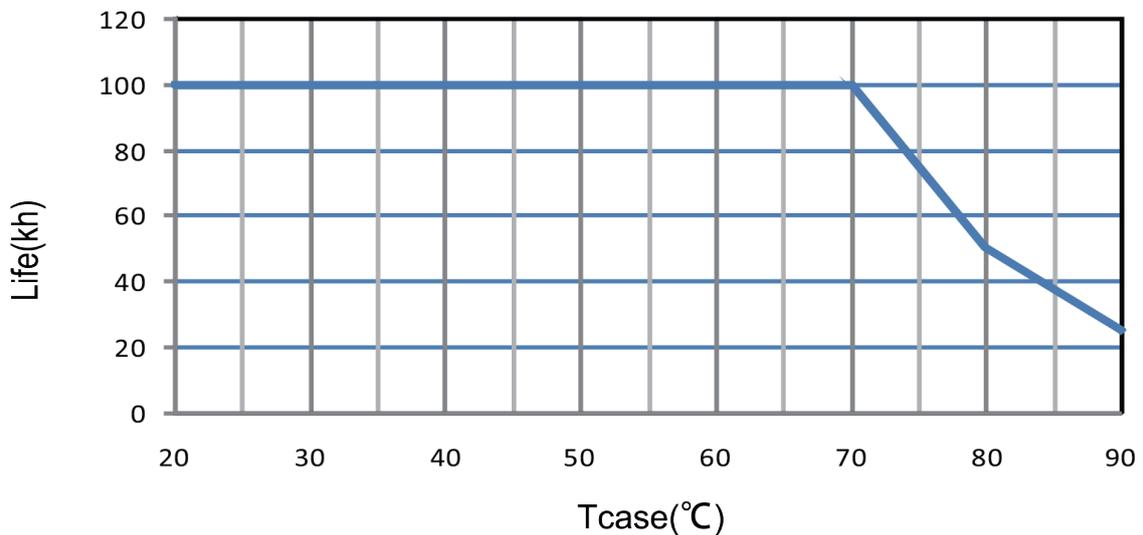


Mechanical Specification

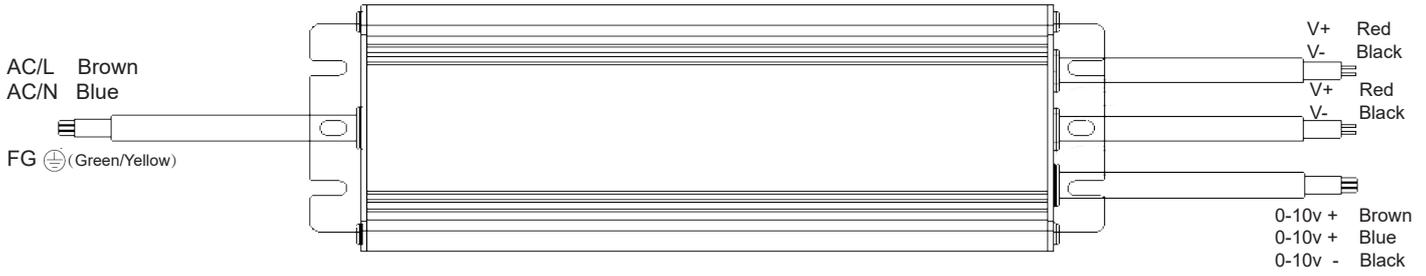


- ※ The input is a 3*1.0mm² core wire, in which the green yellow wire is the ground (YG), the brown wire is the AC phase wire(L),and blue wire is the AC neutral wire (N);
- ※ The output is a 3*0.75mm² core, where the brown line and the blue line is the positive dimming signal (DIM+) the black line is 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



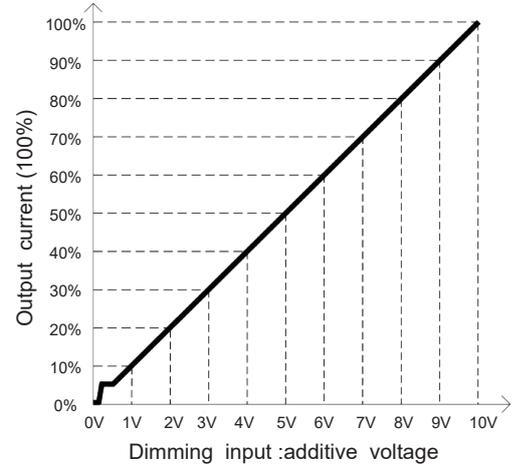
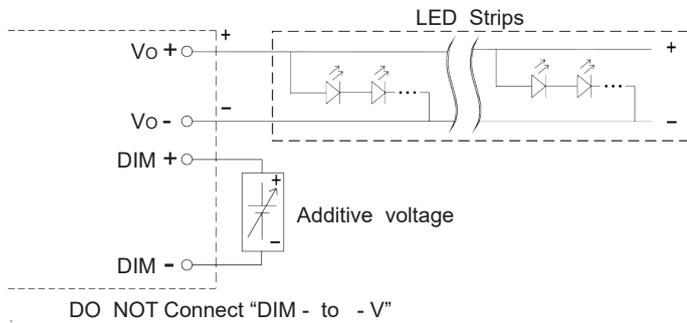
■ Dimming Operation



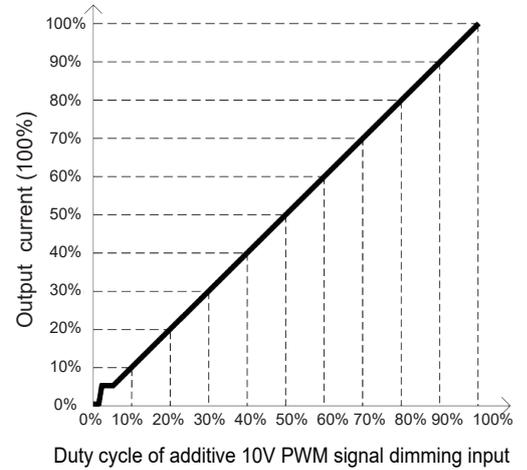
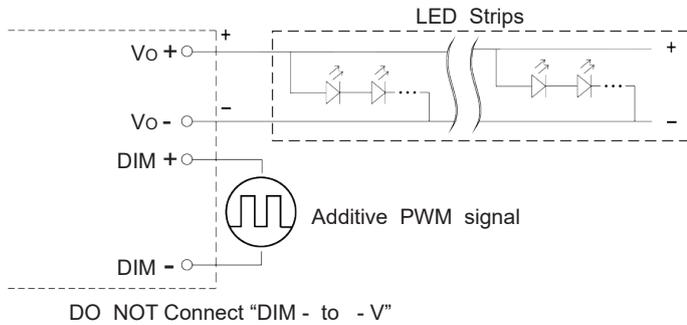
※ 4 in 1 dimming function(for E/A-Type)

- 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: 100μA(typ.)

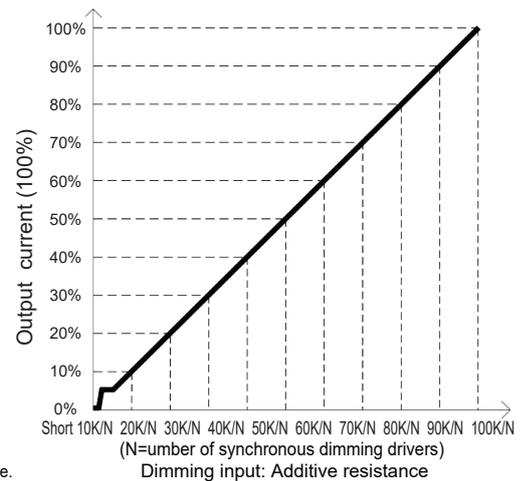
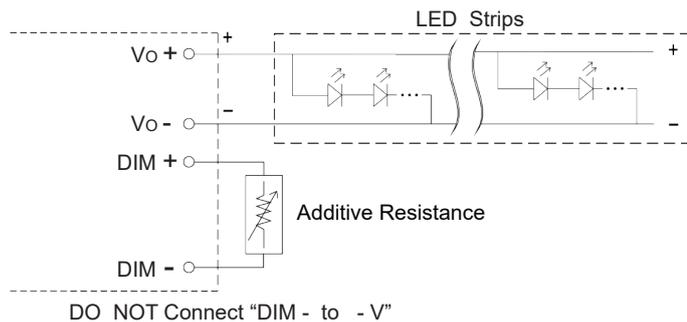
◎ Applying additive 0~10VDC:



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



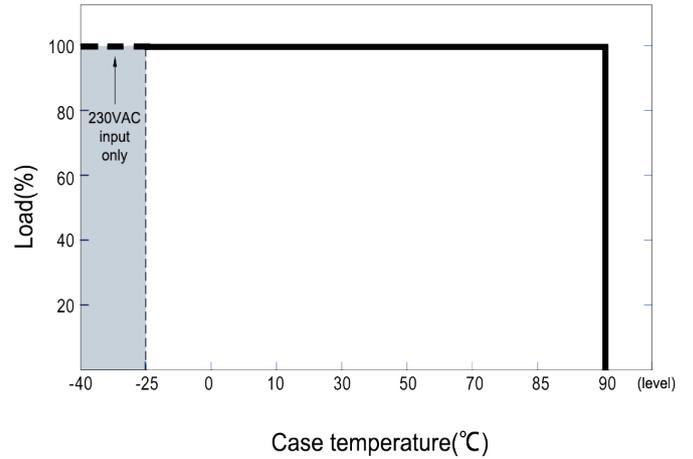
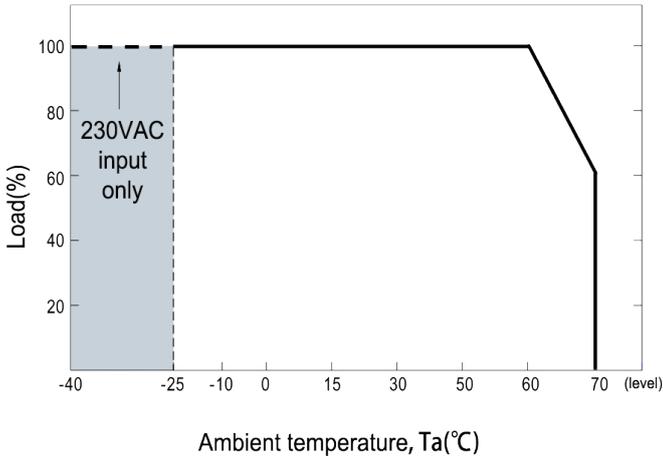
◎ Applying additive resistance:



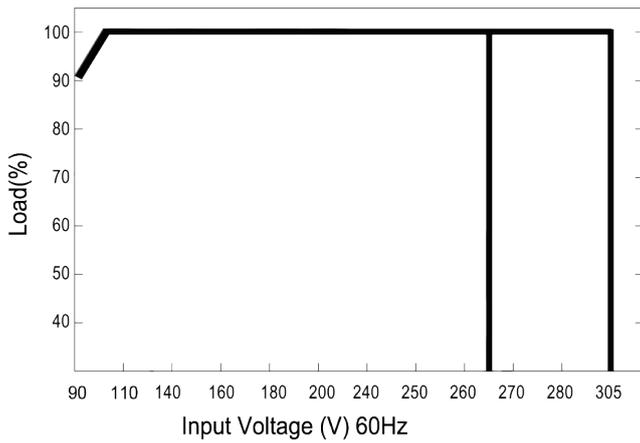
Note:

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 0kΩ or 0Vdc, or 10V PWM signal with 0% duty cycle.

■ Output load VS Temperature



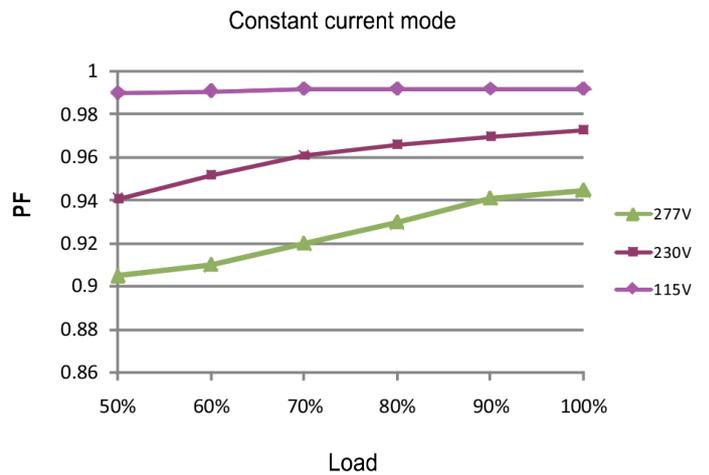
■ Static characteristic curve



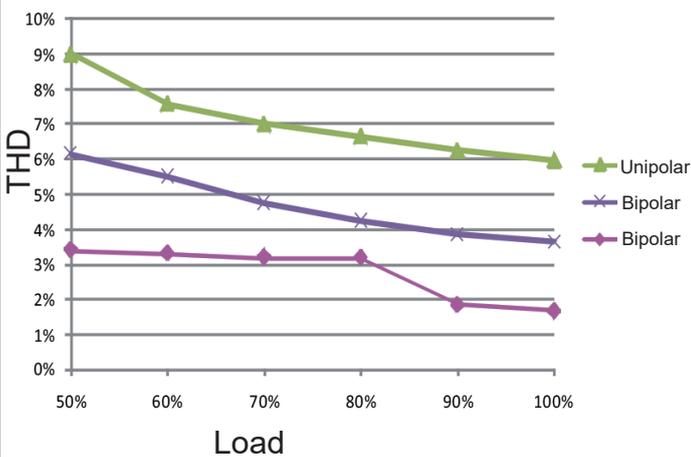
※ Derating output at low input voltage

■ PF characteristic curve

※ Tcase at 80°C



■ THD characteristic curve



■ Efficiency VS Load

