



### 2.0W Audio Power Amplifier CE0031 Series

#### ■ CE0031 INTRODUCTION

The CE0031 is audio amplifiers designed for portable communication device applications. It is capable of delivering 1.6 watt of continuous average power to a 4Ω BTL load with less than 1% distortion (THD+N) from a 5V power system.

#### ■ CE0031 APPLICATIONS

- Wireless handsets
- Portable audio devices
- PDAs, Notebook computer

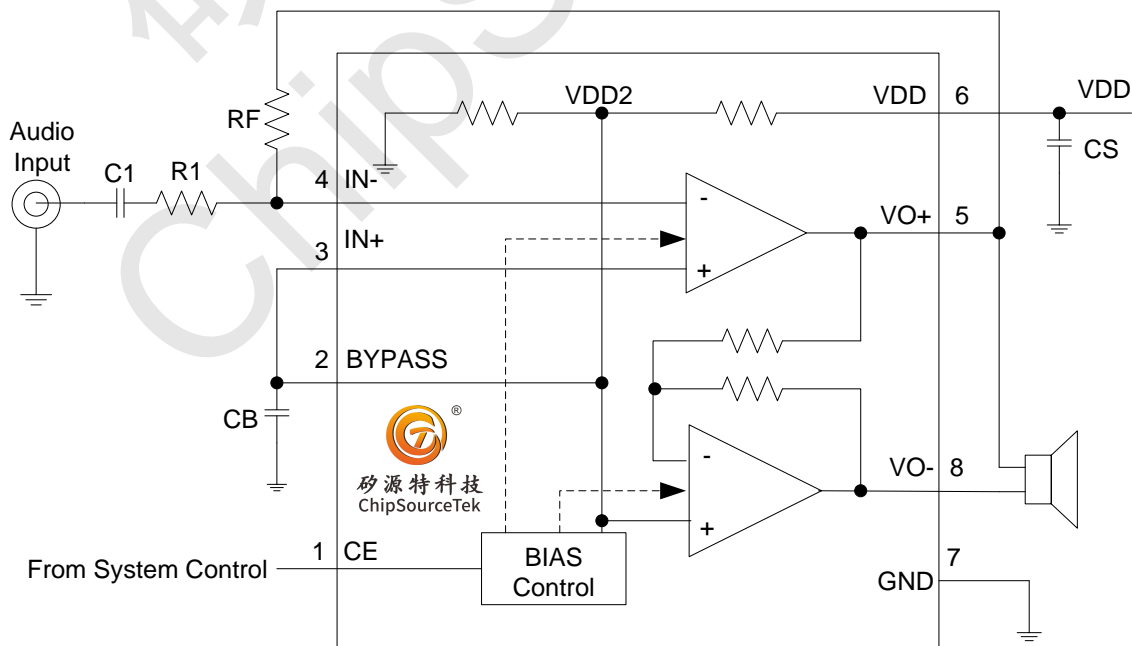
#### ■ CE0031 FEATURES

- Wide operation Range 2.0~6.8V
- Low Distortion: THD+N=0.15%(Typ.) (For VDD=5.0V, RL=4.0Ω, Pout=0.63W)
- Low Distortion: THD+N=1%(Typ.) (For VDD=5.0V, RL=4.0Ω, Pout=1.6W)
- Low Shutdown Current: 1.0uA
- Minimize the turn-on and turn-off pop noise
- Thermal Shutdown Protection
- Over Current Protection

#### ■ ORDER INFORMATION: CE0031①②③

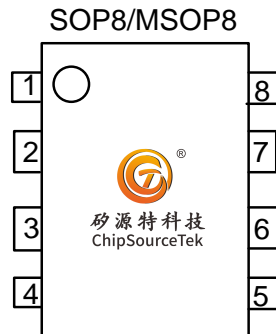
DESIGNATOR	SYMBOL	DESCRIPTION
①	A	Standard
②	H	CE High Active
③	S	Package: SOP8
	SM	Package: MSOP8

#### ■ CE0031 BLOCK DIAGRAMS





## ■ CE0031 PIN CONFIGURATION



CE0031 Series (SOP8/MSOP8)

PIN	NAME	FUNCTION
1	CE	Chip enable control signal High: chip enable Low: shutdown
2	BYPASS	BYPASS is internal nid-supply bias
3	IN+	Audio input +
4	IN-	Audio input -
5	VO+	Output +
6	VDD	Power VDD
7	GND	Power Ground
8	VO-	Output -(only BTL)

## ■ CE0031 ABSOLUTE MAXIMUM RATINGS

(Ta=25°C, unless otherwise specified)

PARAMETER	SYMBOL	RATINGS	UNITS	
Power supply voltage	V <sub>DD</sub>	V <sub>SS</sub> -0.3 ~ V <sub>SS</sub> +8	V	
Output voltage	V <sub>OUT</sub>	V <sub>SS</sub> -0.3 ~ V <sub>SS</sub> +8	V	
Power dissipation	MSOP8	PD	500	mW
	SOP8		500	mW
Operating ambient temperature	T <sub>opr</sub>	-40 ~ +85	°C	
Storage temperature	T <sub>stg</sub>	-40 ~ +125	°C	
Soldering Temperature & Time	T <sub>solder</sub>	260°C, 10s		



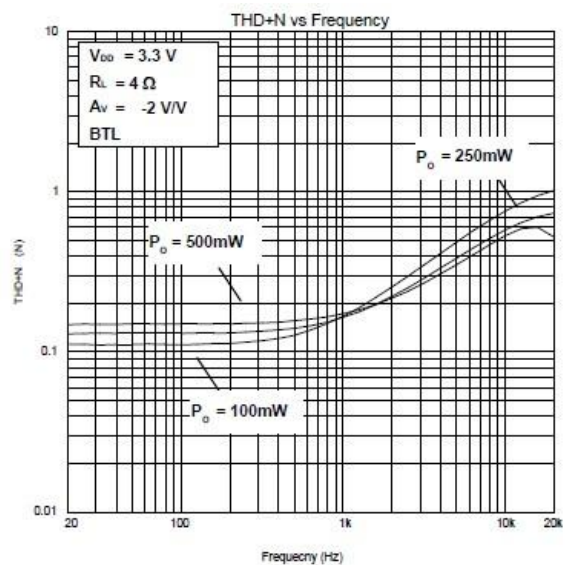
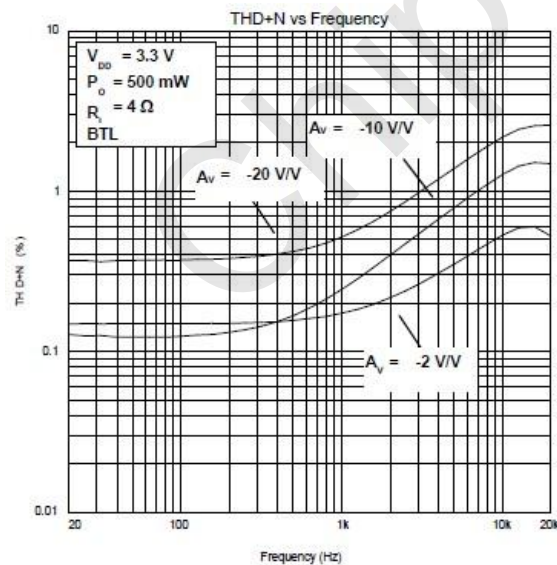
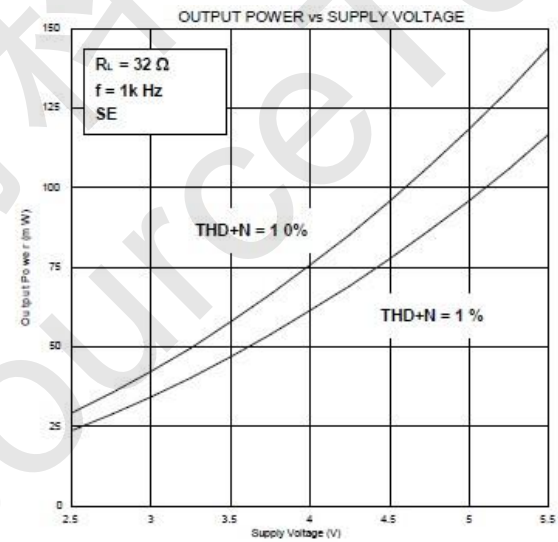
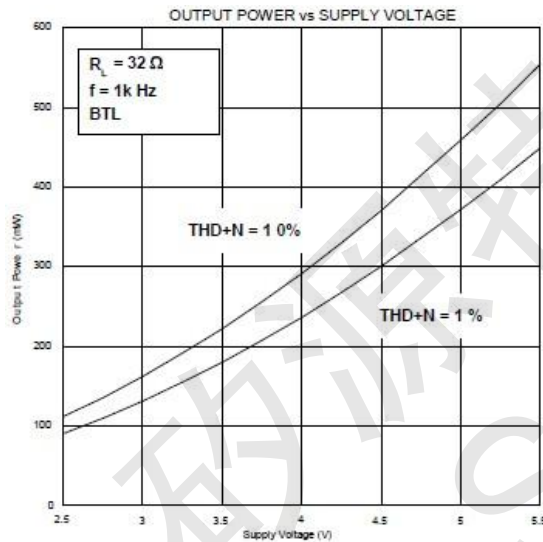
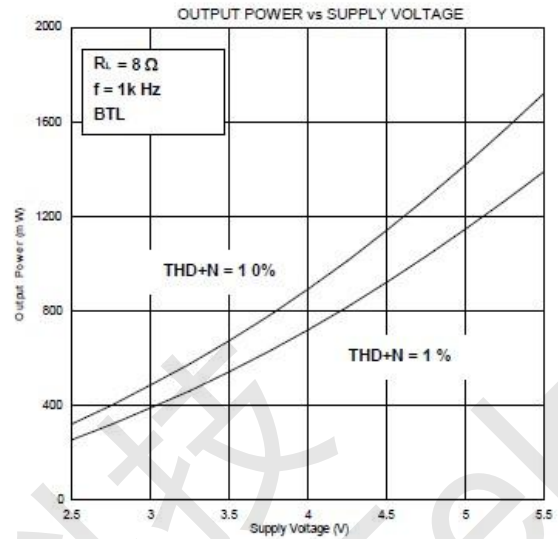
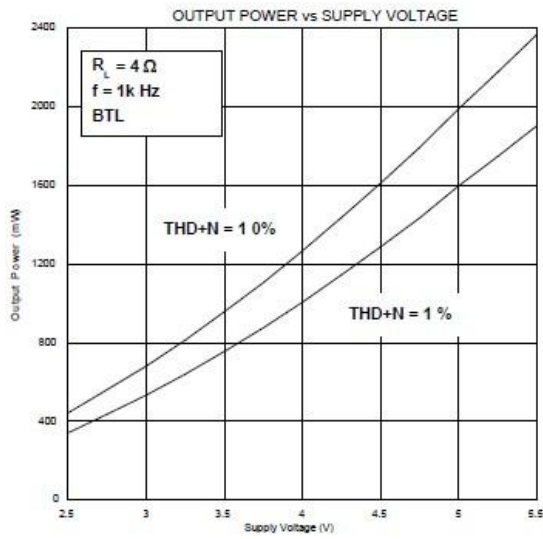
■ CE0031 ELECTRICAL CHARACTERISTICS

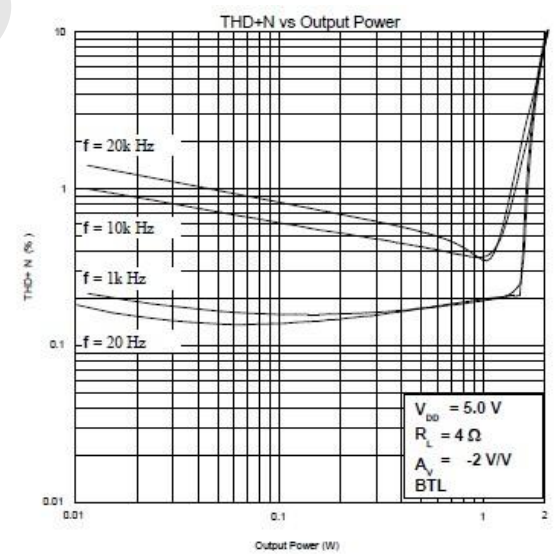
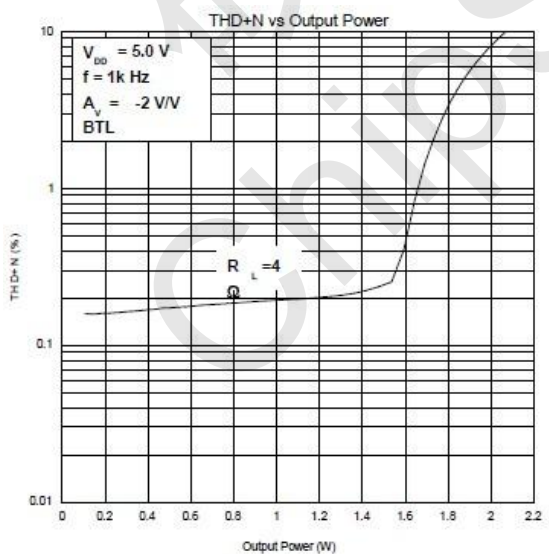
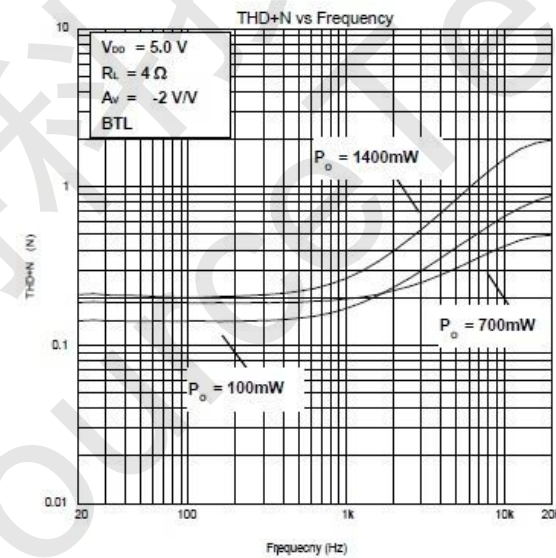
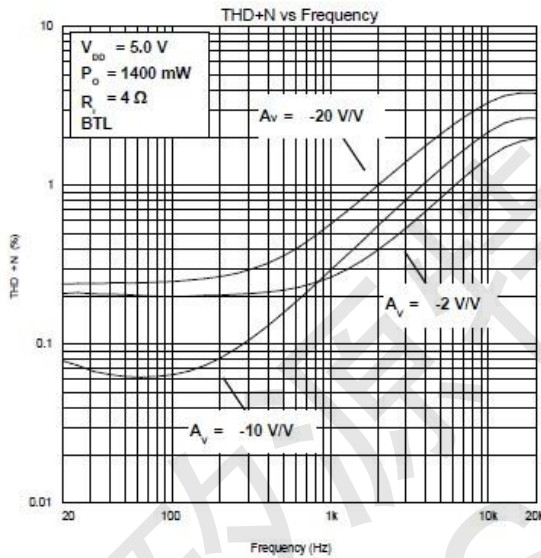
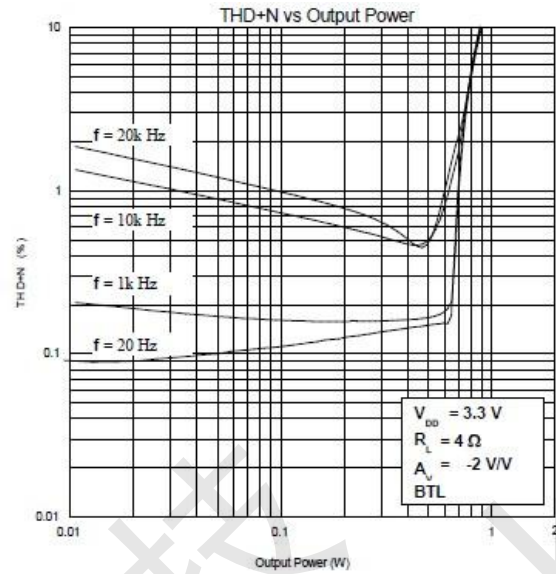
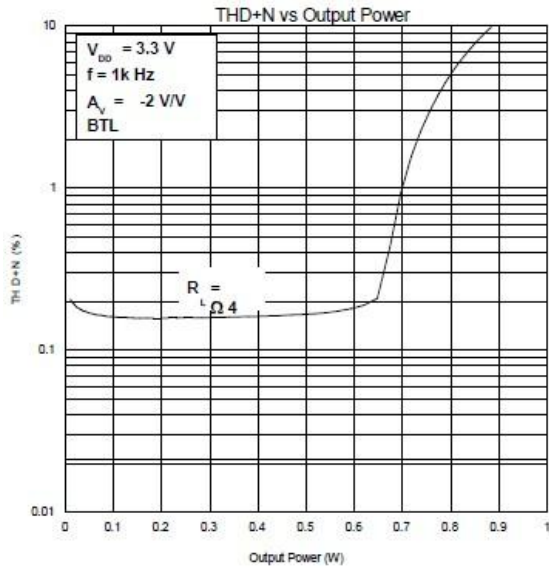
(Ta=25°C, unless otherwise specified)

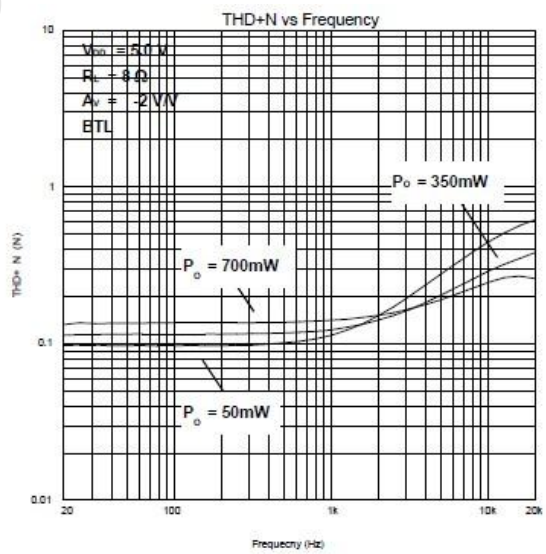
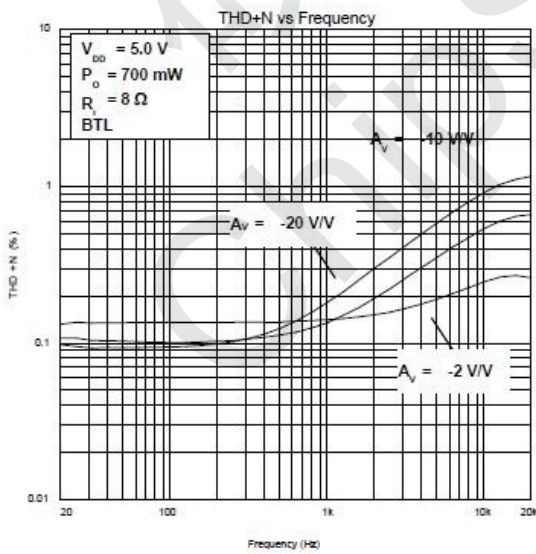
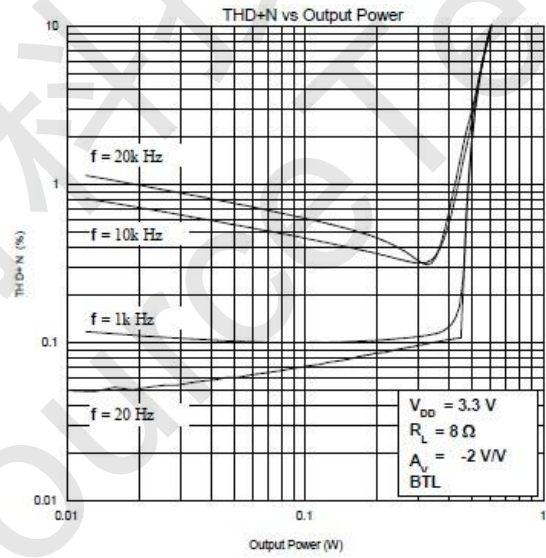
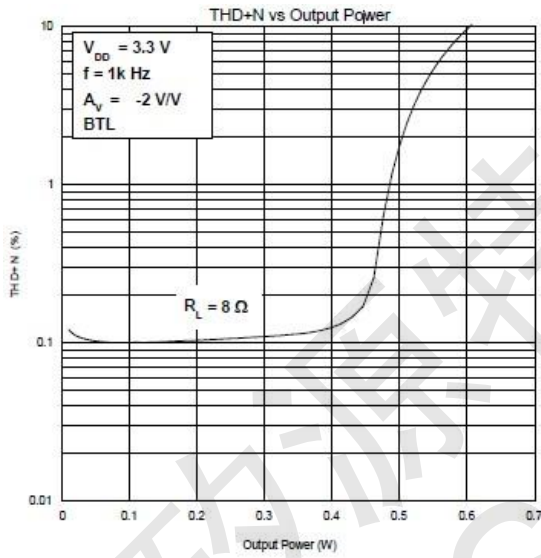
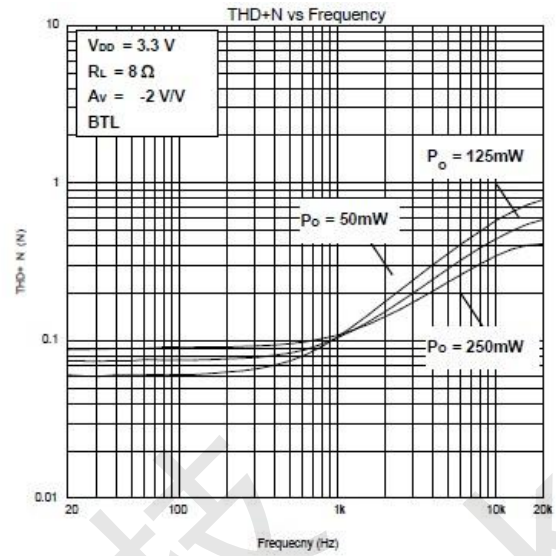
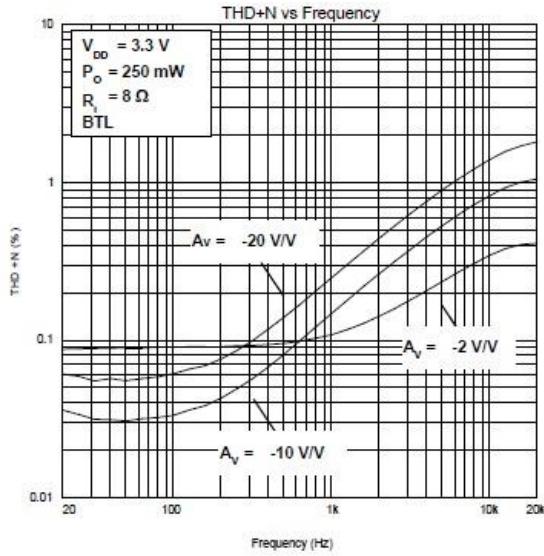
PARAMETER	SYMBOL	CONDITIONS	MIN	TYP	MAX	UNITS
Operation Voltage	VDD		2.0		6.8	V
Shutdown Current	Ioff	CE=GND			1.0	uA
Operating Current	Iss	VDD=5V,CE=VDD,No Load		3.0		mA
BYPASS Voltage	VBYPASS	VDD=5V,CE=VDD		VDD/2		V
Total Harmonic Distortion + Noise	THD+N	VDD=5.0V,RL=4Ω ,POUT=0.63W		0.15		%
		VDD=5.0V,RL=8Ω ,POUT=0.63W		0.15		%
Output Offset Voltage	VOS	VIN=0V			30	mV
POWER Rejection Ratio	PSRR	f=1KHz		70		dB
Enable Time	TON	VDD=5V,CB=1uF		70		mS
Shutdown Time	TOFF	VDD=5V,CB=1uF		70		mS
Current Limitation	ILMT	VDD=5V		850		mA

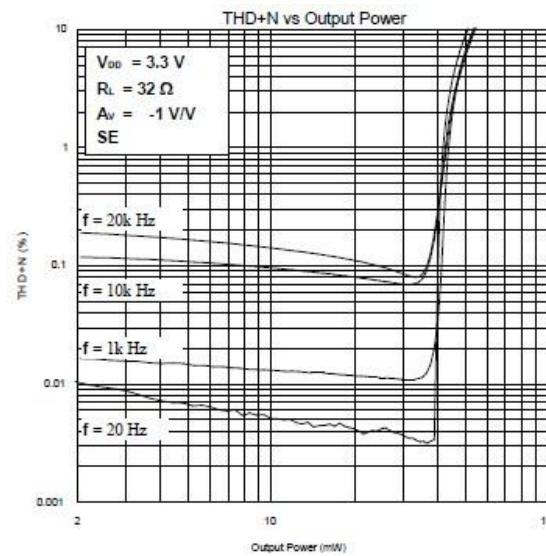
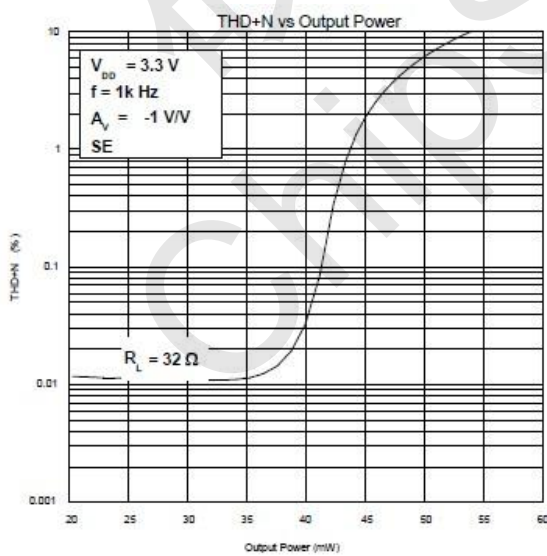
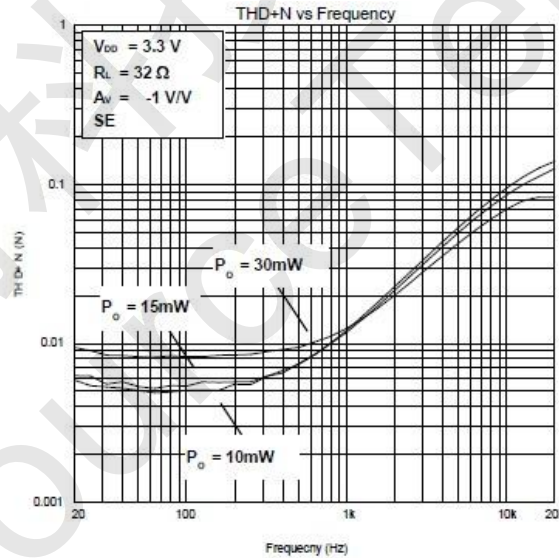
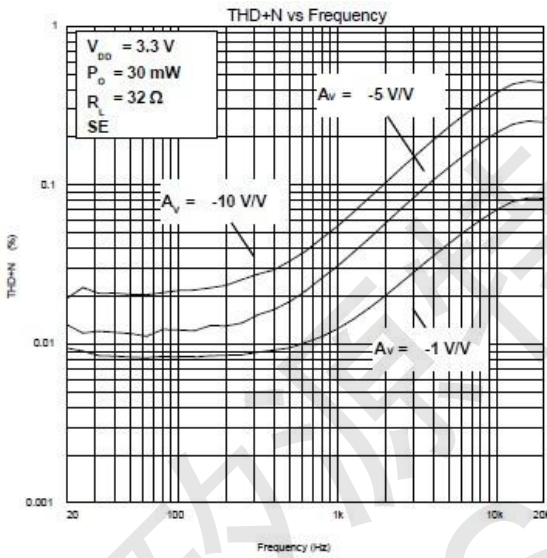
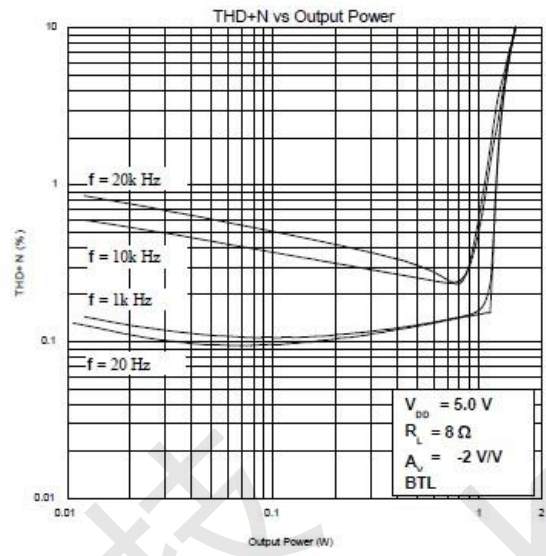
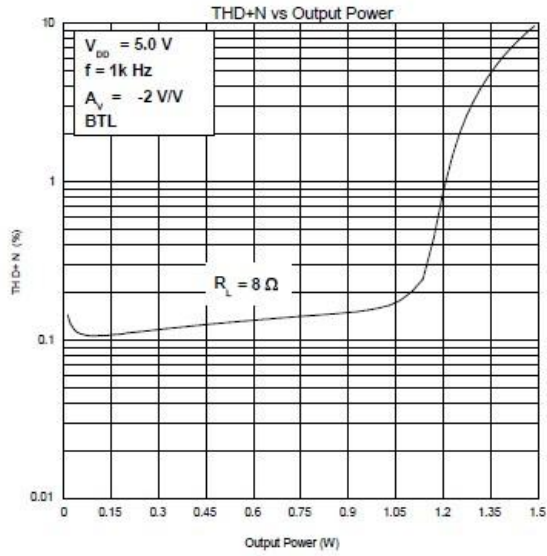


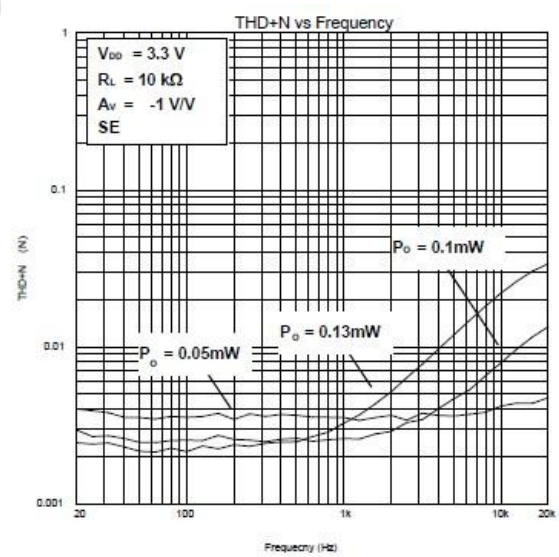
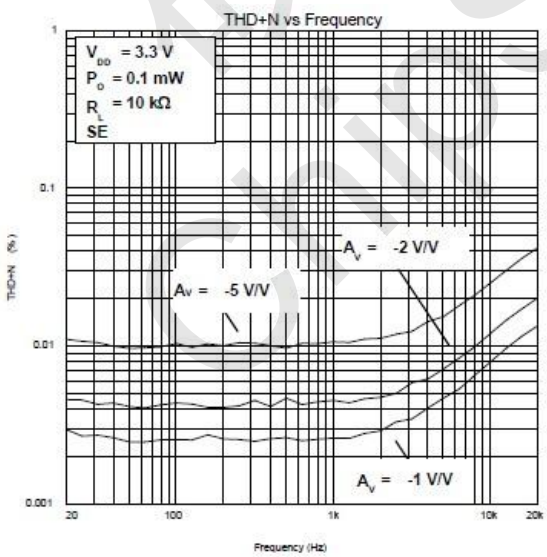
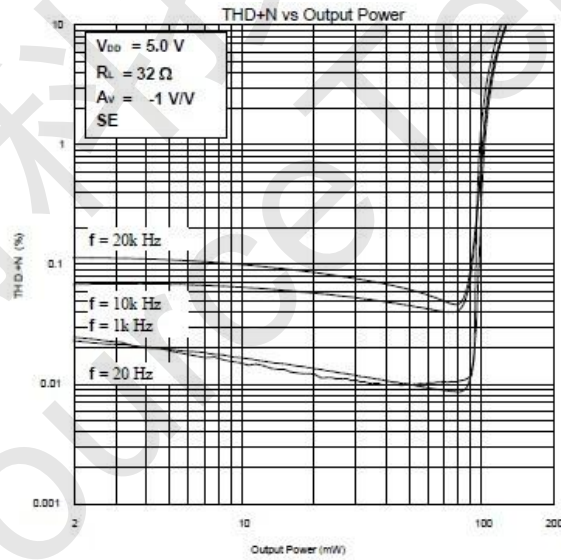
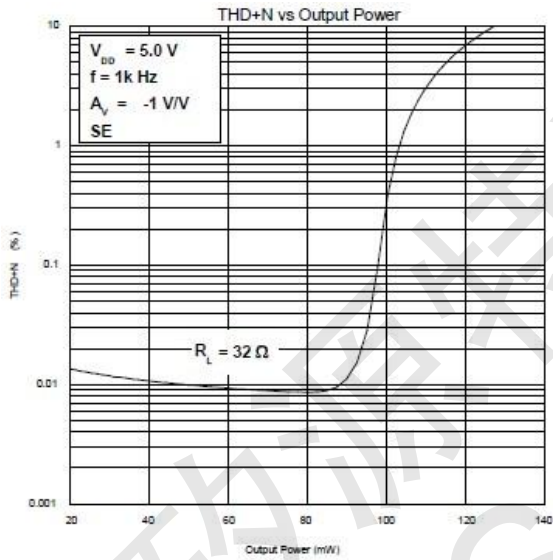
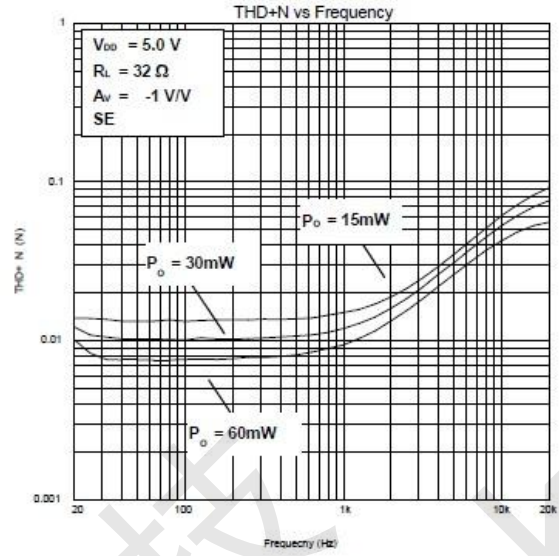
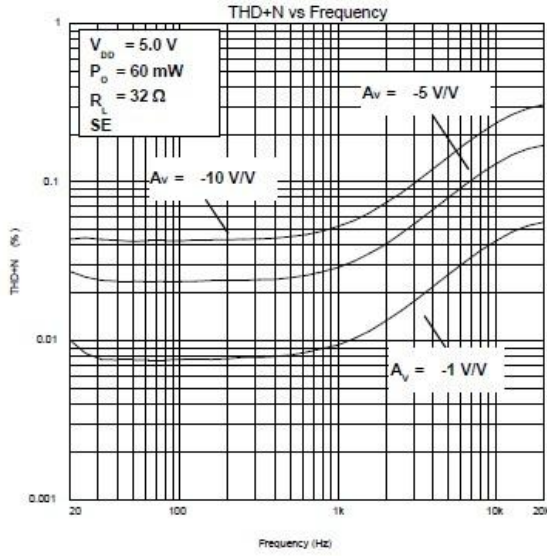
■ CE0031 TYPICAL PERFORMANCE CHARACTERISTICS



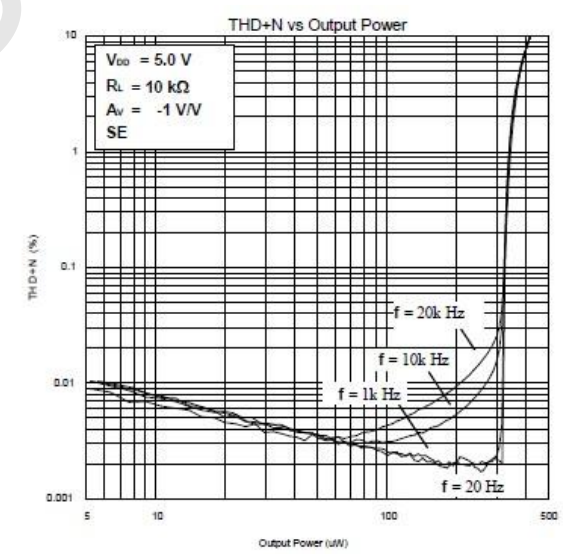
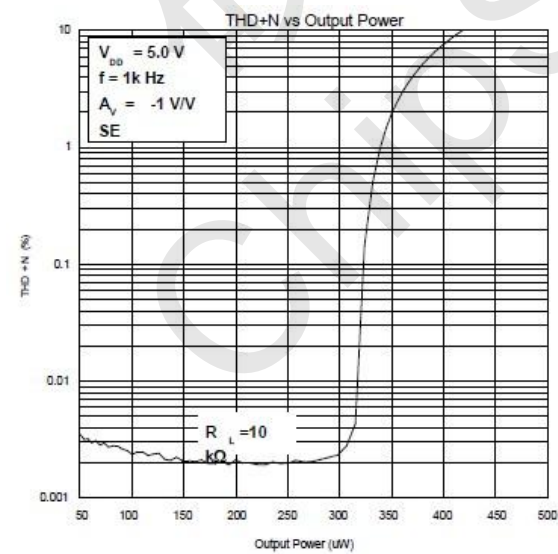
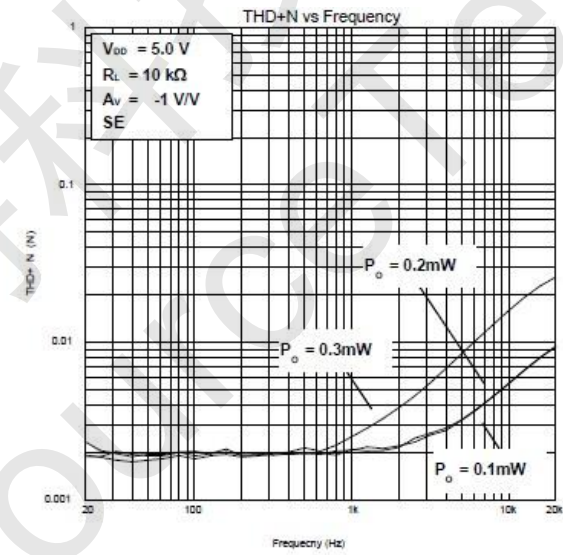
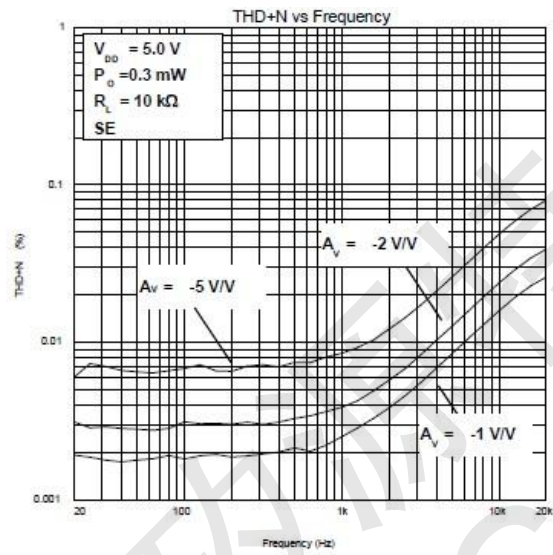
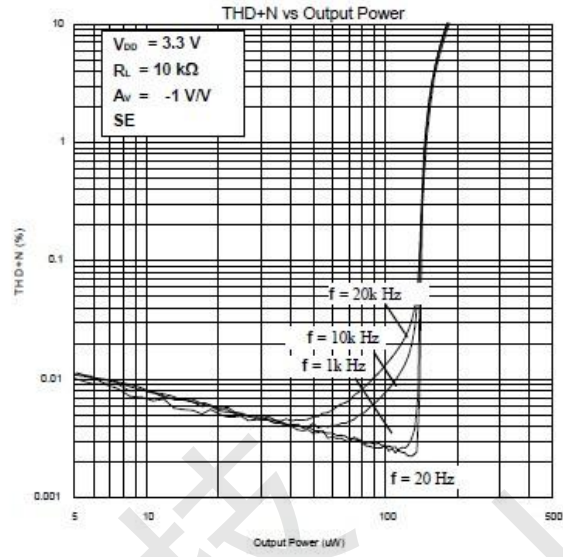
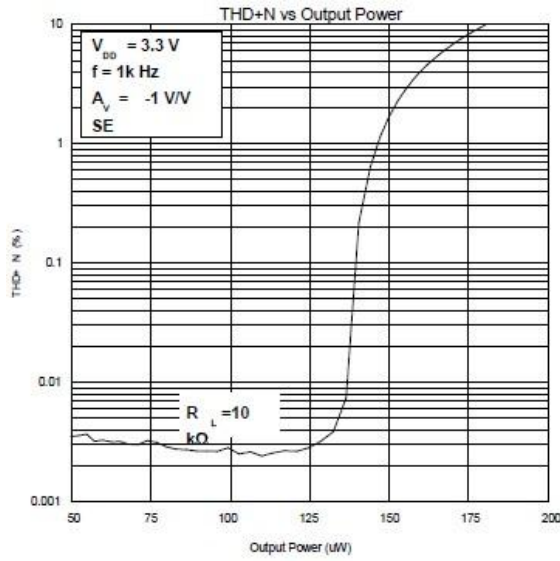


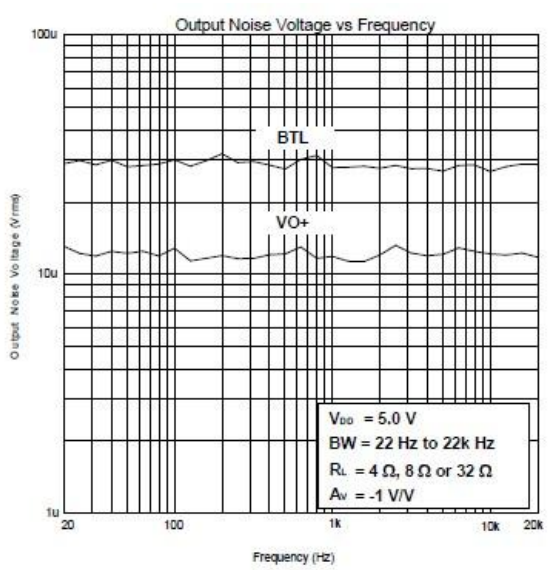
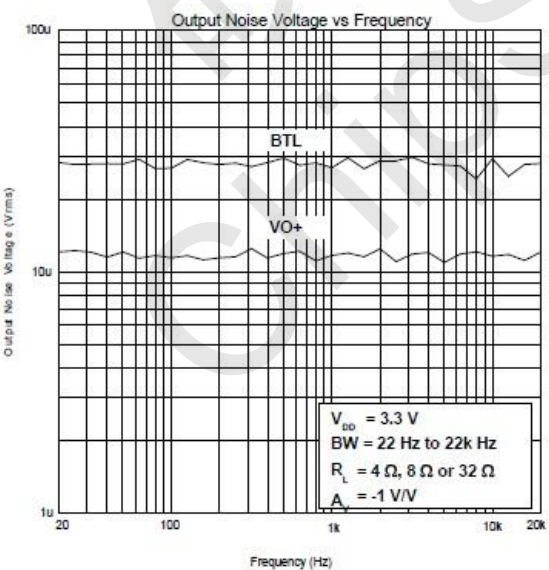
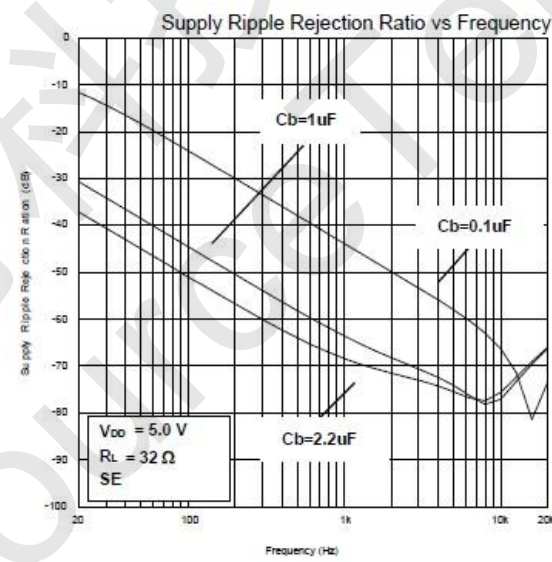
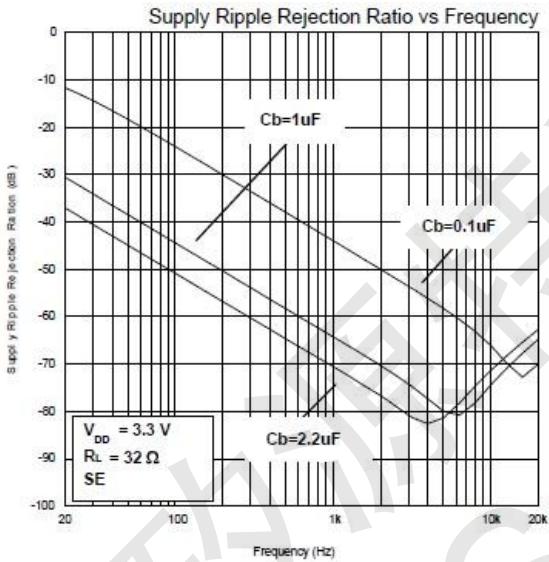
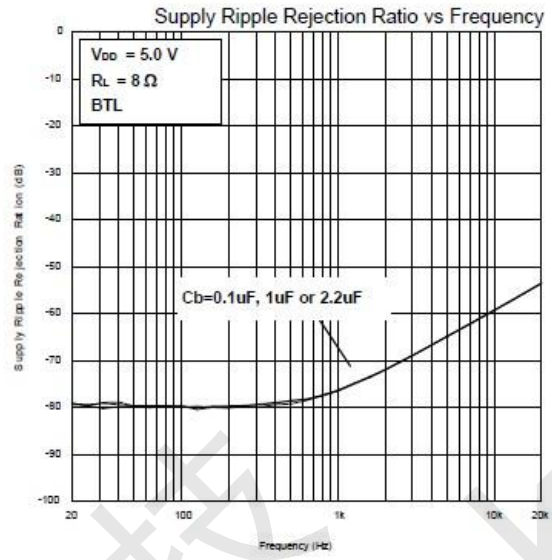
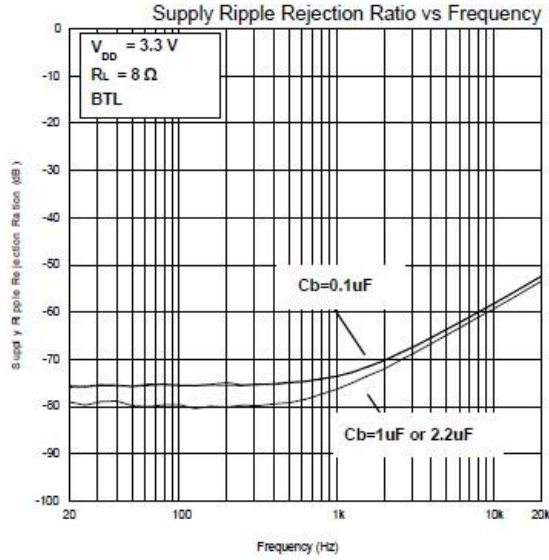








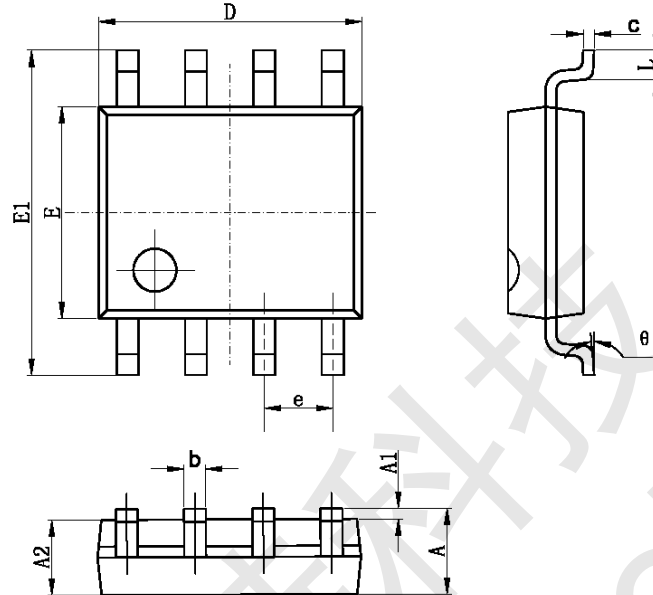




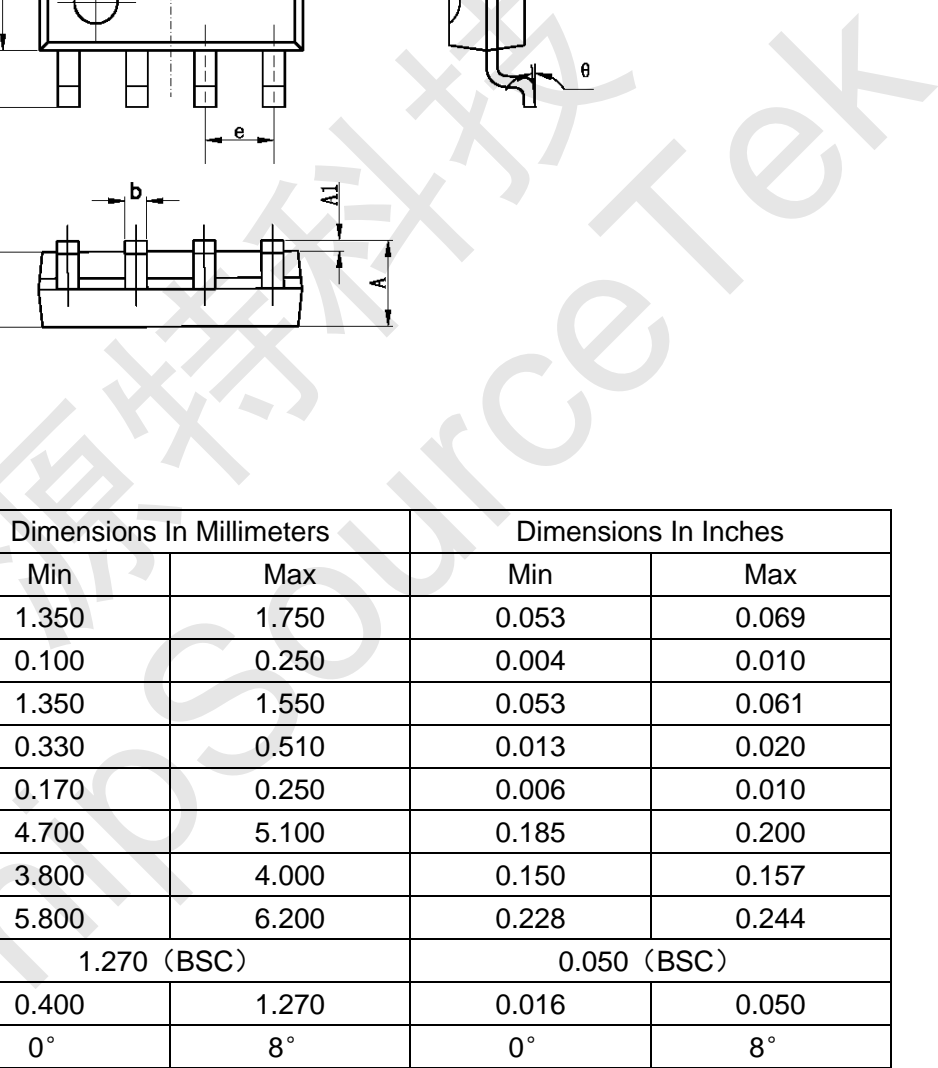


■ CE0031 PACKAGING INFORMATION

●SOP8

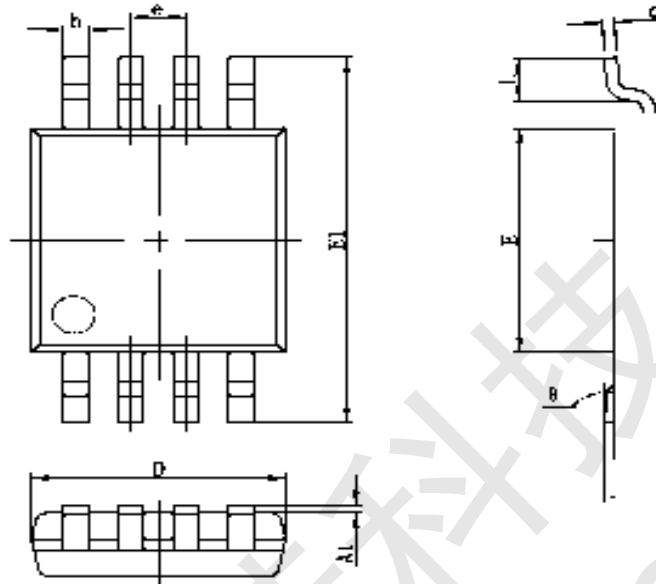


Symbol	Dimensions In Millimeters		Dimensions In Inches	
	Min	Max	Min	Max
A	1.350	1.750	0.053	0.069
A1	0.100	0.250	0.004	0.010
A2	1.350	1.550	0.053	0.061
b	0.330	0.510	0.013	0.020
c	0.170	0.250	0.006	0.010
D	4.700	5.100	0.185	0.200
E	3.800	4.000	0.150	0.157
E1	5.800	6.200	0.228	0.244
e	1.270 (BSC)		0.050 (BSC)	
L	0.400	1.270	0.016	0.050
$\theta$	0°	8°	0°	8°





• MSOP8



Symbol	Dimensions In Millimeters		Dimensions In Inches	
	Min	Max	Min	Max
A	0.820	1.100	0.032	0.043
A1	0.020	0.150	0.001	0.006
A2	0.750	0.950	0.030	0.037
b	0.250	0.380	0.010	0.015
c	0.090	0.230	0.004	0.009
D	2.900	3.100	0.114	0.122
e	0.650(BSC)		0.026 (BSC)	
E	2.900	3.100	0.114	0.122
E1	4.750	5.050	0.187	0.199
L	0.400	0.800	0.016	0.031
$\theta$	0°	6°	0°	6°



矽源特科技  
ChipSourceTek

**ShenZhen ChipSourceTek Technology Co.,Ltd.**

ChipSourceTek cannot assume responsibility for use of any circuitry other than circuitry entirely embodied in a our company product. No circuit patent license, copyrights or other intellectual property rights are implied.

Our company reserves the right to make changes to their products or specifications without notice. Customers are advised to obtain the latest version of relevant information to verify, before placing orders, that information being relied on is current and complete.