

■ 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.

■ APPLICATIONS

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

■ FEATURES

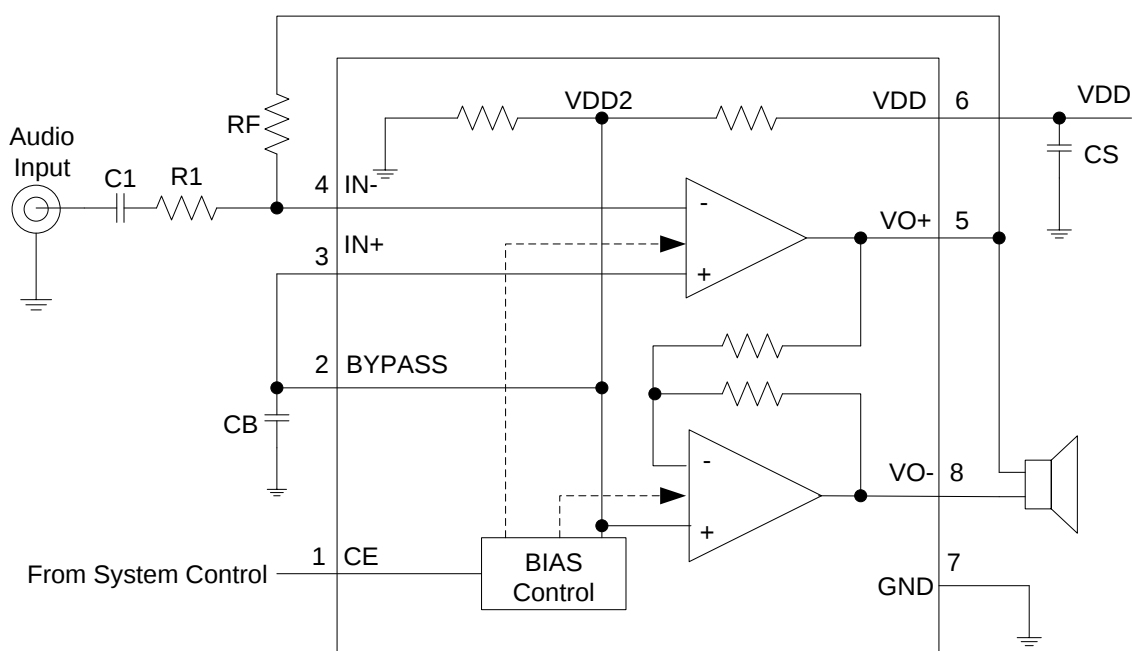
- Wide operation Range 2.0~6.8V
- Low Distortion: THD+N=0.15%(Typ.)
(For VDD=5.0V, RL=4.0Ω, Pout=0.63W)
- Low Distortion: THD+N=1%(Typ.)
(For VDD=5.0V, RL=4.0Ω, Pout=1.6W)
- Low Shutdown Current: 1.0uA
- Minimize the turn-on and turn-off pop noise
- Thermal Shutdown Protection
- Over Current Protection

■ ORDER INFORMATION:

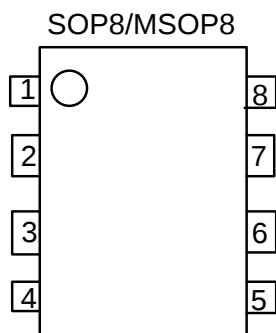
CE0031①②③

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

■ BLOCK DIAGRAMS



■ 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)

■ ABSOLUTE MAXIMUM RATINGS

(Ta=25°C, unless otherwise specified)

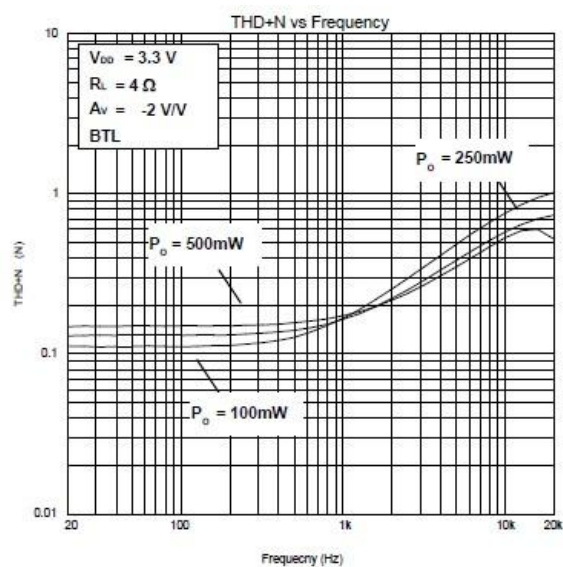
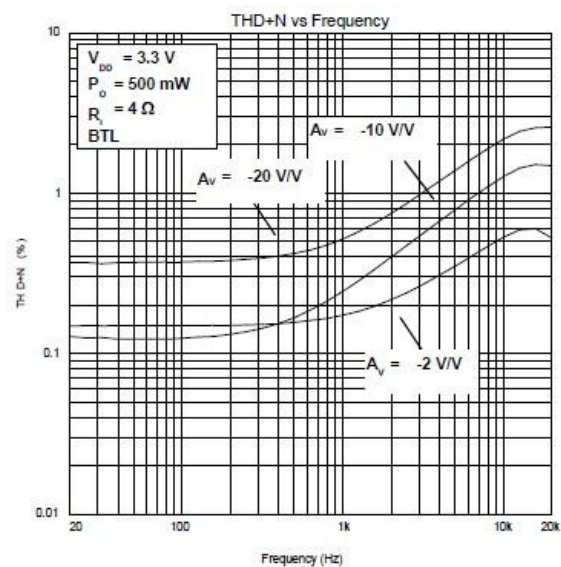
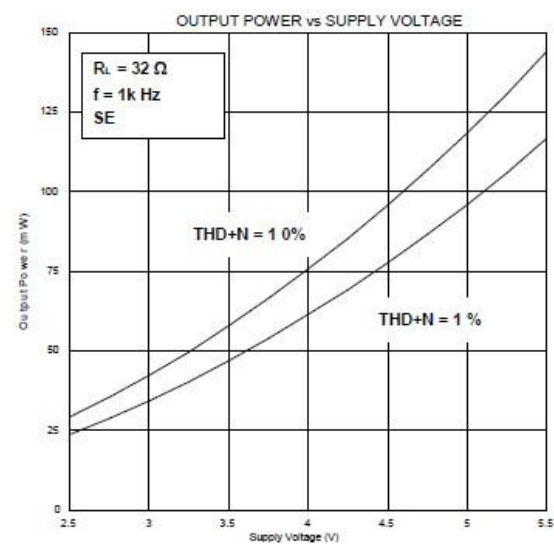
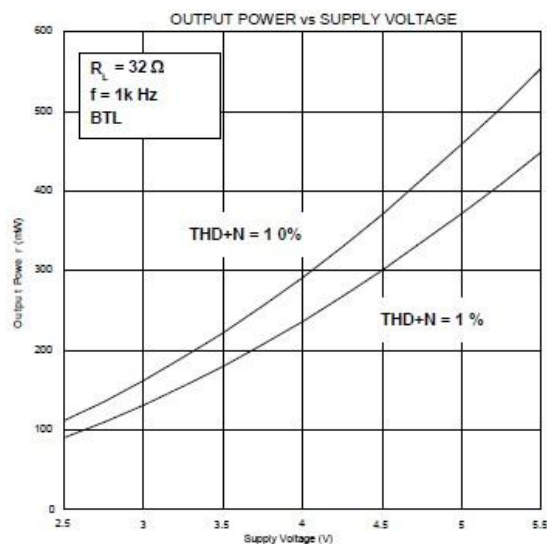
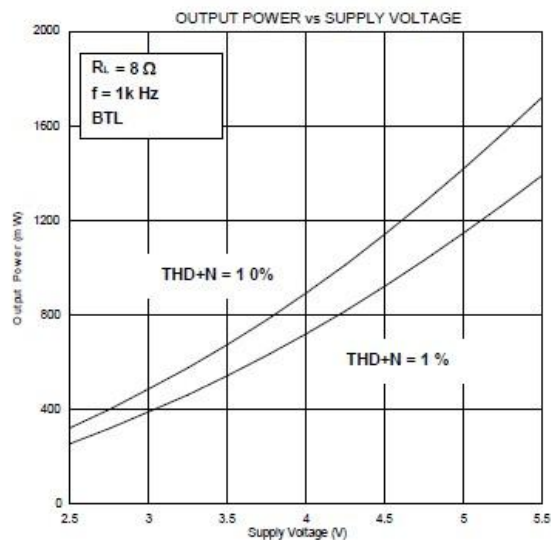
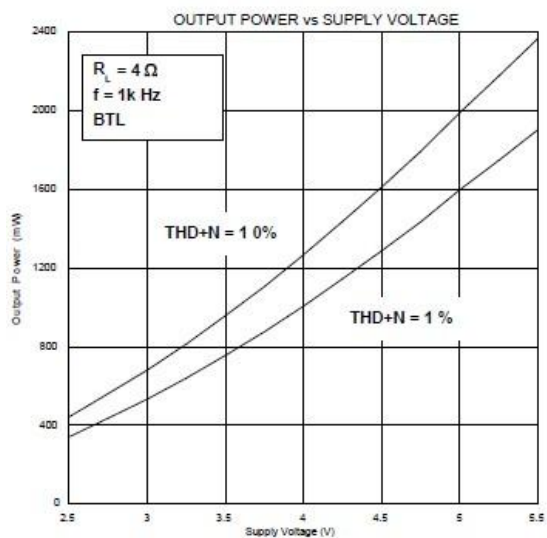
PARAMETER		SYMBOL	RATINGS	UNITS
Power supply voltage		V_{DD}	$V_{SS}-0.3 \sim V_{SS}+8$	V
Output voltage		V_{OUT}	$V_{SS}-0.3 \sim V_{SS}+8$	V
Power dissipation	MSOP8	PD	500	mW
	SOP8		500	mW
Operating ambient temperature		T_{opr}	$-40 \sim +85$	°C
Storage temperature		T_{stg}	$-40 \sim +125$	°C
Soldering Temperature & Time		T_{solder}	260°C, 10s	

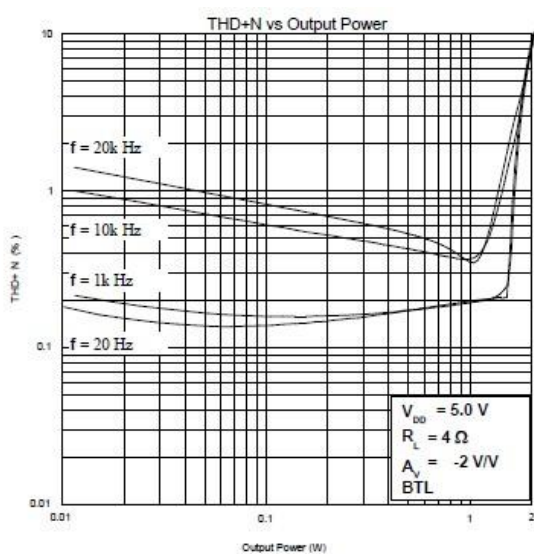
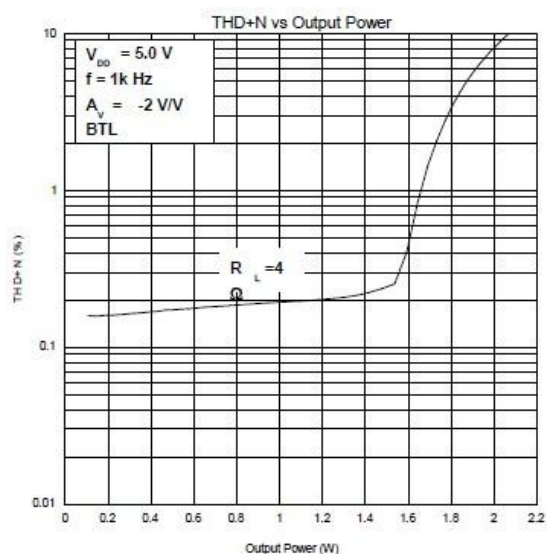
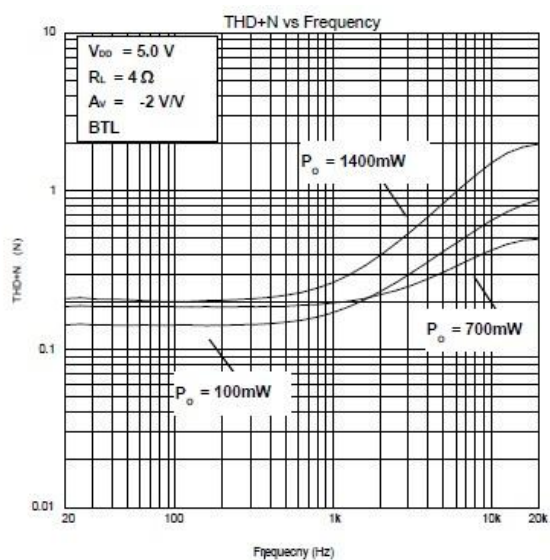
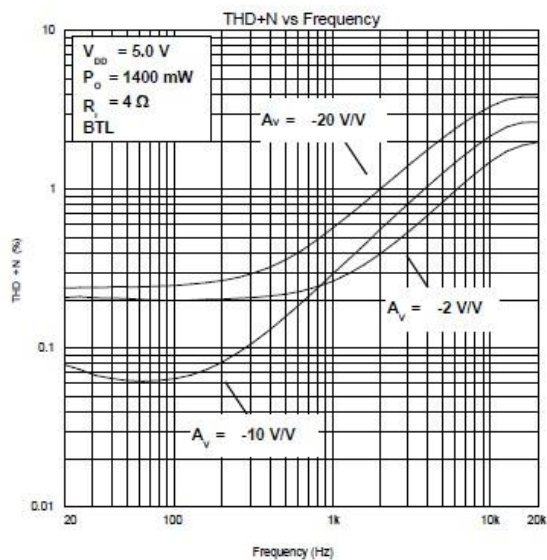
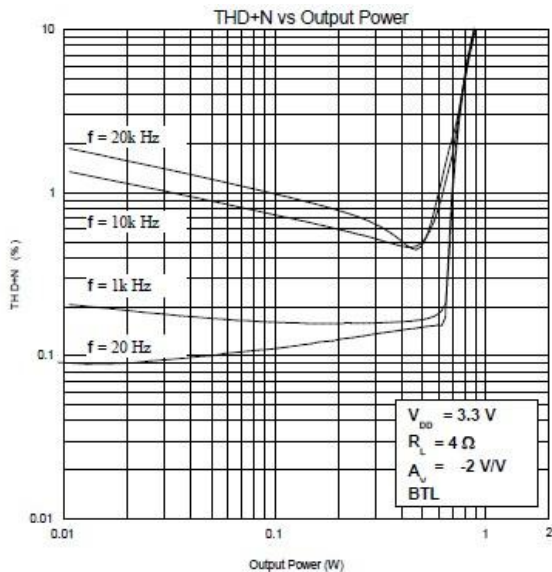
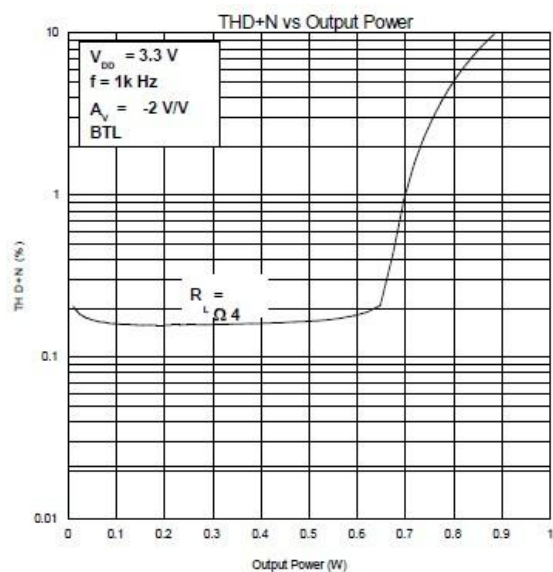
■ ELECTRICAL CHARACTERISTICS

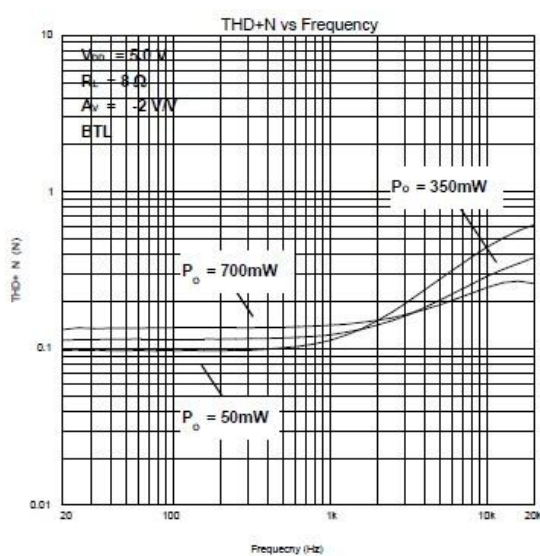
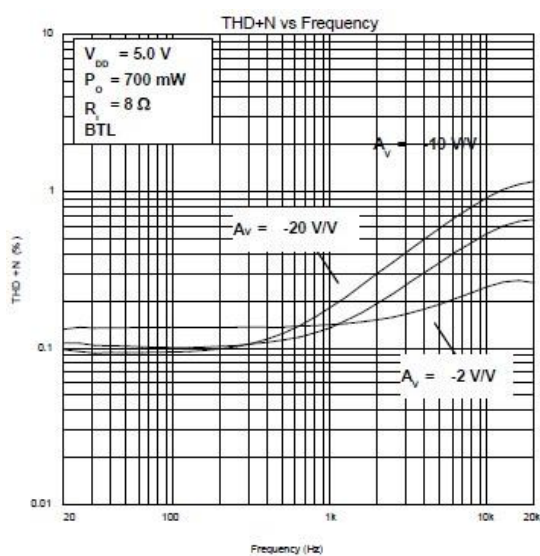
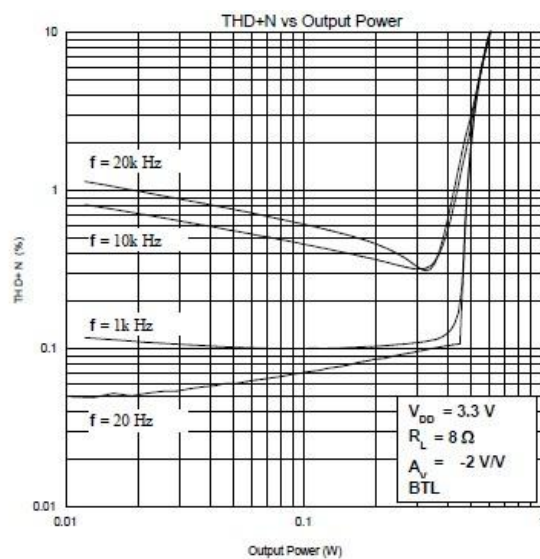
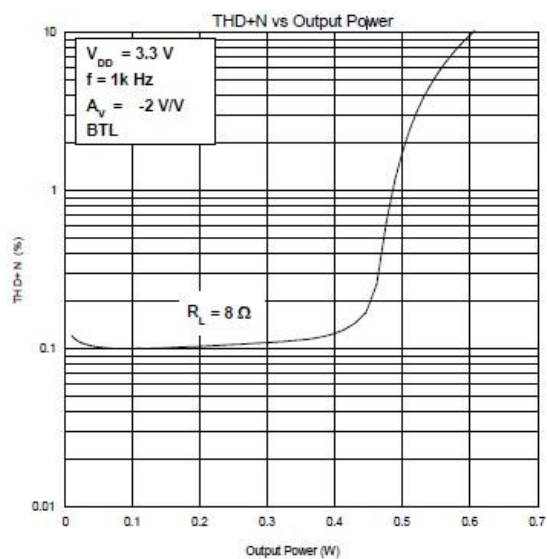
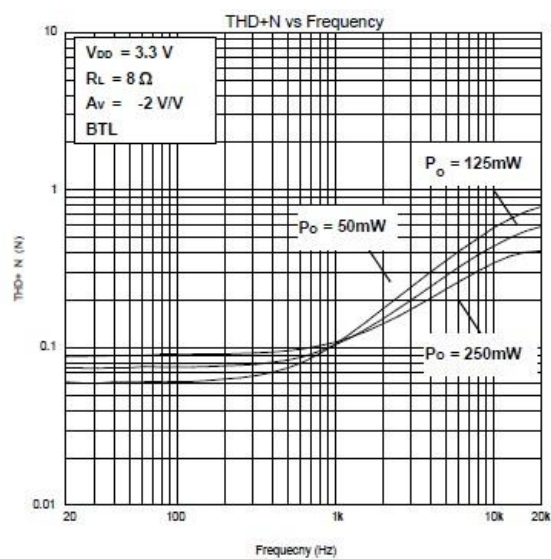
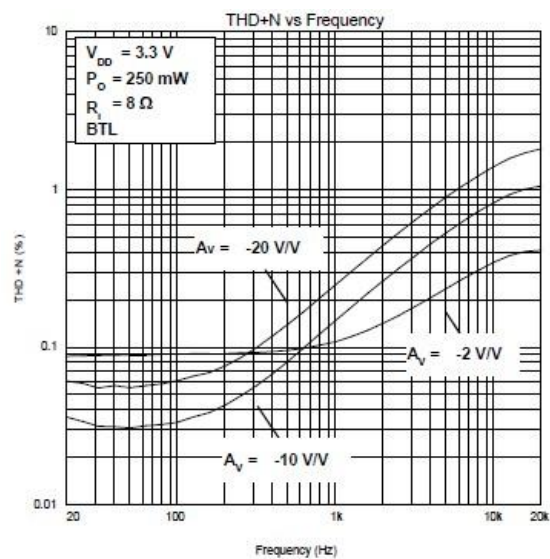
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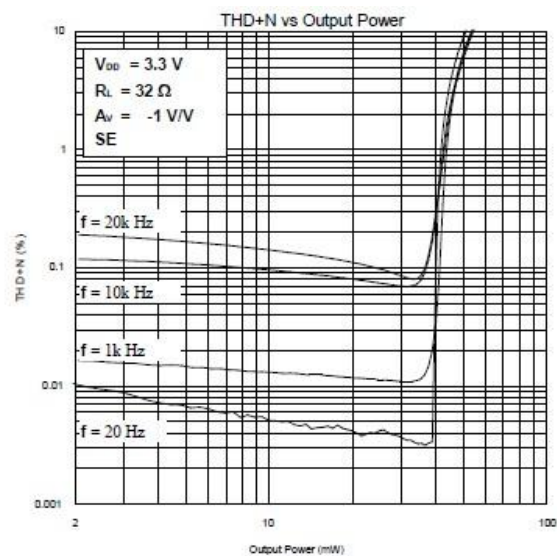
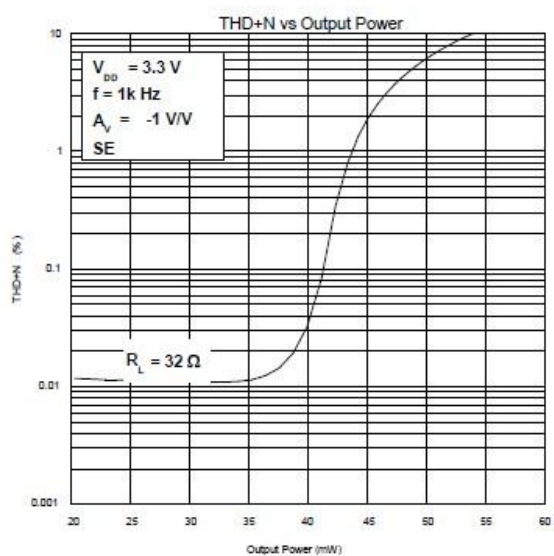
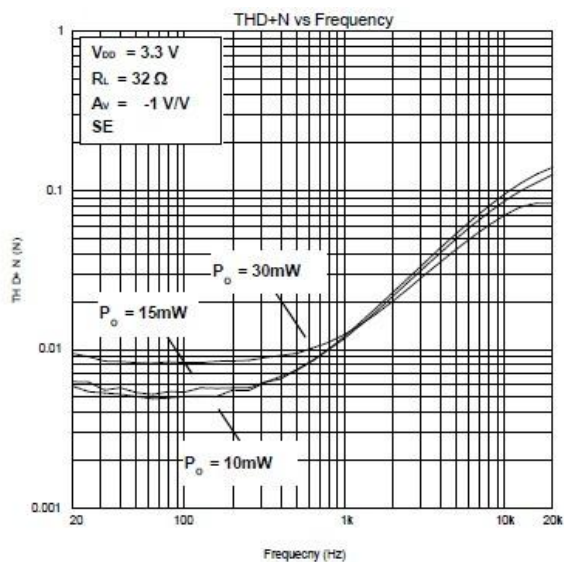
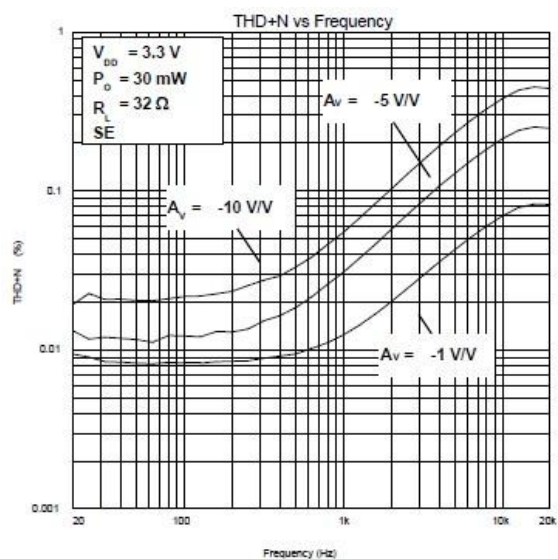
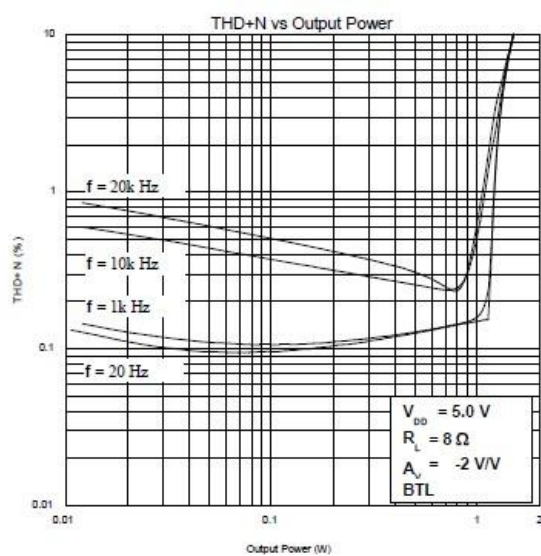
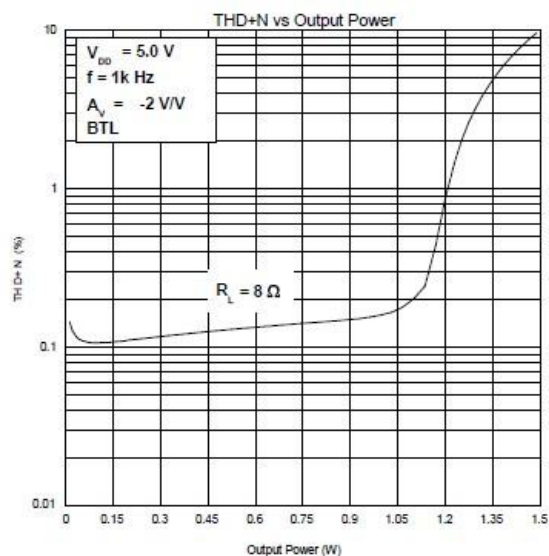
PARAMETER	SYMBOL	CONDITIONS	MIN	TYP	MAX	UNITS
Operation Voltage	VDD		2.0		6.8	V
Shutdown Current	I _{off}	CE=GND			1.0	uA
Operating Current	I _{ss}	VDD=5V,CE=VDD,No Load		3.0		mA
BYPASS Voltage	VBYPASS	VDD=5V,CE=VDD		VDD/2		V
Total Harmonic Distortion + Noise	THD+N	VDD=5.0V,RL=4Ω ,POUT=0.63W		0.15		%
		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

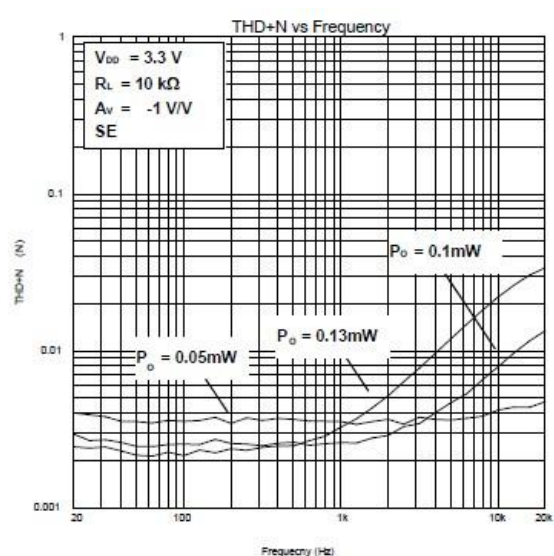
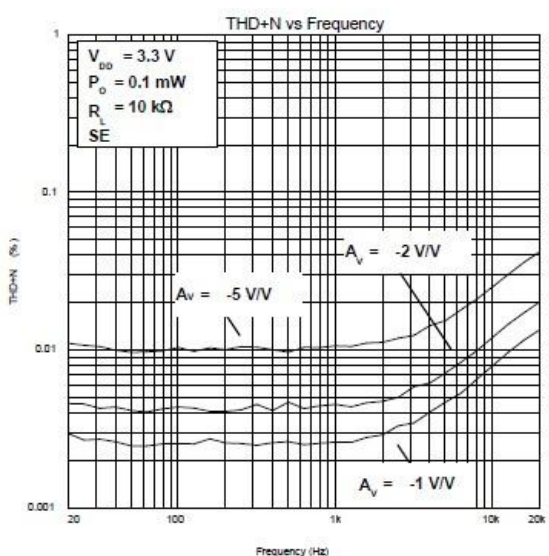
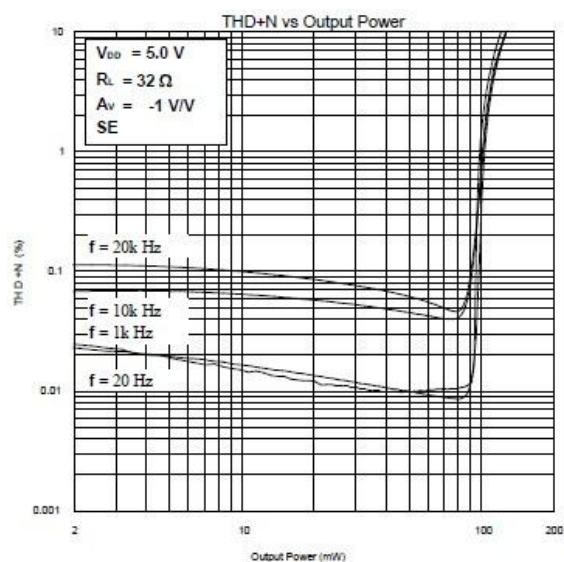
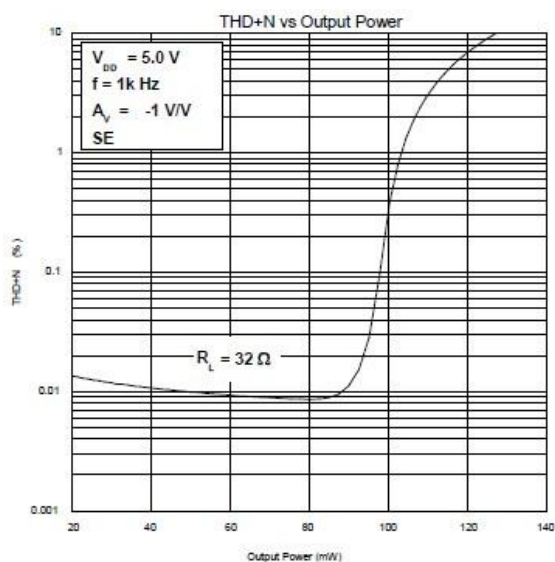
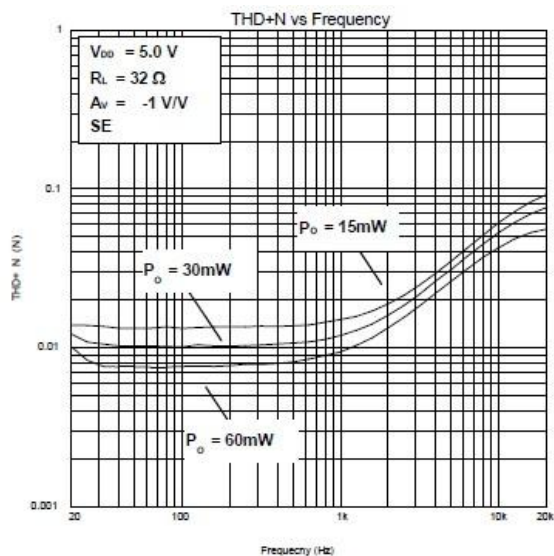
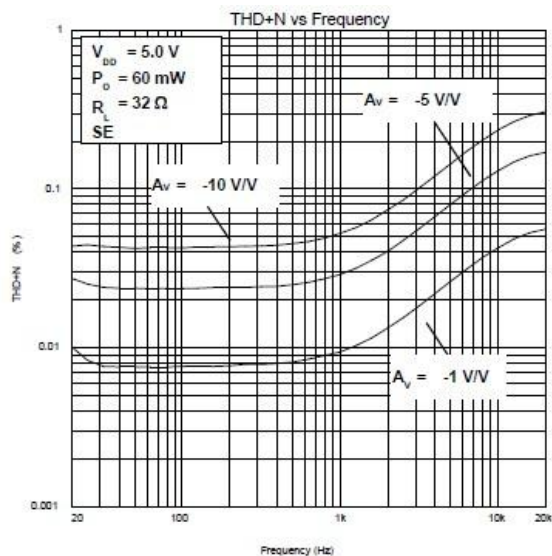
■ TYPICAL PERFORMANCE CHARACTERISTICS

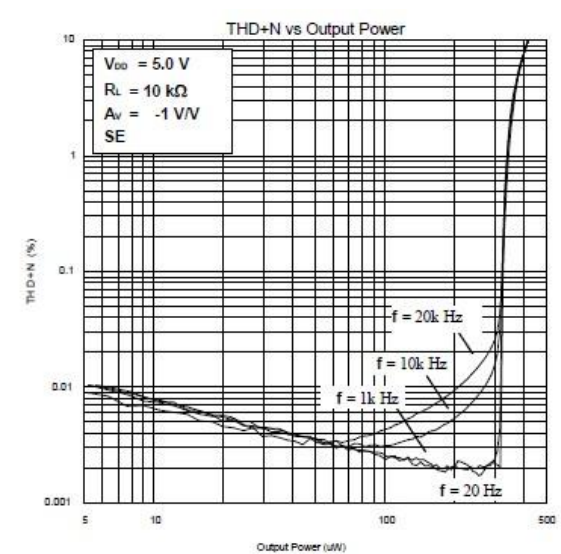
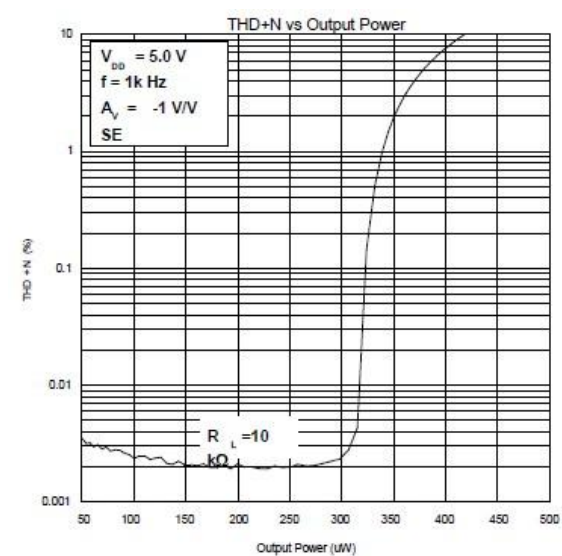
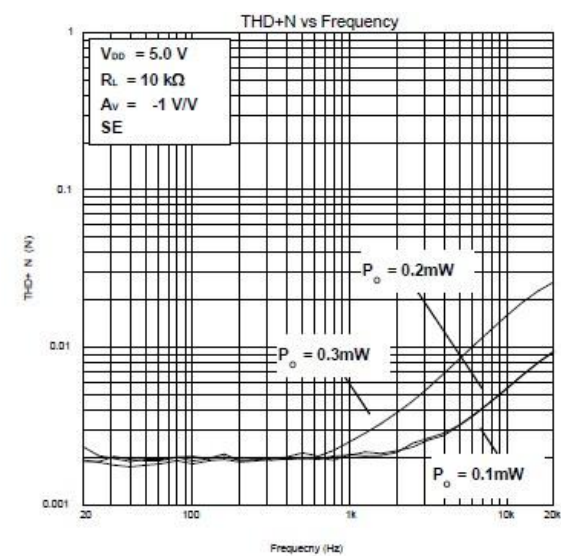
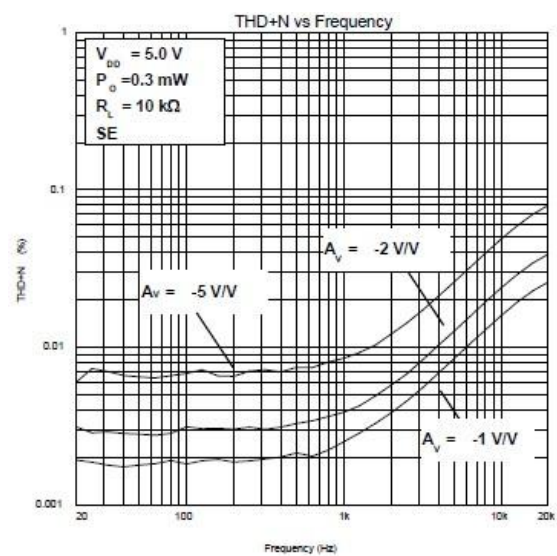
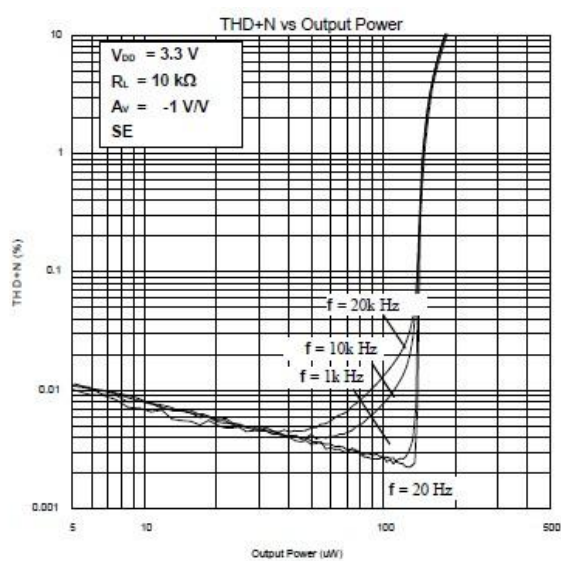
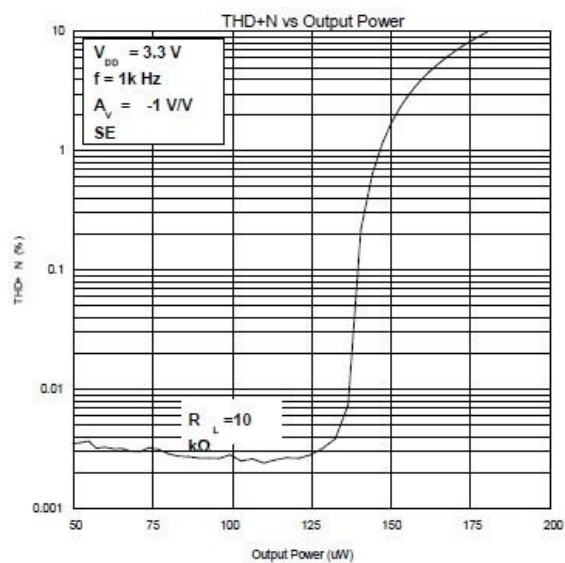


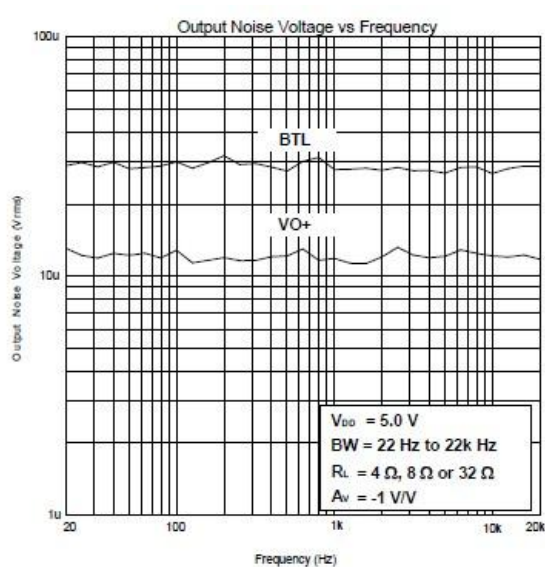
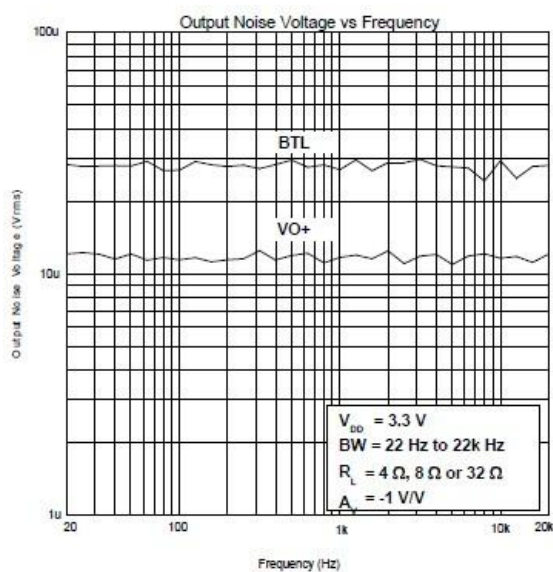
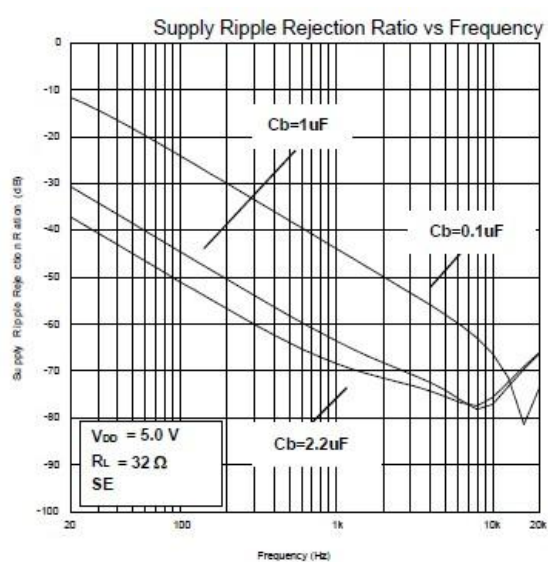
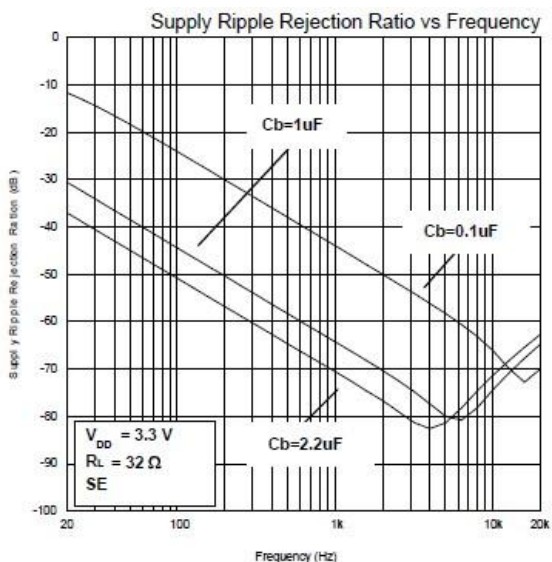
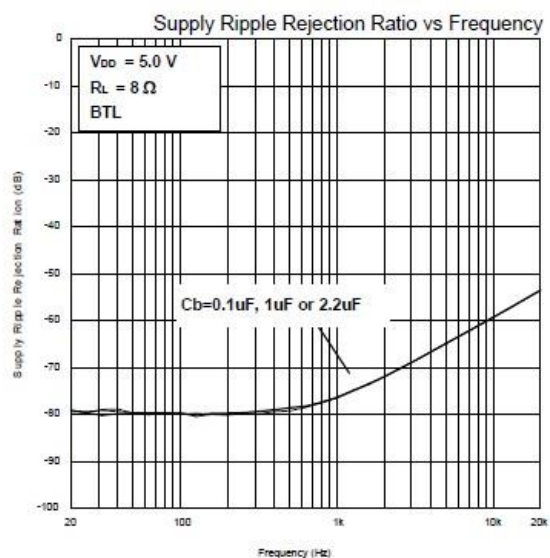
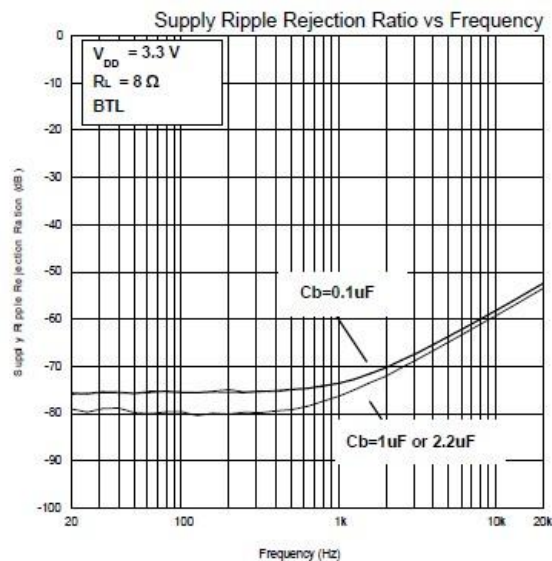






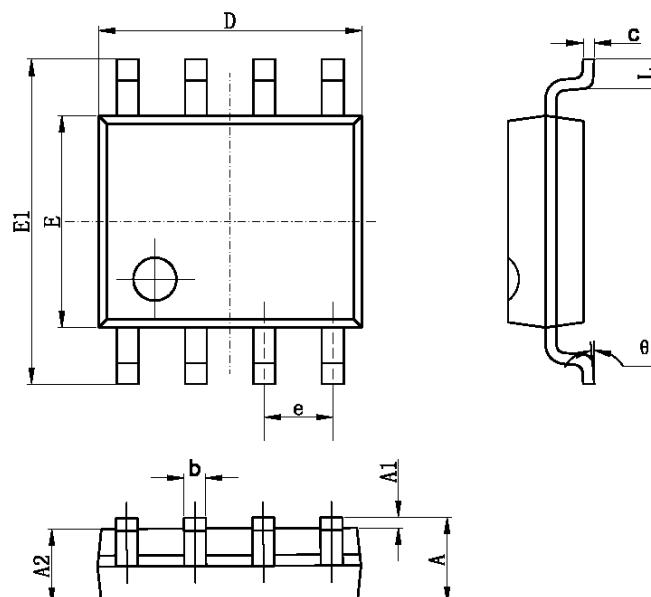






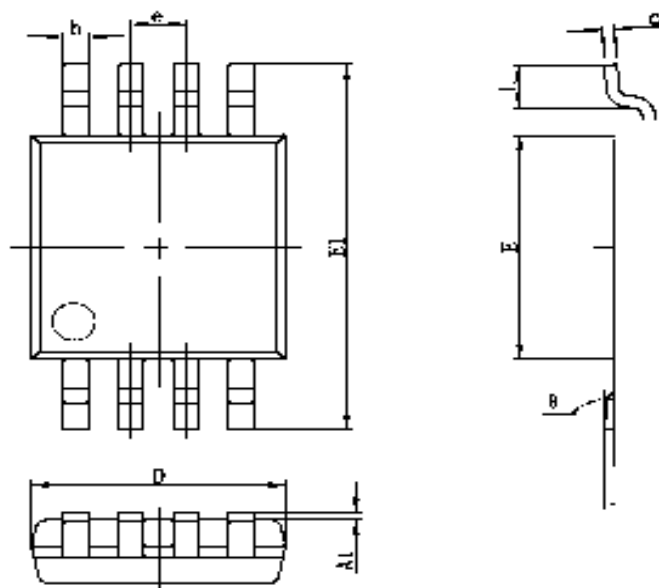
■ PACKAGING INFORMATION

●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
θ	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
θ	0°	6°	0°	6°

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