

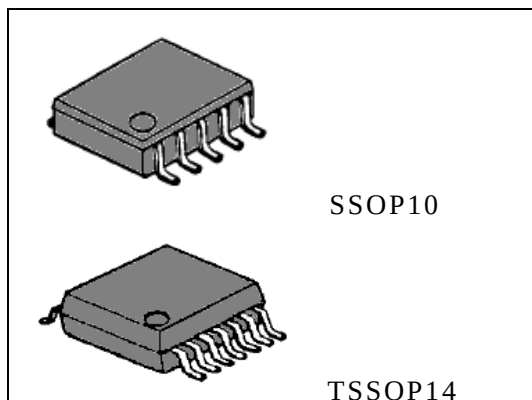
Audio Limiter IC NJM2761

DESCRIPTION

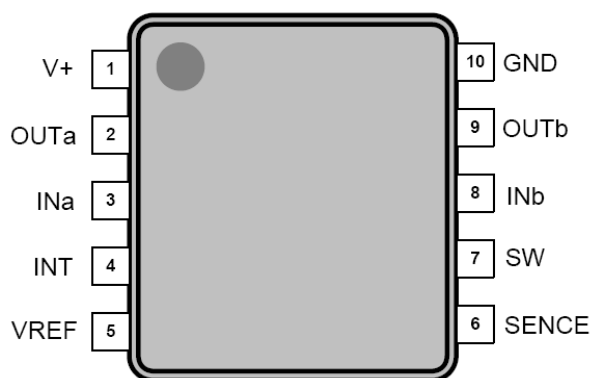
The NJM2761 is the audio limiter for speaker protection. The limit level is adjustable by external resistor. It is suitable for PC, portable audio and others.

FEATURE

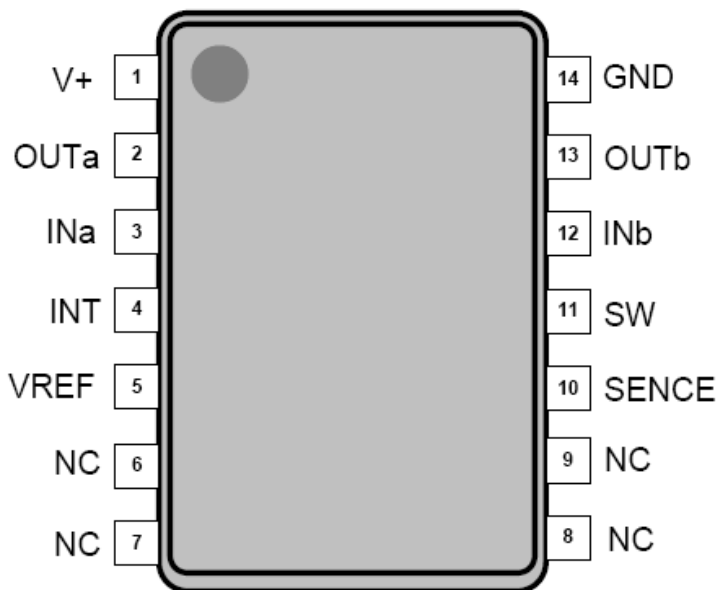
- Wide Operating Voltage +2.7V to +13.0V
- Variable Limit Level by external resistor
0.2 to 1V
- Low Output Noise -90dBV max
- Bipolar Technology



PIN CONFIGURATION

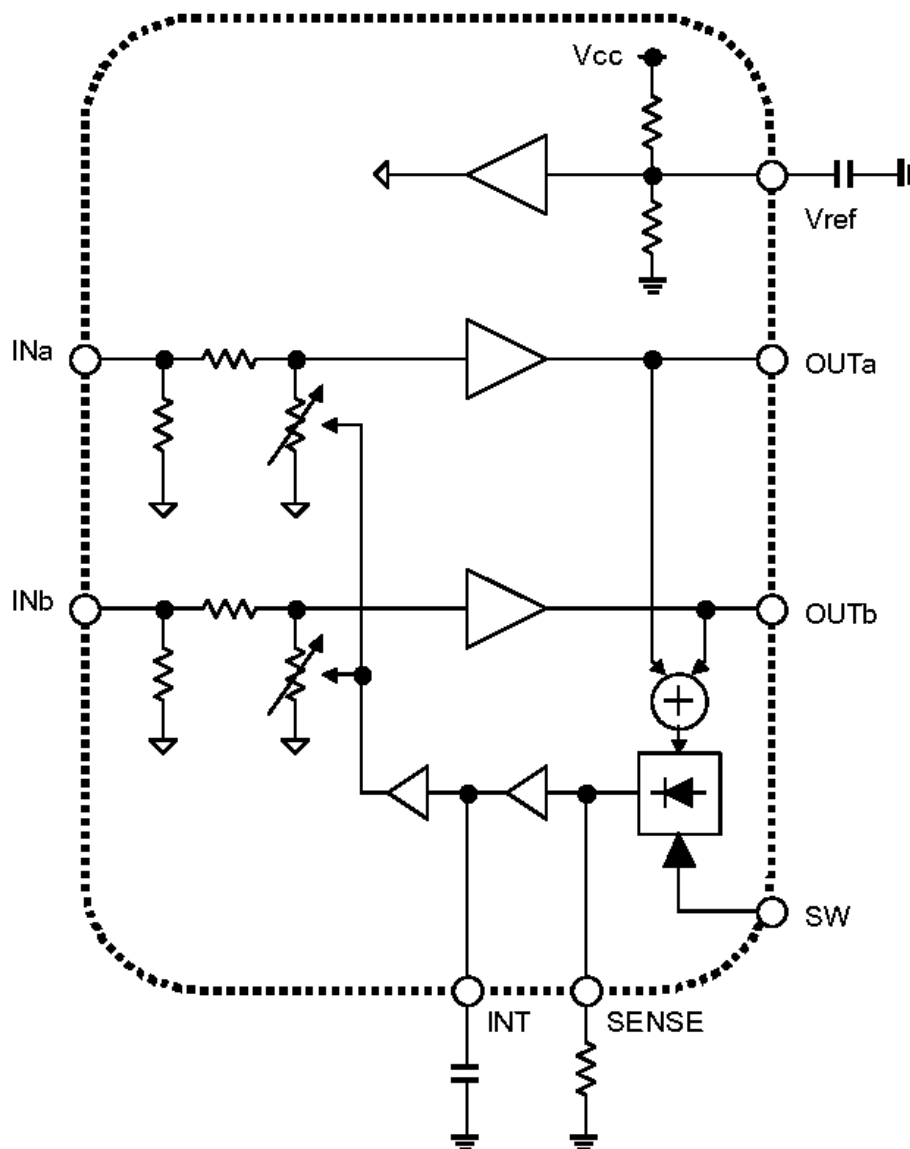


NJM2761 SSOP



NJM2761 TSSOP

BLOCK DIAGRAM



ABSOLUTE MAXIMUM RATING (Tamb=25℃)

characteristics	Symbol	Value	Unit
Supply Voltage	V ⁺	14	V
Power Dissipation	P _D	320	mW
Operating Temperature Range	T _{opr}	-20~+75	℃
Storage Temperature Range	T _{stg}	-40~+125	℃

ELECTRICAL CHARACTERISTICS

POWER SUPPLY (Unless otherwise specified, $T_a=25^{\circ}\text{C}$, $V^+=5\text{V}$)

characteristics	Test conditions	Symbol	Min.	Typ.	Max.	Unit
Operating Voltage		V^+	2.7	5.0	13.0	V
Operating Current	No Signal	I_{cc}		1.5	2.0	mA
Reference Voltage	No Signal	V_{ref}	2.2	2.5	2.7	V

AC CHARACTERISTICS (Unless otherwise specified, $T_a=25^{\circ}\text{C}$, $V^+=5\text{V}$,

$V_{IN}=1\text{V}_{rms}/f=1\text{kHz}$, $R_{sense}=20\text{k}\Omega$, $BW=400\sim 30\text{kHz}$)

characteristics	Test conditions	Symbol	Min.	Typ.	Max.	Unit
Limit level 1		G_{LIM1}	150	200	250	mVrms
Limit level 2	$V^+=13\text{V}$, $R_{sense}=4\text{k}\Omega$	G_{LIM2}	0.7	1.0	1.3	Vrms
Limit off	$SW=2\text{V}$	G_{OFF}	0.9	1.0	1.1	Vrms
Output noise	$R_s=0\Omega$, A-weighting $V_{IN}=2\text{V}_{rms}$	V_{NO}		-100 (10)	-90 (31.6)	dBV (μV_{rms})
Total harmonic distortion		THD+N			1	%
Cross talk		CT			-70	dB
Ripple rejection	$V_{ripple}=100\text{mV}_{rms}$, $f=1\text{kHz}$	RR			-70 (316)	dBV (μV_{rms})

CONTROL CHARACTERISTICS (Unless otherwise specified, $T_a=25^{\circ}\text{C}$, $V^+=5\text{V}$)

characteristics	Test conditions	Symbol	Min.	Typ.	Max.	Unit
Low level input voltage		V_{IL}			0.5	V
High level input voltage		V_{IH}	2.0			V

CONTROL TERMINAL EXPLANATION

SW(7pin)

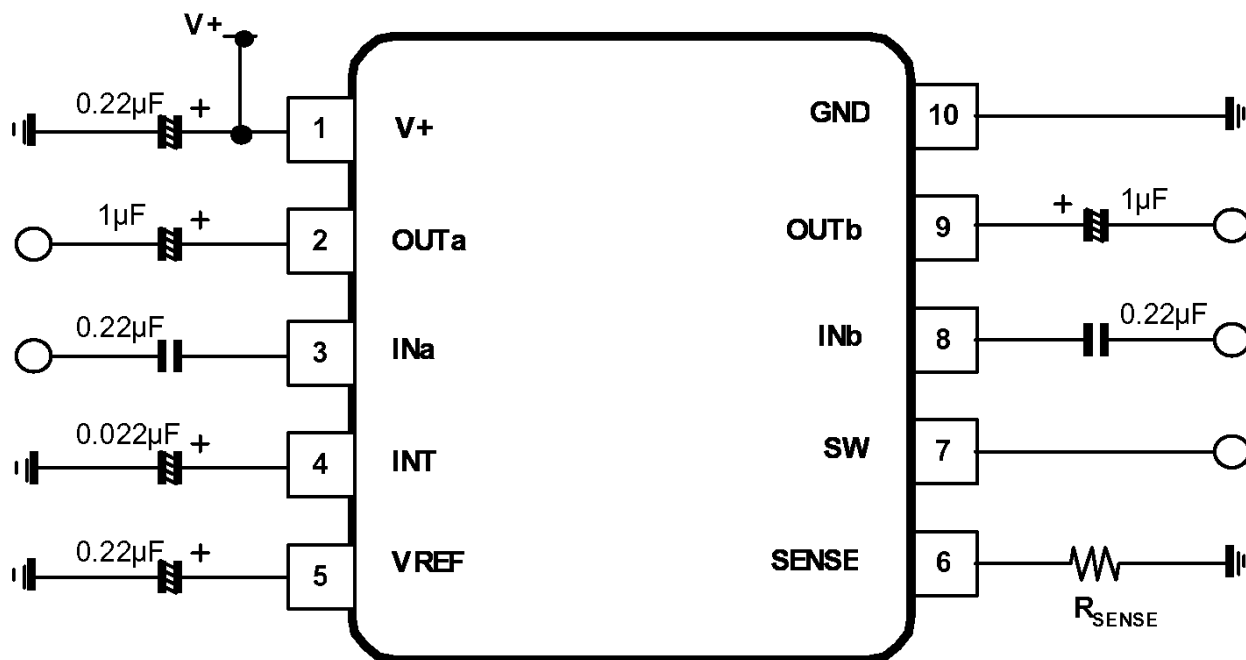
MODE	STATUS	NOTE
Limiter ON	L	Limiter is active
Limiter OFF	H	Limiter is not active

TERMINAL DESCRIPTION

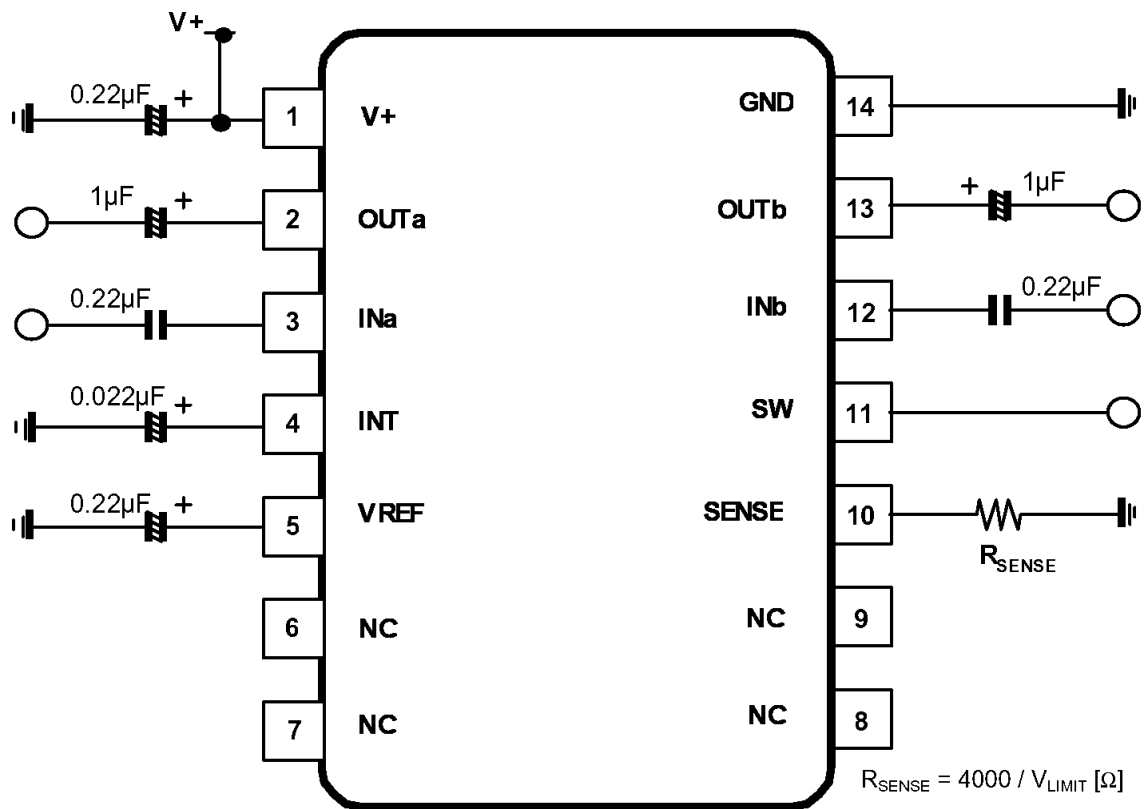
No.	SYMBOL	FUNCTION	EQUIVALENT CIRCUIT	VOLTAGE
1	V^+	Power supply termina		
2 9(13)	OUTa OUTb	Ach output terminal Bch output terminal		$V^+ / 2$
3 8(12)	INa INb	Ach input terminal Bch input terminal		$V^+ / 2$
4	INT	Smoothing capacitor connection terminal		0.7V
5	VREFIN	Reference voltage stabilizing capacitor connection terminal		$V^+ / 2$

No.	SYMBOL	FUNCTION	EQUIVALENT CIRCUIT	VOLTAGE
6(10)	SENSE	Resister Connection Terminal for limit level setting		
7(11)	SW	Limiter ON/OFF switch		
8(14)	GND	Ground Terminal		

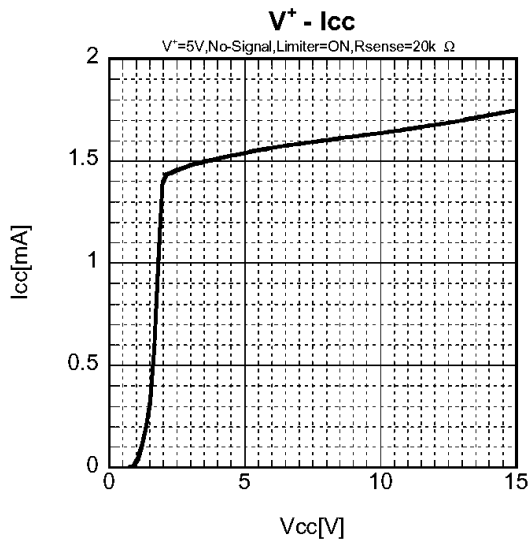
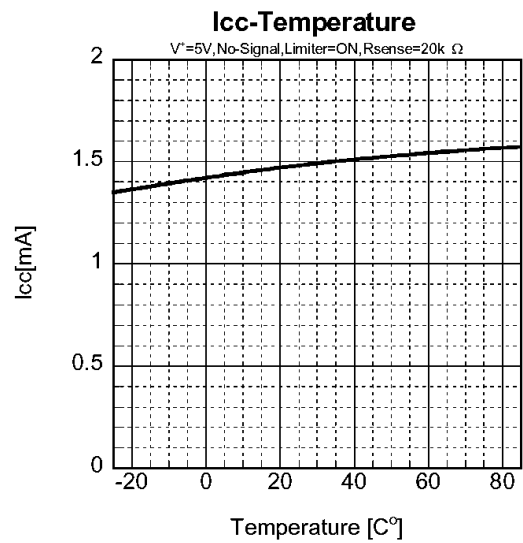
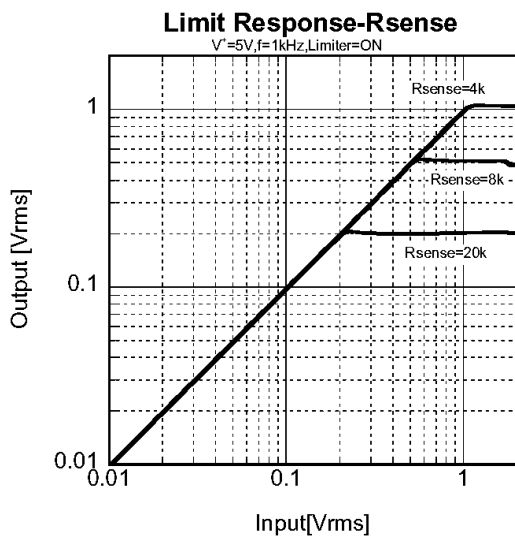
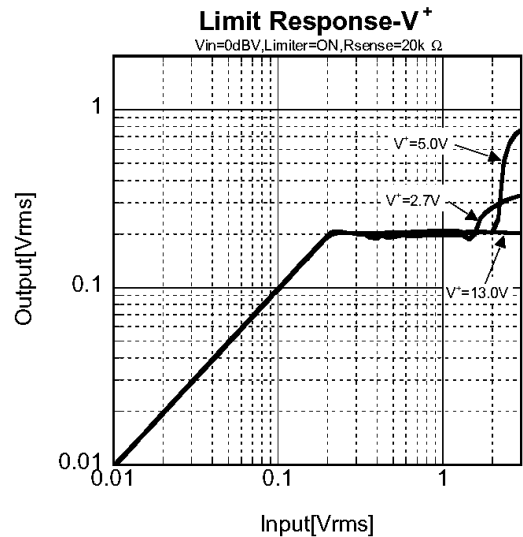
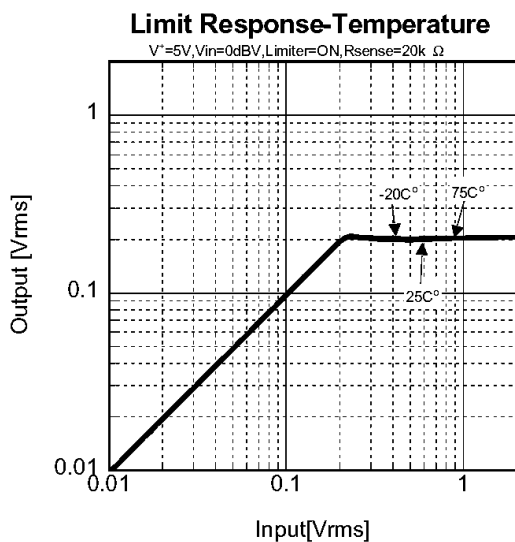
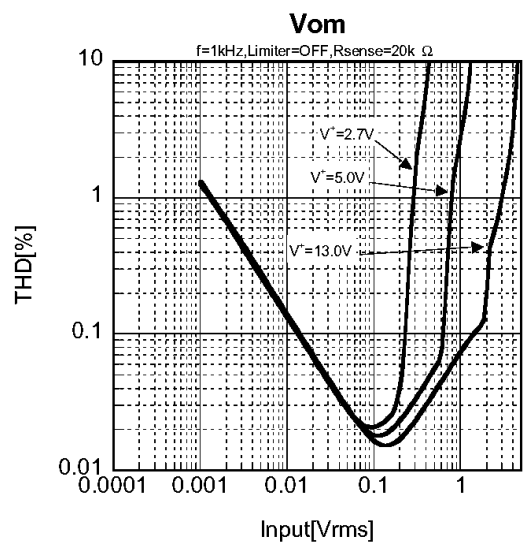
APPLICATION CIRCUIT

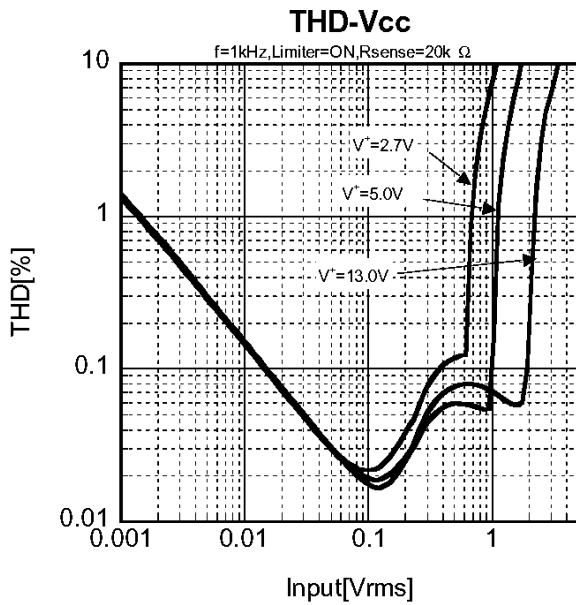
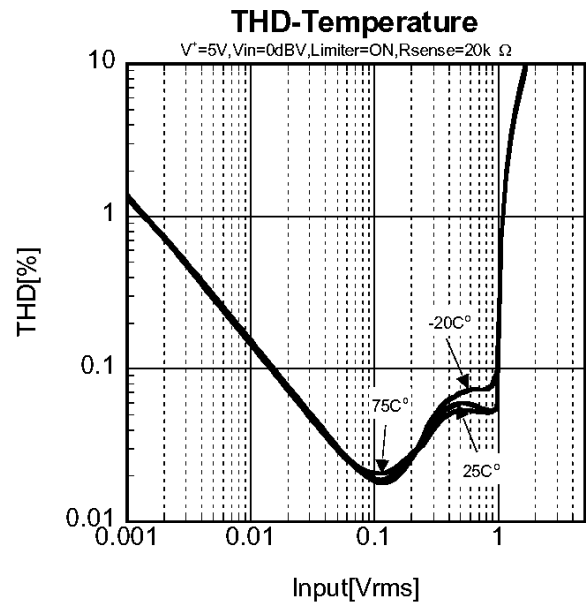
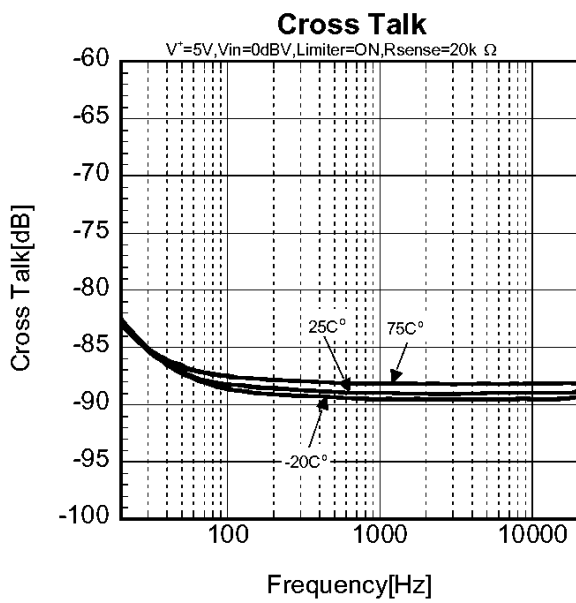
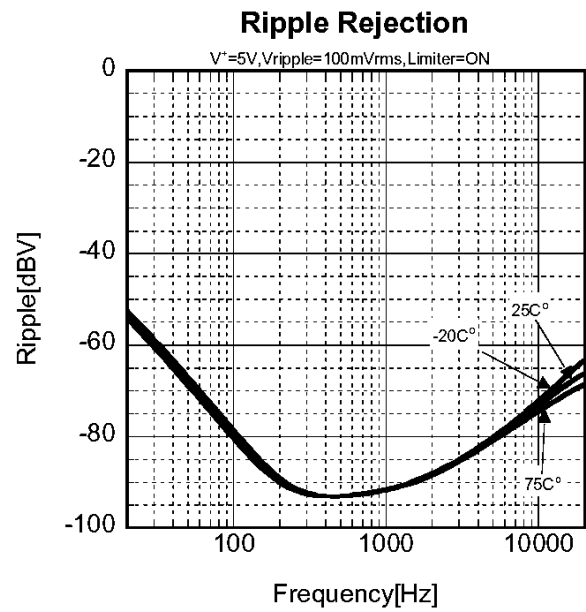


$$R_{\text{SENSE}} = 4000 / V_{\text{LIMIT}} [\Omega]$$



TYPICAL CHARACTERISTICS





OUTLINE DRAWING

