



Audio Limiter IC D2761

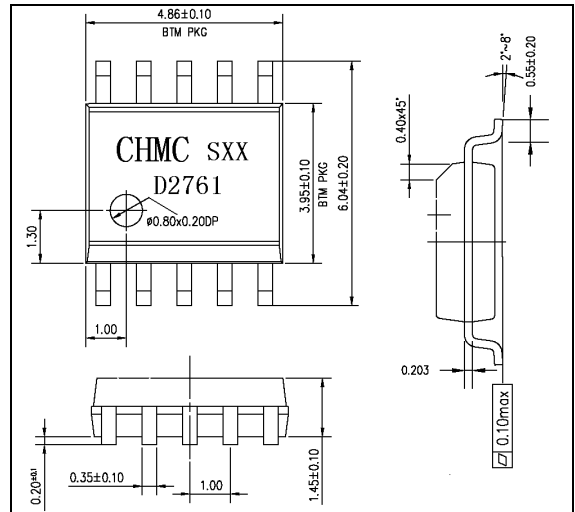
DESCRIPTION

The D2761 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

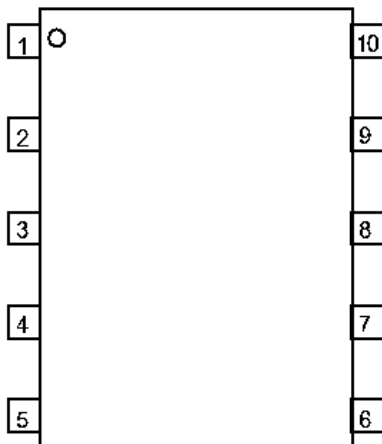
- Wide Operating Voltage +2.7V to +13.0V
- Variable Limit Level by external resistor
0.2 to 1V
- Low Output Noise -90dBV max
- Bipolar Technology

Outline Drawing



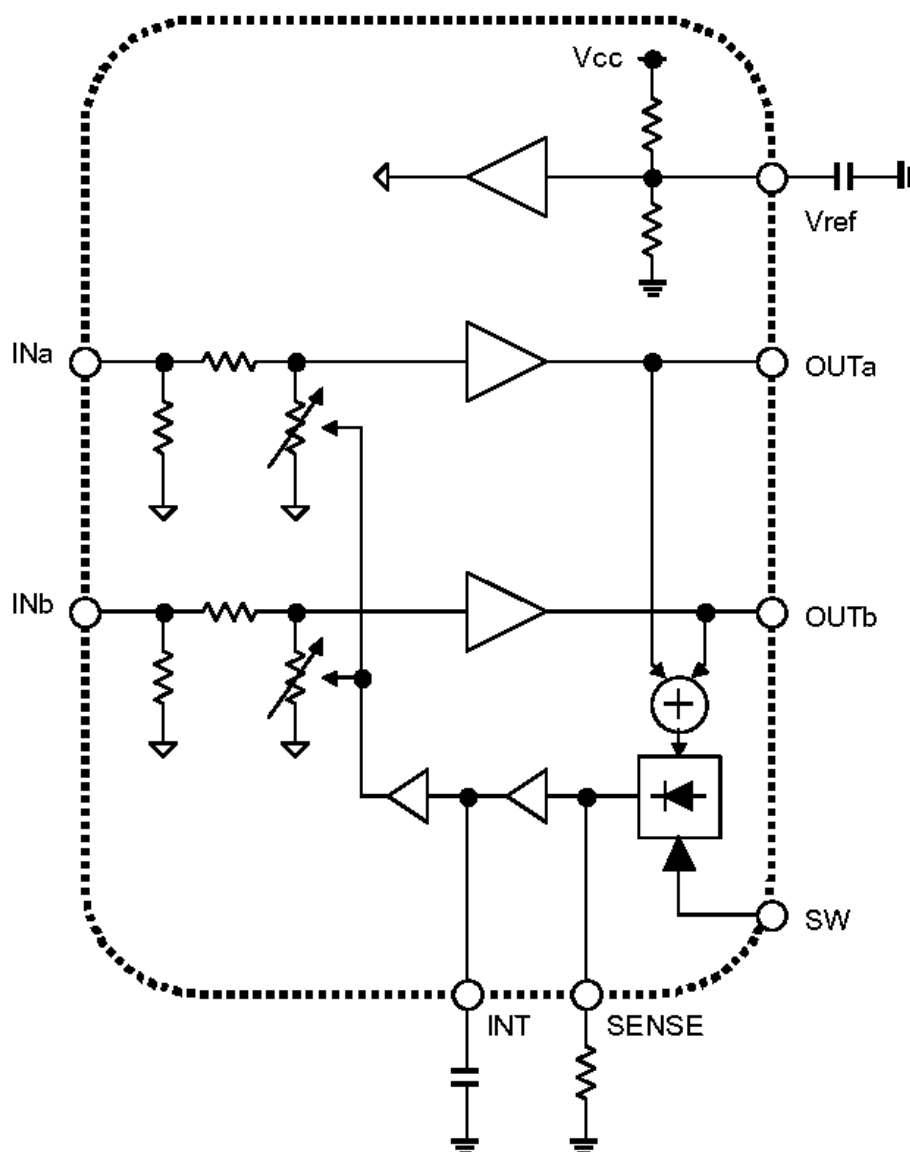
SSOP10

PIN CONFIGURATION



1. V+
2. OUTa
3. INa
4. INT
5. VREF
6. SENCE
7. SW
8. INb
9. OUTb
10. GND

BLOCK DIAGRAM

ABSOLUTE MAXIMUM RATING ($T_{amb}=25^{\circ}C$)

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 , Ta=25 , V⁺=5V)

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 , Ta=25 , V⁺=5V,VIN=1Vrms/f=1kHz,Rsense=20k Ω ,BW=400~30kHz)

characteristics	Test conditions	Symbol	Min.	Typ.	Max.	Unit
Limit level 1		G _{LIM1}	150	200	250	mVrms
Limit level 2	V ⁺ =13V,Rsense=4k Ω	G _{LIM2}	0.7	1.0	1.3	Vrms
Limit off	SW=2V	G _{OFF}	0.9	1.0	1.1	Vrms
Output noise	Rs=0 Ω , A-weighting VIN=2Vrms	V _{NO}		-100 (10)	-90 (31.6)	dBV (μ Vrms)
Total harmonic distortion		THD+N			1	%
Cross talk		CT			-70	dB
Ripple rejection	Vripple=100mVrms,f=1kHz	RR			-70 (316)	dBV (μ Vrms)

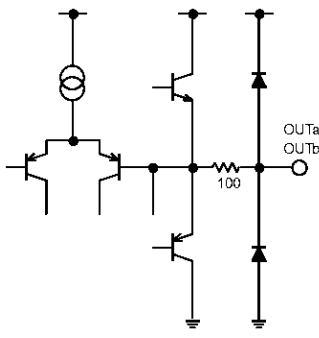
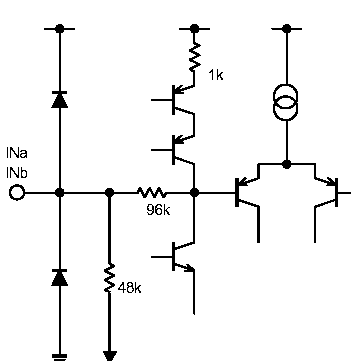
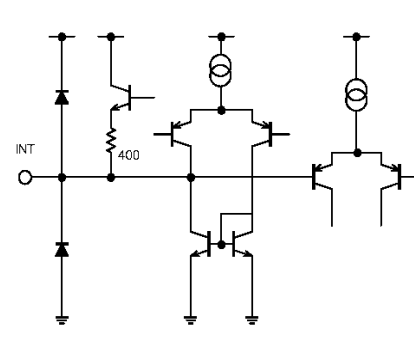
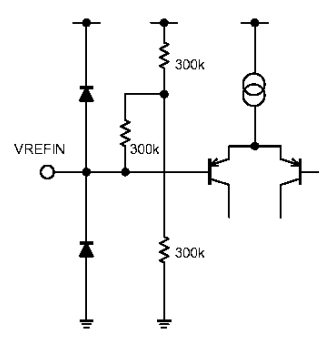
CONTROL CHARACTERISTICS (Unless otherwise specified , Ta=25 , V⁺=5V)

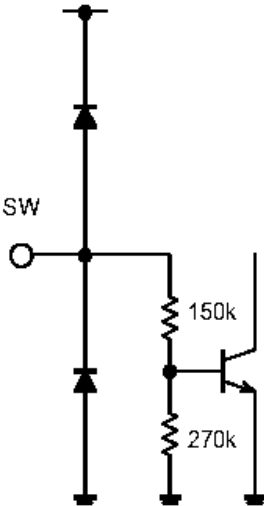
characteristics	Test conditions	Symbol	Min.	Typ.	Max.	Unit
Low level input voltage		V _{IL}			0.5	V
High level input voltage		V _{IH}	2.0			V

CONTROL TERMINAL EXPLANATION**SW(7pin)**

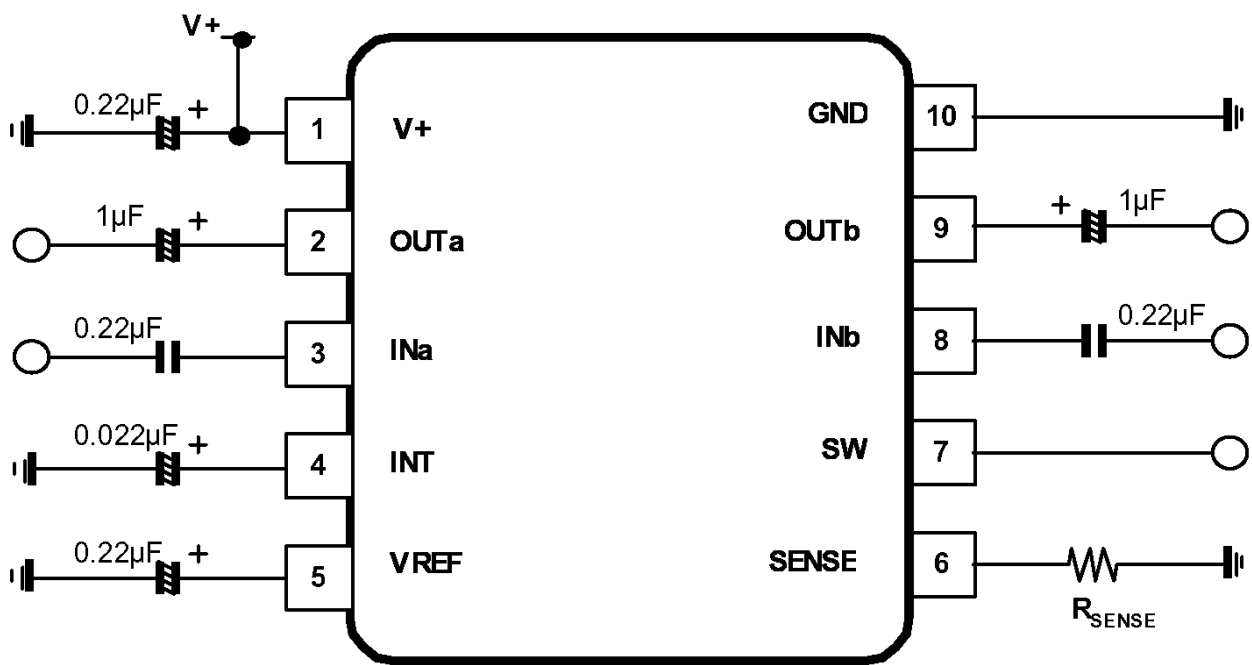
MODE	STATUS	NOTE
Limiter ON	L	Limiter is active
Limiter OFF	H	Limiter is not active

TERMINAL DESCRIPTION

No.	SYMBOL	FUNCTION	EQUIVALENT CIRCUIT	VOLTAGE
1	V^+	Power supply terminal		
2 9	OUTa OUTb	Ach output terminal Bch output terminal		$V^+/2$
3 8	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	SENSE	Resister Connection Terminal for limit level setting		
7	SW	Limiter ON/OFF switch		
8	GND	Ground Terminal		

APPLICATION CIRCUIT



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

TYPICAL CHARACTERISTICS

