ELECTRONICS, INC.
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NTE1388
Integrated Circuit
Audio Power Amplifier, 5.8W, for Car Radio, Car Stereo

Features:

- High Gain (52dB. Typ) and High Output (5.8W Typ)
- Soft Clip
- Few External Components
- Built–In Thermal Cutoff Circuit Protects Against Load Short, Overload
- Built–In Pop Noise Prevention Circuit Protects Against Power Supply ON Noise
- May Be Used for Bridge Amplifier Applications (P_O = 18W, R_L = 4Ω)

Absolute Maximum Ratings: (T_A = +25°C unless otherwise specified)

Maximum Supply Voltage, V_{CC}max 18V
Maximum Output Current (Pin1: Sink, Pin8: Source, Pin10: Sink, Note 1), I_O 4.5A
Surge Supply Voltage (t ≤ 0.2sec), V_{surge} 40V
Allowable Power Dissipation, $P_D$max 7W
Operating Temperature Range, T_{opr} . . . . . –20° to +75°C
Storage Temperature Range, T_{stg} . . . . . –40° to +150°C

Note 1. 100 x 100 x 1.5mm^3 Al heat sink used.

Recommended Operating Conditions: (T_A = +25°C unless otherwise specified)

Parameter	Symbol	Test Conditions	Min	Typ	Max	Unit
Recommended Supply Voltage	V_{CC}		–	13.2	–	V
Load Resistance	R_L		–	4	–	Ω

Electrical Characteristics: (T_A = +25°C, V_{CC} = 13.2V, R_L = 4Ω, f = 1kHz, 100 x 100 x 1.5mm^3 Al heat sink unless otherwise specified)

Parameter	Symbol	Test Conditions	Min	Typ	Max	Unit
Quiescent Current	I_{CCO}		–	35	80	mA
Voltage Gain	VG	Closed Loop	51	53	55	dB
		Open Loop Based on a Specific Circuit	–	70	–	dB
Output Power	P_O (1)	THD = 10%, R_L = 4Ω	5.0	5.8	–	W
	P_O (2)	THD = 10%, R_L = 2Ω	–	9.0	–	W
Total Harmonic Distortion	THD	P_O = 1W	–	0.7	2.0	%
Input Resistance	r_i		–	30	–	kΩ
Output Noise Voltage	V_{NO}	R_g = 10kΩ, No Filter	–	1.2	2.5	mV

Function of External Components:

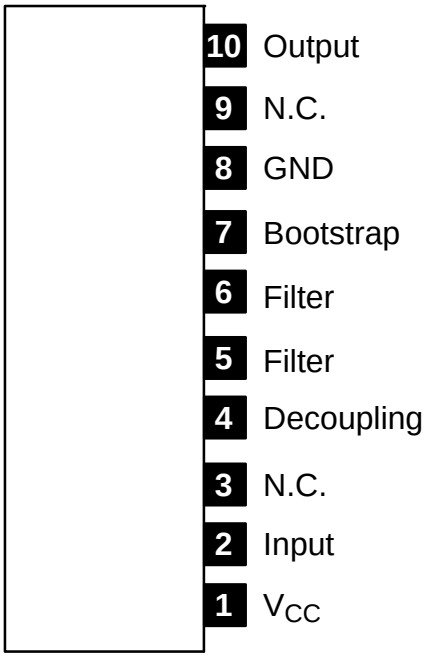
The recommended number of external components used with the NTE1388 is 4 pieces as follows:

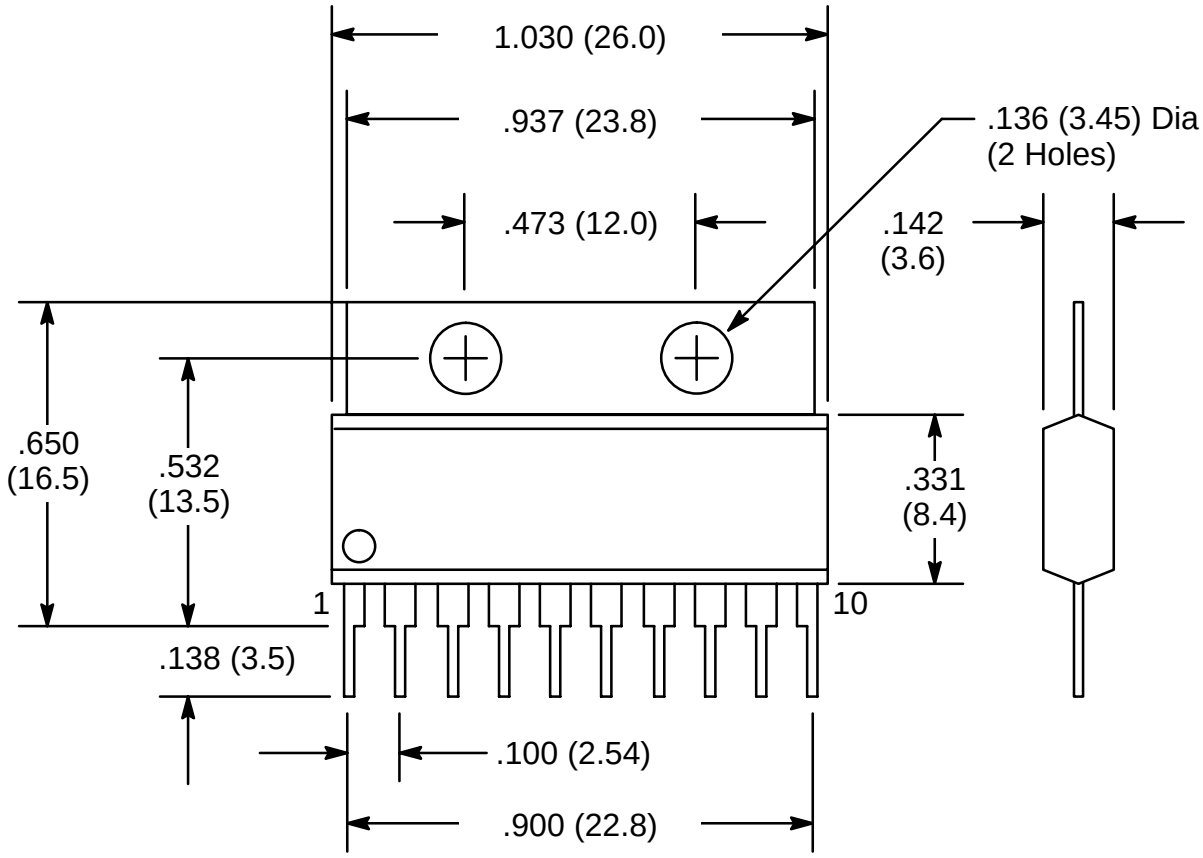
- Feedback Capacitor from Pin5, C_{NF}
- Pin7 to Pin10 Bootstrap Capaciter, C_{BS}
- Output Capacitor from Pin10, C_{OUT}
- High Frequency Paracitic Oscillation Compensating Capacitor, C_X

The fixed values of these components are:

C_{NF} = 100μF
C_{BS} = 100μF
C_{OUT} = 1000μF
C_X = 0.15μF

Pin Connection Diagram
(Front View)

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