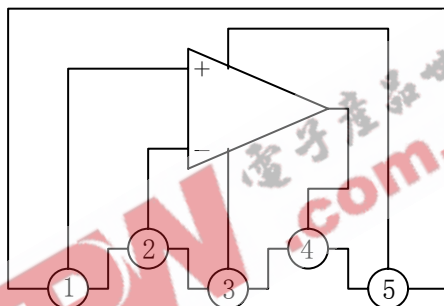


10W AUDIO AMPLIFIER—TDA2003

DESCRIPTION

The TDA2003 has very low number of external components, ease of assembly, space and cost saving, are maintained. The device provides a high output current capability (up to 3.5A) very low harmonic and cross-over distortion. Completely safe operation is guaranteed due to protection against DC and AC short circuit between all pins and ground, thermal over-range, load dump voltage surge up to 40V and fortuitous open ground.

BLOCK DIAGRAM



ABSOLUTE MAXIMUM RATINGS

(T_{amb}=25°C)

PARAMETER	SYMBOL	VALUE	UNIT
Peak Supply Voltage(50ms)	V _{ccp}	40	V
DC Supply Voltage	V _{cc}	28	V
Operating Supply Voltage	V _{cc}	18	V
Output Peak Current(repetitive)	I _o	3.5	A
Output Peak Current (non repetitive)	I _o	4.5	A
Power Dissipation at T _c =90°C	P _D	20	W
Ambient operating temperature	T _{opr}	-20~+75	°C
Storage And Junction Temperature	T _{stg}	-40~+150	°C

WuXi YouDa Electronics Co., Ltd

Add: No.5 Xijin Road, National Hi-Tech Industrial Development Zone, Wuxi Jiangsu China

Tel: 86-510-85205117 86-510-85205106 Fax: 86-510-85205110 Website: www.e-youda.com

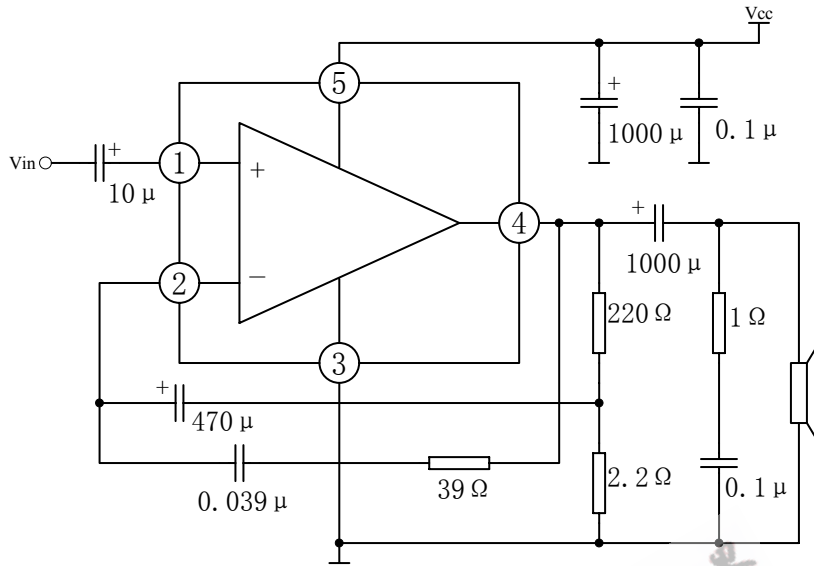
SHENZHEN OFFICE Tel: 86-755-83740369 Fax: 86-755-83741418

ELECTRICAL CHARACTERISTICS

(Tamb=25°C, V=16.5V, f=1kHz, Unless otherwise specified)

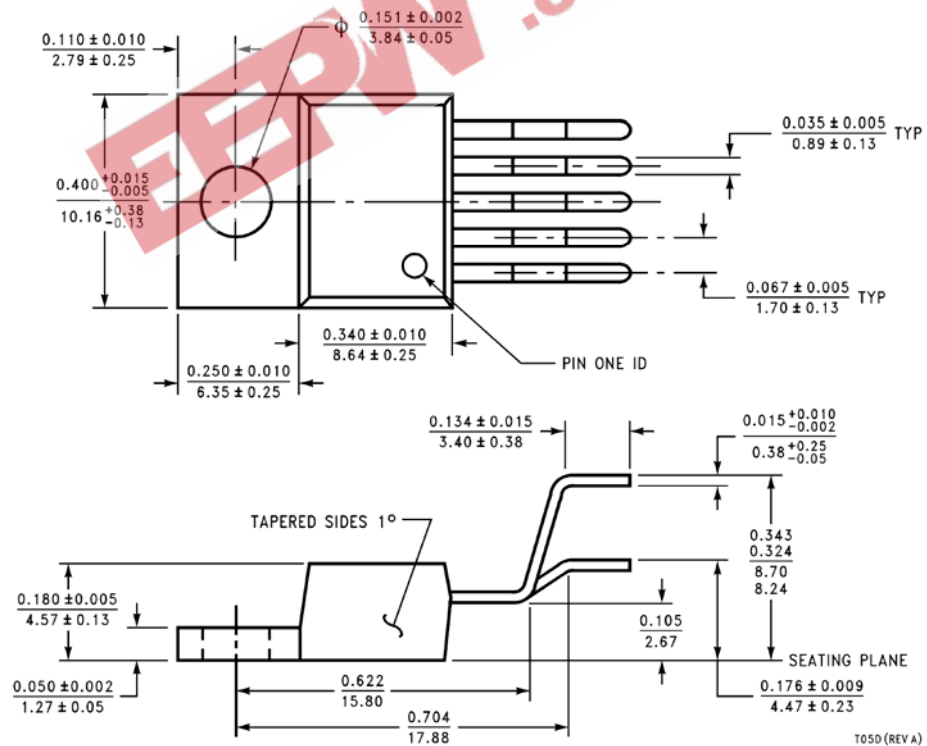
PARAMETER	SYMBOL	TEST CONDITIONS	NIN	TYP	MAX	UNIT
Supply Voltage	Vcc		8		18	V
Quiescent Output Voltage	Vo		6.1	6.9	7.7	V
Quiescent Drain Current	Iccq			44	50	mA
Output Power	Po	THD=10%, RL=4Ω	5.5	6		W
		THD=10%, RL=2Ω	9	10		
		THD=10%, RL=3.2Ω		7.5		
		THD=10%, RL=1.6Ω		12		
Input Saturation Voltage	Vim			300		mV
Input Sensitivity	Vi	Po=0.5W, RL=4Ω		14		mV
		Po=6W, RL=4Ω		55		
		Po=0.5W, RL=2Ω		10		
		Po=10W, RL=2Ω		50		
Frequency Response	BW	Po=1W, RL=4Ω	40 to 15000			Hz
Distortion	THD	Po=0.05~4.5W, RL=4Ω		0.15		%
		Po=0.05~7.5W, RL=2Ω		0.15		%
Input Resistance (pin 1)	Zi	f=1kHz	70	150		KΩ
Input Noise Current	INI			60	200	pA
Input Noise Voltage	VNI			1	5	μV
Voltage Gain (Open Loop)	Gvo	f=1kHz		80		dB
		f=10kHz		60		dB
Voltage Gain (closed Loop)	Gv	RL=4Ω	39.3	40	40.3	dB
Efficiency	η	Po=6W, RL=4Ω		69		%
		Po=10W, RL=2Ω		65		%
Supply Voltage Rejection	SVR	f=100Hz, Vr=0.5V Rg=10kΩ, RL=4Ω	30	36		dB

APPLICATION CIRCUIT



OUTLINE DRAWING

Inches / millimeters



T050 (REV A)