$\begin{array}{c} 022 \ 16924 \ D \\ \hline \\$							
$\begin appropriate the set of t$	9097247 TOSHIBA. E	LECTRON	IC		02E 1	6924 D	
DVA AUDIO PONER APPLIFIER Duration of the provided of the provi					TA723	32P	
The TA/232P is a dual audio power amplifier for consumer applications. It is suitable for power amplifier of portable stereo radio cassette and stereo receiver etc. . Capability of Dual and BTL Connection Dual Mode : $P_{OUT}=2.2W$ (Typ.)/CH at $V_{CC}=9V$ , THD=102, $R_{I}=4\Omega$ . Very Few External Parts . STB (Single In-line Package) : . Small Package and Easy Patterning . Excellent Ripple Rejection Ratio : . R.R=60dB (Typ.) at $R_{g}=0$ , f=100Hz . Wide Operating Supply Voltage Range : $V_{CC}=3.5-12V$ . MAXIMUM RATINGS (Ta=25 <sup>o</sup> C) . MAXIMUM RATINGS (Ta=25 <sup>o</sup> C) . MAXIMUM RATINGS (Ta=25 <sup>o</sup> C) . Supply Voltage $\frac{V_{CC}}{16}$ . A MIND RATING UNIT . Supply Voltage $\frac{V_{CC}}{16}$ . A MIND RATING $\frac{V_{CC}}{16}$ . A MIND $V_$	DUAL AUDIO POWER AMPLIFIER					Unit in m	<u>m</u>
Small Package and Easy Patterning   Excellent Ripple Rejection Ratio :   R.R=60dB (Typ.) at Rg=0, f=100Hz   Wide Operating Supply Voltage Range : V <sub>CC</sub> =3.5~12V   JEDE0   TOSHIBA   Black for the set and tolerance is   R.R=60dB (Typ.) at Rg=0, f=100Hz   Wide Operating Supply Voltage Range : V <sub>CC</sub> =3.5~12V   JEDE0 -   TOSHIBA g12CP-P	The TA7232P is a dual audio por consumer applications. It is suitable for power ampli stereo radio cassette and ster . Capability of Dual and BTL C Dual Mode : P <sub>OUT</sub> =2.2W (Typ.) at V <sub>CC</sub> =9V, THD=1 BTL Mode : P <sub>OUT</sub> =5.5W (Typ.) at V <sub>CC</sub> =9V, THD=1 . Very Few External Parts . SIP (Single In-line Package)	wer amplifi fier of por eo receiver connection /CH .0%, $R_L=4\Omega$ .0%, $R_L=4\Omega$ :	er for table etc.	255 05 PLED 125±03	301MAX 282MAX Ø32±01 Ø32±01 0 254±025 L DRAWING 06±015 05±015	€	
MAXIMUM RATINGS (Ta=25°C) MAXIMUM RATINGS (Ta=25°C) CHARACTERISTIC SYMBOL RATING UNIT Supply Voltage ÝCC 16 V Output Current (Peak/CH) IO(peak) 2 A Power Dissipation PD 12.5 W Operating Temperature Topr -20~75 °C Storage Temperature T <sub>Stg</sub> -55~150 °C	Small Package and Eas . Excellent Ripple Rejection R R.R=60dB (Typ ) at R	y Patternin atio : a=0 f=100H	2	Lead ±0,2 % each bas i	pitch is 2. 5 against th lead that : s of No.1 le	54 and tolerance neoretical center is obtained on th ead.	18 0f .0
MAXIMUM RATINGS (Ta=25°C) $\hline CHARACTERISTIC$ SYMBOLRATINGUNITSuply Voltage $\dot{V}_{CC}$ 16 $V$ Output Current (Peak/CH)IO(peak)2APower DissipationPp12.5WOperating TemperatureTopr $-20 \sim 75$ $^{\circ}C$ Storage TemperatureTstg $-55 \sim 150$ $^{\circ}C$	. Wide Operating Supply Voltag	g=0, 1=100M se Range : V	$cc=3.5 \sim 12V$	JEDI	EC	_	
MAXINUM RATINGS (Ta=25°C)CHARACTERISTICSYMBOLRATINGUNITSupply Voltage $\dot{V}_{CC}$ 16VOutput Current (Peak/CH) $I_O(peak)$ 2APower DissipationPp12.5WOperating Temperature $T_{opr}$ $-20 \sim 75$ $^{\circ}C$ Storage Temperature $T_{stg}$ $-55 \sim 150$ $^{\circ}C$				TOSI	IIBA	S 12 CP - P	
CHARACTERISTICSYMBOLRATINGUNITSupply Voltage $V_{CC}$ 16VOutput Current (Peak/CH) $I_O(peak)$ 2APower DissipationPp12.5WOperating Temperature $T_{opr}$ $-20 \sim 75$ $^{\circ}C$ Storage Temperature $T_{stg}$ $-55 \sim 150$ $^{\circ}C$	MAXIMUM RATINGS (Ta=25 <sup>0</sup> C)						
Supply Voltage $\dot{V}_{CC}$ 16 $V$ Output Current (Peak/CH)IO(peak)2APower DissipationPD12.5WOperating TemperatureTopr $-20 \sim 75$ $^{\circ}C$ Storage TemperatureTstg $-55 \sim 150$ $^{\circ}C$	CHARACTERISTIC	SYMBOL	RATING	UNIT			
Output Current (Peak/CH)IO(peak)2APower DissipationPp12.5WOperating TemperatureTopr $-20 \sim 75$ $^{\circ}C$ Storage TemperatureTstg $-55 \sim 150$ $^{\circ}C$	Supply Voltage	Ů <sub>CC</sub>	16	v			
Power DissipationPD12.5WOperating Temperature $T_{opr}$ $-20 \sim 75$ $^{o}C$ Storage Temperature $T_{stg}$ $-55 \sim 150$ $^{o}C$	Output Current (Peak/CH)	IO(peak)	2	Α			
Operating Temperature $T_{opr}$ $-20 \sim 75$ $^{\circ}C$ Storage Temperature $T_{stg}$ $-55 \sim 150$ $^{\circ}C$	Power Dissipation	PD	12.5	W			
Storage Temperature T <sub>stg</sub> -55~150 °C	Operating Temperature	Topr	-20~75	C C			
	Storage Temperature	T <sub>stg</sub>	-55~150	°c			
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			الما من مريد موجود الله منه المريد الما مريور (100 مريد مريد مريد (11 مريك مرية المعدر و11 مريك ومتوقعاتها (1 مريك الم وا		i AUD		

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	TA7929D					01			•
	IAIZJZF			1	4-05-	-01	· ·		
		, <b>`</b>							
								-	
	ELECTRICAL CHARACTERISTICS								
	(Unless otherwise specified	, V <sub>CC</sub> =9V	, $R_L = \ell$	$\Omega$ , Rg=600 $\Omega$ , f=1kHz,	$Ta=25^{\circ}C$	C Dual	Mode)		
		annor	TEST						
	CHARACIERISIIC	SIMBOL	CUIT	TEST CONDITION	MIN.	TIP.	FIAA .	UNIT	
	Quiescent Current	ICCQ	-		-	22	45	mA	
	Output Power	POUT		THD=10%	1.8	2.2	-		
	output rower			BTL THD=10%	_	5.5	-	w	
	Total Harmonic Distortion	THD	-	P <sub>OUT</sub> =1W/ch	-	0.2	1.0	%	
	Glosed Loop Voltage Gain	GV	-	$R_{f}=150\Omega$	42.5	44.5	46.5	dB	
	ciosed hoop vortage darm			R <sub>f</sub> =0	52.5	55.5	58.5	ub	
	Input Resistance	RIN	-	_	-	20	-	kΩ	
	Output Noise Voltage	Viro		Rg=10kΩ		0.2	0.0		
		*NO		$BW=50Hz \sim 20kHz$		0.5	0.0	mv rms	
	Pipple Poiestion Pati-	D D		Rg=0		60		10	
	Wibbre Velection Matto	K.K		fripple=100Hz	-	60	-	ab	
				$R_{\sigma}=10k\Omega$ , AMP, 1-+2					
	Cross Tolk	CT	-	Vo=0dB, f=1kHz	-	-52	-	dB	
			1						

LOÀD	VCC	6V	7.5V	97	12V
	$R_{L}=8\Omega$	0.6W/ch	1W/ch	1.4W/ch	2.5W/ch
DUAL	$R_{L}=4\Omega$	1W/ch	1.5W/ch	2.2W/ch	3.7W/ch
זיים	$R_{L}=8\Omega$	1.8W	3W	4.5W	7.6W
DIL	$R_{L}=4\Omega$	2.4W	3.8W	5.5W	*

\* This IC is not available at V\_CC=12V,  $R_{\rm L}{=}4\Omega,$  BTL connection,because of power dissipation over.

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-82-

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9	097247 TOSHIBA, ELECTRONIC 02E 16927 D
	ΤΛ7939D
	1-74-05-01
,	AFFLICATION INFORMATION
:	L. GND Pattern
	There are two GND terminals in this IC. The pin $\widehat{\mathcal{D}}$ is a input-side GND and
	the pin ③ is a power transistor GND. It is need to arrange that the GND line
	so that the common impedance may not exist. An inappropriate GND pattern cause
	parastic oscillation or increased distortion.
:	2. Capacitor C <sub>6</sub> ,C <sub>7</sub>
	The purpose of capacitor C6.C7 is to prevent oscillation. These capacitors
	need to be small temperature coefficient. These capacitors need also to be
	arranged near to the terminals of $V_{CC}$ and output.
	If this arrangement is impossible, the capacitance is recommended to be large.
· · · · ·	3. Voltage Gain
	The closed loop voltage gain Gy is determined by the ratio of R1, R2 and Rf.
	$G_V = 20  \ell_{OS} - \frac{R_2}{R_2} \qquad (dB)$
	$R_1 + R_f$
	The recommended voltage gain is more than
	40dB.
	A voltage gain less than 40dB results in
	a parastic oscillation. $C = 60\Omega$
	4. Muting Control $\frac{1}{36 k\Omega}$
	Audio muting can be accomplished by
	connecting PIN (6) (ripple filter) to GND Fig.1
	as shown in Fig.2.
	Amount of muting attenuation is more
	than 60dB.
	swo <sup>77</sup> ŏ
	Fig.2

			<u>.</u>							<b>TA</b> T-74	<b>723</b> -05-0	<b>32P</b>		
	TYPICAL (V <sub>CC</sub> =	DC VOLTA	GE OF I <sup>9</sup> с, DI	EACH TE JAL MOD	RMINA E TES	L T CIRC	UIT)							
	TERMI	NAL No.	1	2	3	4	5	6	7	8	9	10	11	12
	DC Voltage (V) 8.9 4.5 GND 0.55 0.01 5.2 GND 0.01 0.55 8.9 4.5 V <sub>CC</sub>													VCC
	PARTS No.	TYPICAL	נטפ	RPOSE		SMALLE	R THAN	INFLU TYP.	JENCE GRE	ATER T	HAN TY	P.	NO	TE
•	C <sub>1</sub> C <sub>2</sub>	47 <i>µ</i> F	Feedl Capad	back	Sh at Lo	Short Rise Time at V <sub>CC</sub> ON Low Frequency Roll Off Point : $C1, 2 = \frac{1}{2\pi f_1 \cdot RNF}$					Time			
	C3	22µF	Ripp: Reduc	le cing	Sh at	Short Rise Time Long Rise Time at VCC ON at VCC ON					Time			
	C4 C5	100 <i>#</i> F	Boot	Strap	Lo at	w Outp Low F	ut Pow requen	er cy	Low at V	POP No CC ON	ise	-		
	С <sub>6</sub> С7	0.14F	Phase Compe	e ensatio	n Un Os Tei	Unstable for Oscillation at Low Temperature Oscillation							Polyst Capaci	iroll tor
	С <u>8</u> С9	1000 <i>4</i> F	Coup Capac	ling citor	Lo	Low Frequency Roll Off Point : $C_{8,9} = \frac{1}{2\pi f_L \cdot R_L}$								
	C <sub>10</sub>	1000#F	Ripp: Filto	Le er	F1. Neo Smi	Filter for Hum and Ripple Need the Large Capacitance for AC Supply Small Capacitance is OK for Battery								
		•	·	• • •	<b>-</b>	<u> </u>								

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