



JOYVIRTUE

Thick Film Hybrid IC

# STK433-100LF

## 2-channel class AB audio power IC, 100W+100W

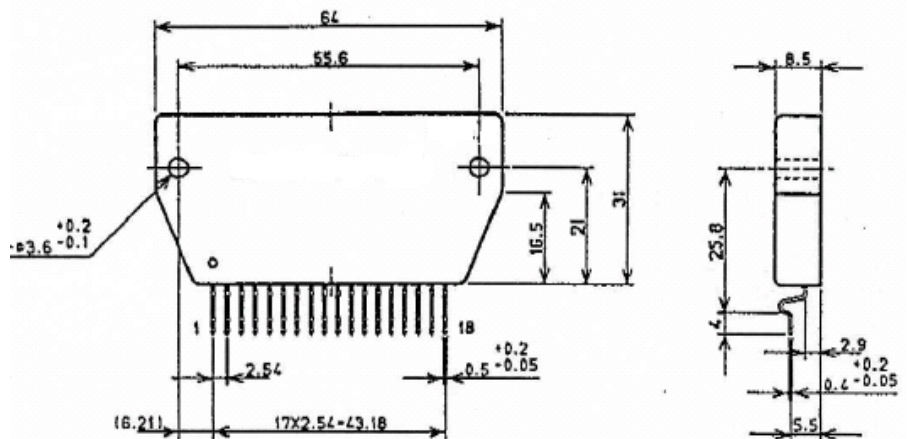
### Features

- Pin-to-pin compatible outputs ranging from 80W to 150W.
- Output load impedance:  $R_L=6\Omega$  supported
- Allowable load shorted time: 0.3 second
- Allows the use of predesigned applications for standby and mute circuits.

### Series Models

	STK433-090LF	STK433-100LF	STK433-120LF	STK433-130LF
Output 1 (10%/1kHz)	80Wx2 channels	100Wx2 channels	120Wx2 channels	150Wx2 channels
Output 2(0.4%/20Hz to 20kHz)	50Wx2 channels	60Wx2 channels	80Wx2 channels	100Wx2 channels
Max. rated $V_{CC}$ (quiescent)	$\pm 54V$	$\pm 57V$	$\pm 65V$	$\pm 71.5V$
Max. rated $V_{CC}(6\Omega)$	$\pm 47V$	$\pm 50V$	$\pm 57V$	$\pm 63V$
Recommended operating $V_{CC}(6\Omega)$	$\pm 33V$	$\pm 35V$	$\pm 40V$	$\pm 44V$

### Package Dimensions



### Specifications

**Absolute maximum ratings** at  $T_a=25^\circ C$  (excluding rated temperature items),  $T_c=25^\circ C$  unless otherwise specified

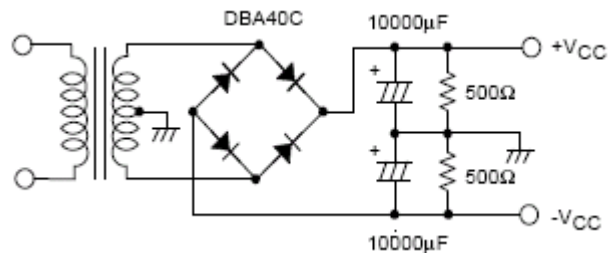
Parameter	Symbol	Conditions	Ratings	Unit
Maximum quiescent supply voltage 0	$V_{CC} \text{ max (0)}$	When no signal	$\pm 57$	V
Maximum supply voltage 1	$V_{CC} \text{ max (1)}$	$R_L \geq 6\Omega$	$\pm 50$	V
Minimum operating supply voltage	$V_{CC} \text{ min}$		$\pm 10$	V
Maximum operating flow-in current (pin 13) *7	IST OFF max		0.6	mA
Thermal resistance	$\theta_{j-c}$	Per power transistor	1.8	$^\circ C/W$
Junction temperature	$T_J \text{ max}$	Both the $T_J \text{ max}$ and $T_c \text{ max}$ conditions must be met.	150	$^\circ C$
IC substrate operating temperature	$T_c \text{ max}$		125	$^\circ C$
Storage temperature	$T_{stg}$		-30 to +125	$^\circ C$
Allowable load shorted time *4	$t_s$	$V_{CC}=\pm 35V$ , $R_L=6\Omega$ , $f=50Hz$ , $P_O=60W$ , 1-channel active	0.3	s

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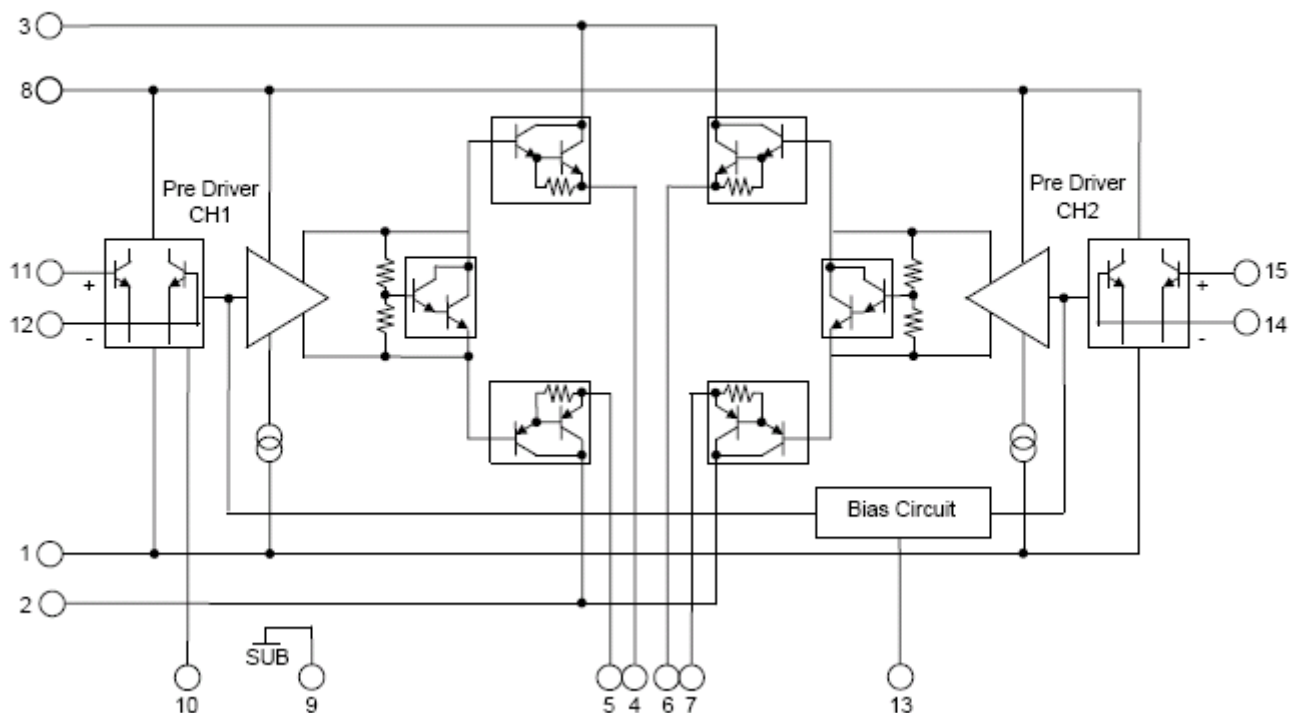
Operating Characteristics at  $T_c=25^\circ\text{C}$ ,  $R_L=6\Omega$ ,  $R_g=600\Omega$ ,  $V_G=30\text{dB}$ , non-inductive load  $R_L$ , unless otherwise specified

Parameter	Symbol	Conditions *2				Ratings			unit	
		$V_{CC}$ (V)	f (Hz)	$P_O$ (W)	THD (%)	min	typ	max		
Output power *1	$P_O$ (1)	$\pm 35$	20 to 20k		0.4	57	60		W	
	$P_O$ (2)	$\pm 35$	1k		10		100			
Total harmonic distortion *1	THD (1)	$\pm 35$	20 to 20k	5.0			0.01	0.4	%	
	THD (2)	$\pm 35$	1k							$V_G=30\text{dB}$
Frequency characteristics *1	$f_L, f_H$	$\pm 35$		1.0		$+0 -3\text{dB}$	20 to 50k		Hz	
Input impedance	$r_i$	$\pm 35$	1k	1.0			55		k $\Omega$	
Output noise voltage *3	$V_{NO}$	$\pm 42$				$R_g=2.2\text{k}\Omega$		1.0	mVrms	
Quiescent current	$I_{CCO}$	$\pm 42$				No loading	20	45	80	mA
Output neutral voltage	$V_N$	$\pm 42$					-70	0	+70	mV
Current flowing into pin13 in standby mode *7	IST ON	$\pm 35$				Voltage at pin13: 5V, Current limiting resistance R1: 13k $\Omega$			0	mA
Current flowing into pin13 in operating mode *7	IST OFF	$\pm 35$					0.25		0.6	mA

Designated transformer power supply (MG-200 equivalent)



## Internal Equivalent Circuit



The End