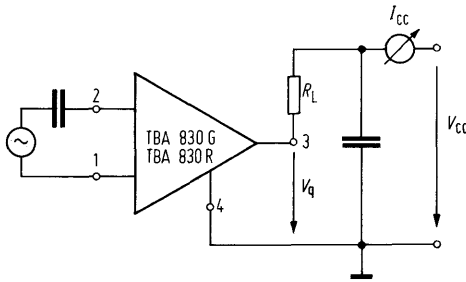


Two-stage microphone amplifiers; the ac output voltage is superimposed on the supply voltage. These amplifiers are especially well suited for piezoelectric microphones in telephone sets.

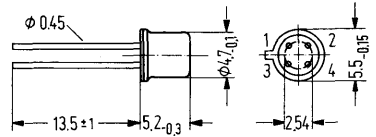
- Gain 40 dB
- Small change in gain with supply current variations
- Good frequency characteristic
- No destruction by reversal of polarity

Type	Ordering codes
TBA 830 G	Q67000-A546
TBA 830 R	Q67000-A547

### Test circuit



### Case outlines



Case 18 A 4 DIN 41876 (similar TO-72), weight approx. .4 g  
Dimensions in mm

### Maximum ratings

Supply voltage  
Frequency range  
Storage temperature  
Junction temperature  
Power dissipation  
Thermal resistance:  
System-case

	TBA 830 G TBA 830 R	
$V_{3, 4}$	16	V
$f$	0 to 20	kHz
$T_S$	-55 to 125	°C
$T_J$	150	°C
$P_{tot}$	500	mW
$R_{thScase}$	120	K/W

### Range of operation

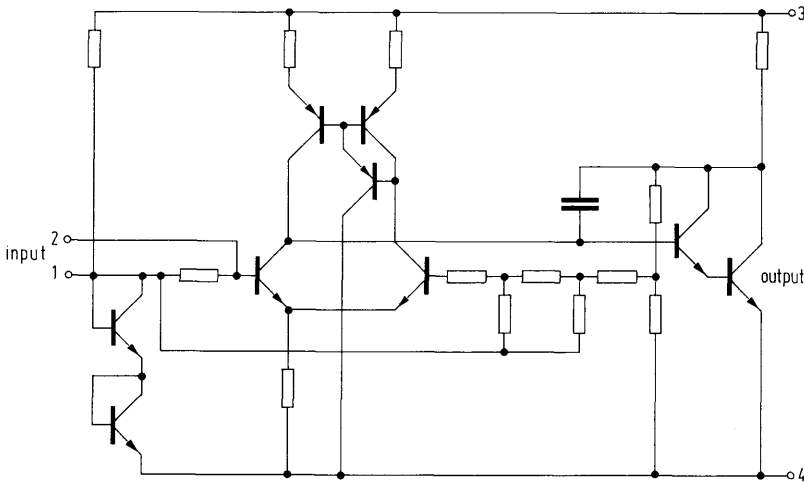
Operating current range  
Ambient temperature in operation

$I_{CC}$	7.5 to 50	mA
$T_{amb}$	-20 to +55	°C

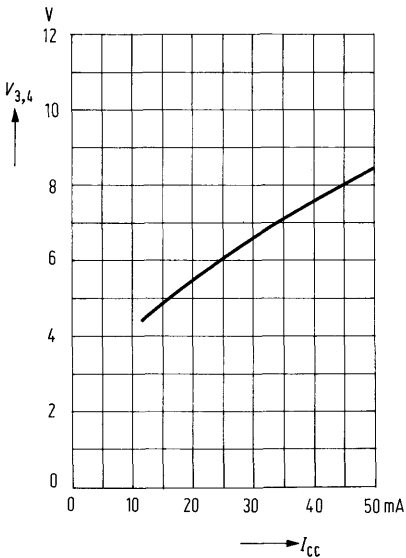
**Operating characteristics** ( $f = 1 \text{ kHz}$ ,  $R_L = 400 \Omega$ ,  $I_{CC} = 15 \text{ mA}$ ,  $V_{q_{rms}} = 400 \text{ mV}$ ,  $T_{amb} = 25 \text{ }^\circ\text{C}$ )

		Test Conditions			
		min	typ	max	
Voltage gain	$G_V$	40	41	43	dB
	$G_V$	38		40	dB
Change of gain	$\Delta G_V$		0	.5	dB
	$\Delta G_V$		0		dB
Distortion factor	$k$	-5	1	2	%
Output dc resistance	$R_q$		330	400	$\Omega$
Output ac resistance	$Z_q$	100	110	150	$\Omega$
Input ac resistance	$Z_i$	12	15		k $\Omega$
Output ac voltage	$V_{q_{rms}}$		1.5		V
$k = 10\%$					
Noise voltage measured from $f = 300 \text{ Hz to } \sim 3 \text{ kHz}$	$V_{N_{rms}}$	.2		.4	mV

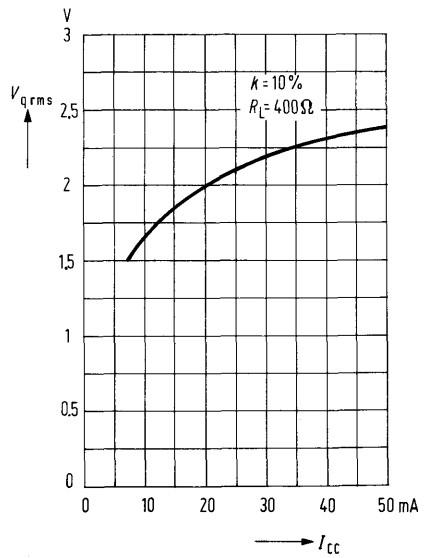
**Circuit diagram**



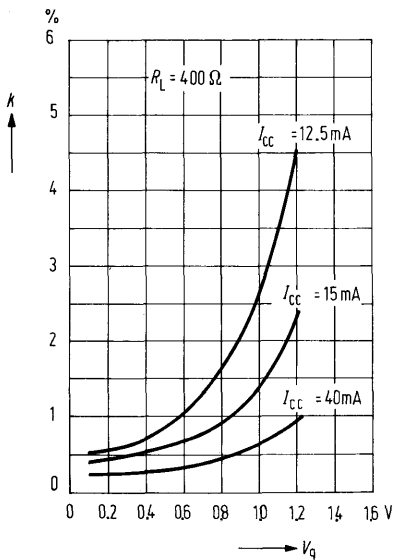
**Supply voltage  $V_3, V_4 = f(I_{CC})$**



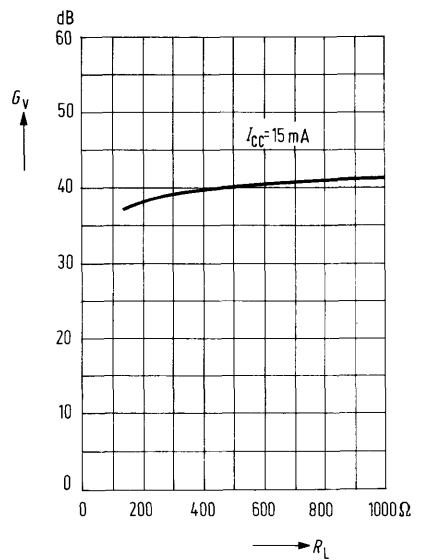
**Max ac output voltage  $V_{q\text{rms}} = f(I_{CC})$**



**Distortion  $k = f(V_q)$**



**Voltage gain  $G_V = f(R_L)$**



Current-Voltage characteristic

