

Type	Ordering Code	Package
TBB 2469 G	Q67000-A2392	P-DSO-20-L (SMD)

The TBB 2469 G is an FM narrowband IC particularly intended for radio receivers. It is suited for the conversion, limiting, demodulation, and AF processing of an FM-modulated signal.

The input signal is routed via an RF amplifier to a crystal-controlled mixer. The IF signal is routed via an external selection, to a limiter amplifier followed by a coincidence demodulator. The AF signal is routed via a lowpass to an AF amplifier. Gain and frequency response of the first amplifier can be set externally. The second amplifier contains the volume control.

Absolute Maximum Ratings

$$T_A = -40^{\circ}\text{C to } 85^{\circ}\text{C}$$

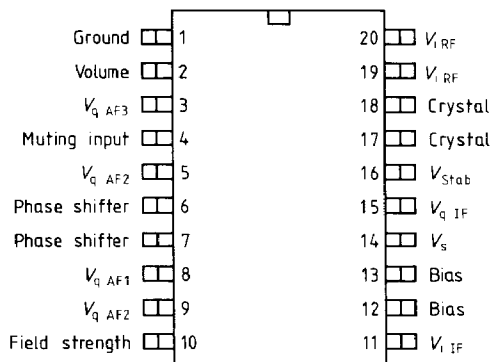
Parameter	Symbol	Values		Unit
		min.	max.	
Supply voltage	V_S	0	15	V
Load current of V_{stab}	I_{Stab}	0	50	μA
Junction temperature	T_J		125	$^{\circ}\text{C}$
Storage temperature	T_{stg}	-40	125	$^{\circ}\text{C}$
Thermal resistance (system-air)	R_{thSA}		120	K/W

Operating Range

Supply voltage	V_S	3	12	V
Ambient temperature	T_A	-30	80	$^{\circ}\text{C}$

Pin Configuration

(top view)



Characteristics

$V_S = 4.5 \text{ V}$, $T_A = -30^\circ\text{C}$ to 60°C

Parameter	Symbol	Values			Unit	Test Condition
		min.	typ.	max.		
Current consumption	I_S		3.0	5.0	mA	
Reference voltage	V_{stab}	1.9	2.2	2.5	V	
RF Prestage						
Voltage gain	G_V	36	42	48	dB	$f_i = 10 \dots 50 \text{ MHz}^1$ (-3 dB)
Input impedance	Z_i		10//3		k Ω //pF	
Noise figure	NF		6		dB	

IF Limiter Amplifier at $\Delta f = \pm 2.8 \text{ kHz}$, $f_{i\text{IF}} = 455 \text{ kHz}^1$)

$f_{\text{mod}} = 1 \text{ kHz}$, $V_{i\text{IF rms}} = 10 \text{ mV}$, Q factor appr. 15

Parameter	Symbol	Values			Unit	Test Conditions
		min.	typ.	max.		
Input resistance	R_i		20		k Ω	
IF bandwidth	$B_{i\text{IF}}$	500			kHz	$V_{i\text{AF1}} = -3 \text{ dB}$
AM suppression	AMS	40			dB	$m = 30\%$
Signal-to-noise ratio	$a_{S/N}$		40		dB	
Field strength	V_{10} V_{10}		1.9	100	mV V	$V_{i\text{IF}} = 0 \text{ V}$ $V_{i\text{IF}} = 10 \text{ mV}$
AF output voltage	$V_{q\text{AF1}}$	30	60		mV	
Min. load resistance	R_{q1}	300			Ω	
AF bandwidth	B_{AF}	20	35		kHz	$V_{q\text{AF1}} = -3 \text{ dB}$
Total harmonic distortion ¹⁾	THD		1	2	%	

AF Amplifier 2

Voltage gain	G_V		37		dB	$V_{i\text{AF1}} = 1 \text{ mV}$
Min. load resistance	R_{q2}	1			k Ω	
Input impedance	R_i	10			k Ω	
Signal-to-noise ratio	$a_{S/N}$		40		dB	
Total harmonic distortion ¹⁾	THD		2		%	

AF Amplifier 3

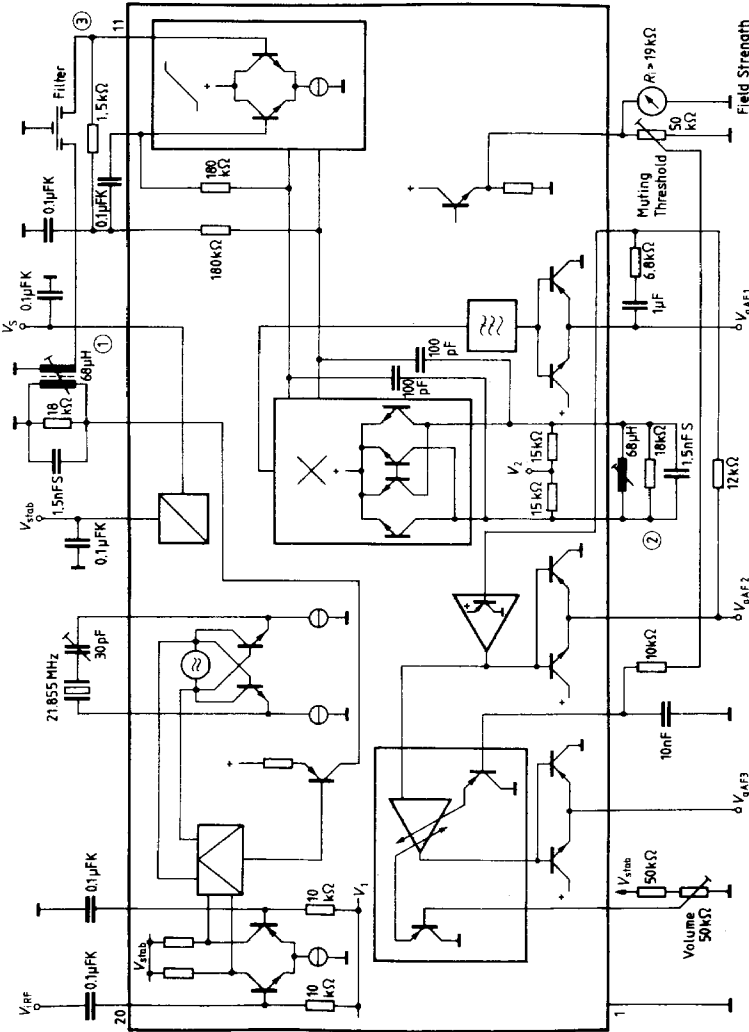
Voltage gain	G_V		10		dB	$V_2 = 0 \text{ V}$, $V_{11} = 1 \text{ V}$
Max. output voltage	$V_{q\text{AF3 rms}}$			300	mV	THD = 10%
Min. load resistance	R_{q3}	5			k Ω	
Total harmonic distortion ¹⁾	THD		2		%	
Volume control range	G_{vol}		80		dB	
Disturbance voltage in acc. with DIN 45405 ²⁾	V_d		20	50	μV_{0s}	$V_2 = 1/2 V_{stab}$

¹⁾ dependent on external components

²⁾ AQL = 2.5

Application Circuit

- Capacitors:
 C = Ceramic
 S = STYROFLEX
 F = Film
- ① Neosid Filter 5961
 ② Neosid Filter 5828
 ③ Murata CFW 455D



Test Circuit

