Triple video output amplifier TDA6103Q

FEATURES

- High bandwidth: 7.5 MHz typical; 60 V (peak-to-peak value)
- High slew rate: 1600 V/µs
- Simple application with a variety of colour decoders
- Only one supply voltage needed
- Internal protection against positive appearing Cathode-Ray Tube (CRT) flashover discharges
- One non-inverting input with a low minimum input voltage of 1 V
- Thermal protection
- Controllable switch-off behaviour.

GENERAL DESCRIPTION

The TDA6103Q includes three video output amplifiers in one single in-line 9-pin medium power (SIL9MP) package SOT111BE, using high-voltage DMOS technology, intended to drive the three cathodes of a colour CRT.

ORDERING INFORMATION

EXTENDED TYPE NUMBER	PACKAGE			
	PINS	PIN POSITION	MATERIAL	CODE
TDA6103Q	9	DBS9	plastic	SOT111BE

BLOCK DIAGRAM

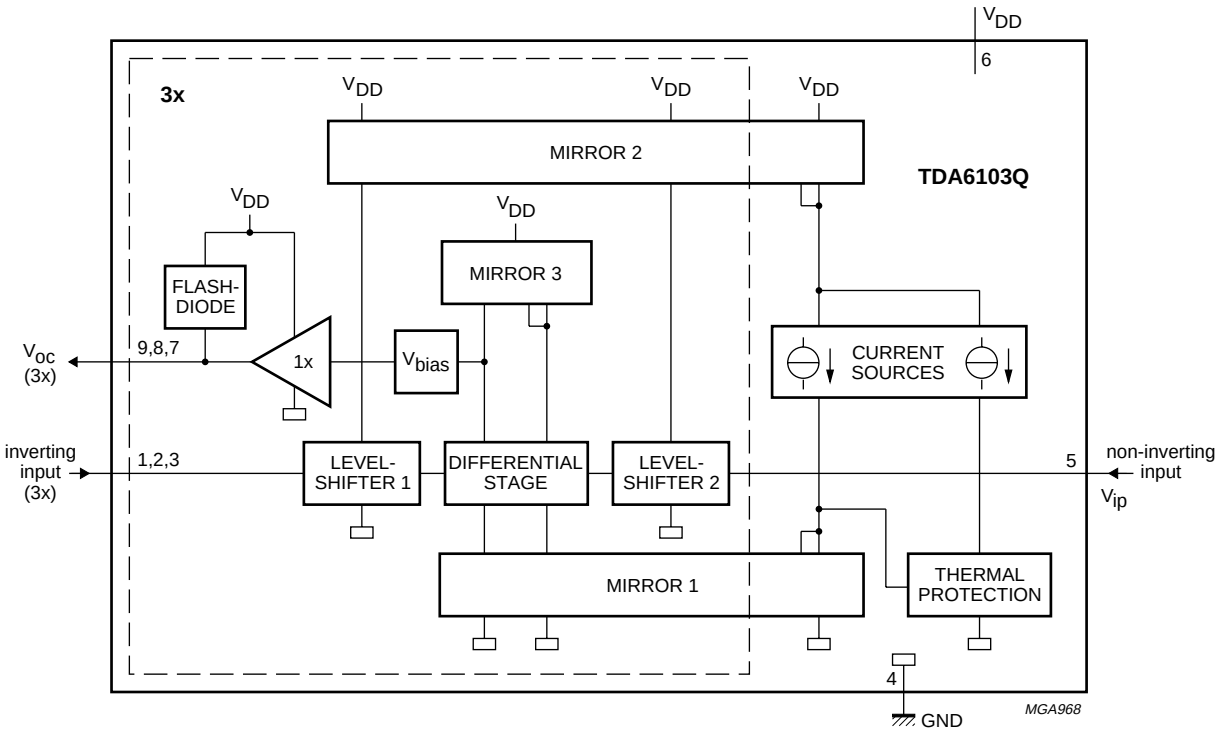


Fig.1 Block diagram (one amplifier shown).

PINNING

SYMBOL	PIN	DESCRIPTION
V_{i1}	1	inverting input 1
V_{i2}	2	inverting input 2
V_{i3}	3	inverting input 3
GND	4	ground, fin
V_{ip}	5	non-inverting input
V_{DD}	6	supply voltage
V_{oc3}	7	cathode output 3
V_{oc2}	8	cathode output 2
V_{oc1}	9	cathode output 1

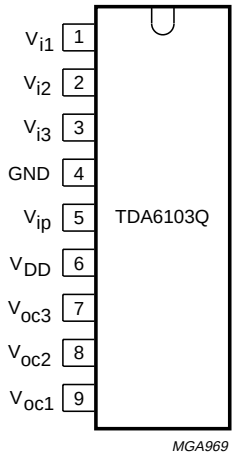


Fig.2 Pin configuration.

LIMITING VALUES

In accordance with the Absolute Maximum Rating System (IEC 134). Voltages measured with respect to GND (pin 4); currents as specified in Fig.1; unless otherwise specified.

SYMBOL	PARAMETER	CONDITIONS	MIN.	MAX.	UNIT
V_{DD}	supply voltage		0	250	V
V_i	input voltage		0	12	V
V_{idm}	differential mode input voltage		–6	+6	V
V_{oc}	cathode output voltage		0	V_{DD}	V
I_{ocsmL}	LOW non-repetitive peak cathode output current	flashover discharge = 50 μC	0	5	A
I_{ocsmH}	HIGH non-repetitive peak cathode output current	flashover discharge = 100 nC	0	10	A
T_{stg}	storage temperature		–55	+150	°C
T_j	junction temperature		–20	+150	°C
V_{es}	electrostatic handling				
	human body model (HBM)		–	tbf	V
	machine model (MM)		–	tbf	V

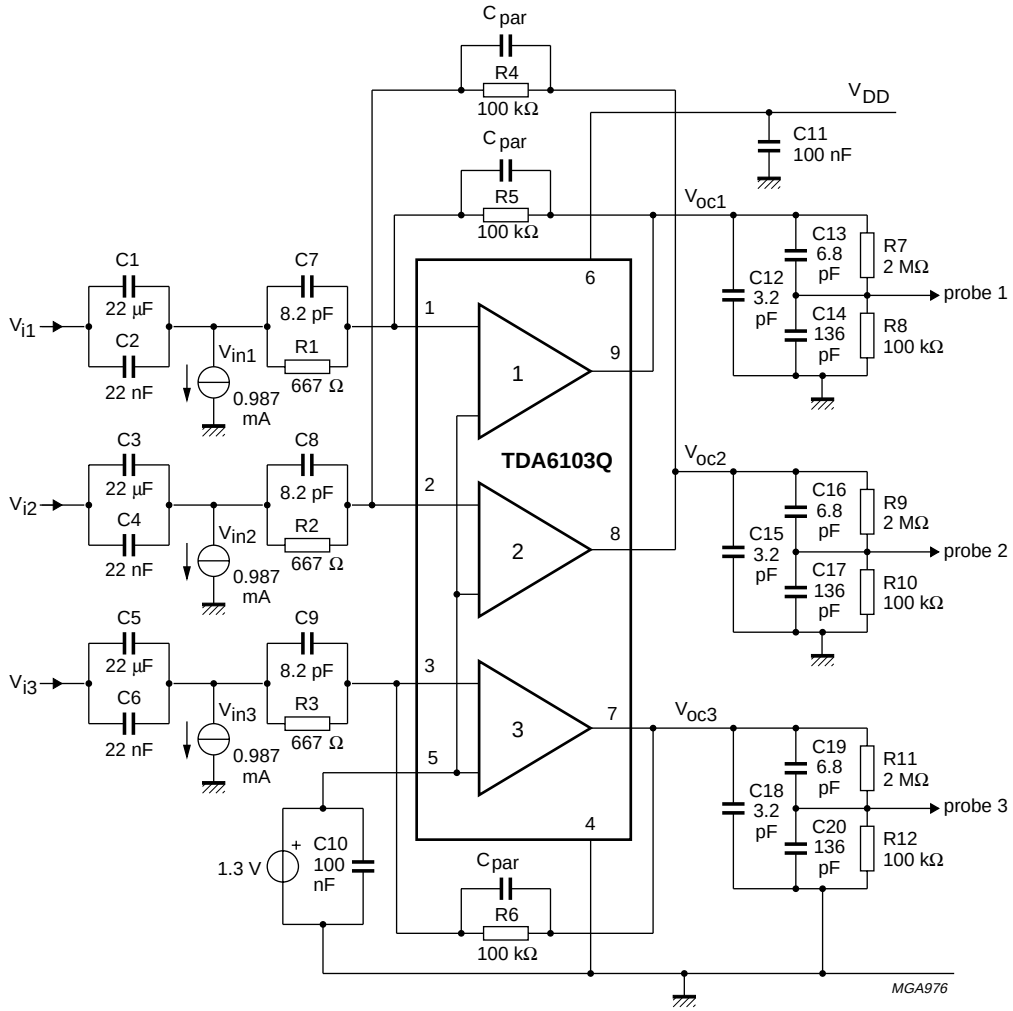
HANDLING

Inputs and outputs are protected against electrostatic discharge in normal handling. However, to be totally safe, it is desirable to take normal precautions appropriate to handling MOS devices (see *"Handling MOS Devices"*).

QUALITY SPECIFICATION

Quality specification *"SNW-FQ-611 part E"* is applicable and can be found in the *"Quality reference pocketbook"* (ordering number 9398 510 34011).

Test circuit



C_{par} = 70 fF.

Fig.5 Test circuit with feedback factor $^1/_{150}$.