

1. Introduction

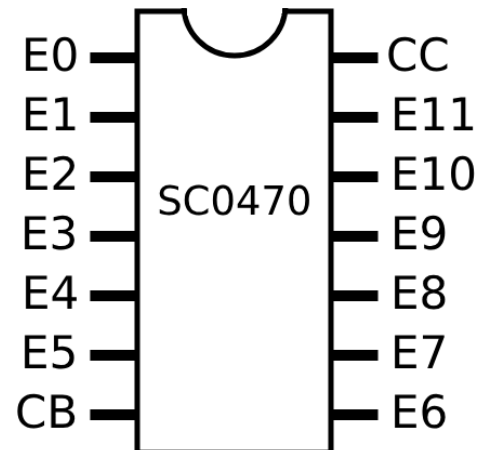
This document outlines the technical specifications for this SC0470, which is designed to be a drop-in replacement for the obsolete TDA0470/TDA0470D transistor array. The SC0470 is designed to mimic the functionality and pinout of the TDA0470D, fitting within the same DIP-14 footprint.

2. Description

The SC0470 uses transistors and diodes arranged on a PCB to match the pin configuration and functionality of the TDA0470D. It is an array of transistors connected in parallel to replicate the function of a mechanical key contact for use in electric organs or other divide down circuits. There are 12 inputs that are fed a tone signal that sum to a common collector. Clamping diodes are included on the SC0470 to match the (D) version, thereby reducing capacitive crosstalk between inputs. This design allows the replacement to serve as a direct drop-in replacement, ensuring compatibility with existing systems that utilize the TDA0470D.

3. Pin Configuration

Pin Labels	Description
E ₀ - E ₁₁	Transistor Emitter
CB	Common Transistor Base
CC	Common Transistor Collector
NC	No Connect



4. Electrical Characteristics (25°C)

- **Collector Cutoff Current:** 50nA ($V_{CE} = 30V$, $V_{EB} = 3V$)
- **Base Cutoff Current:** 50nA ($V_{CE} = 30V$, $V_{EB} = 3V$)
- **Switching Time:** 35ns Rise Time, 50ns Fall Time
- **Package Type:** PCB

5. Absolute Maximum Ratings

- **Collector-Base Voltage:** 60V
- **Collector-Emitter Voltage:** 40V
- **Emitter-Base Voltage:** 6V
- **Collector Current:** 200mA
- **Base Current:** 50mA
- **Collector Power Dissipation:** 350mW
- **Junction Temperature:** 150°C
- **Storage Temperature:** -55°C to 150°C

Document Version: 1.00

Date: August 18th, 2024

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