

Table of Contents

Audio AMP (Class D), Amplification Surge Protection.....	3
Audio AMP (Class D), Class D PEM Switching.....	4
Audio AMP (Class D), Power Switch.....	5
Audio AMP (Class D), PWM Output to RC Filter.....	6
DC-DC Power, DC-DC Switching.....	7
Infrared LED, Infrared Emitter.....	8
Infrared Rx, Infrared Receiving.....	9
LED, LED Display.....	10
Power Management, DC Output Pos Cap.....	11
Power Management, pFET Switch.....	12

Home Hub

MOSFETS

- POLYMER CAPACITORS
 - RESISTORS
 - RECTIFIERS
 - LED
 - OPTICAL SENSORS/ EMITTERS
-

Application Overview

Usually, the HUB can be controlled by voice or mobile apps. Very often, it also acts as a personal home assistant, plays music and allows home automation control. An AC-DC adapter is usually used to provide power through the Power Management Unit. Communication usually involves BLE/WiFi/NFC The input: Touch sense buttons for user touch command; Far distant Microphone so as to recognized voice from end of the room; and Infrared receiver to recognize/learn the infrared signal of TV or other devices. The output: Audio Amplifier to speaker; Visible LED for user feedback; and Infrared LED to control home TV.

Home Hub : Audio AMP (Class D), Amplification Surge Protection

Surge Protection

Product Name	Status	Description	Features	Package	Q-Level
MSE1PG		Surface Mount ESD Capability Rectifier	very low profile 0.65mm	MicroSMP 2.7 x 1.4 x 0.73 mm	AEC Q101

Home Hub : Audio AMP (Class D), Class D PEM Switching

Class D Amplifier

Product Name	Status	Description	Features	Package	Q-Level
SI7308DN		N-Channel 60 V (D-S) MOSFET		'PowerPAK 1212-8 3.3 x 3.3 x 1 mm	

Home Hub : Audio AMP (Class D), Power Switch

Power Switch for Amplifier

Product Name	Status	Description	Features	Package	Q-Level
SI1025X		P-Channel 60 V (D-S) MOSFET		'SC-89 1.6 x 1.6 x 0.58 mm	

Home Hub : Audio AMP (Class D), PWM Output to RC Filter

RC for PWM Output

Product Name	Status	Description	Features	Package	Q-Level
CRCW1218_HP		High Power Resistors 1 to 22 Ohm	High power and high pulse	1218	

Home Hub : DC-DC Power, DC-DC Switching

Buck Inductor

Product Name	Status	Description	Features	Package	Q-Level
IFSC-1008AB-01		Low Profile, High Current Inductors	Low profile High current	2.5 x 2 x 1.2 mm	

Buck Switch

Product Name	Status	Description	Features	Package	Q-Level
SiA462DJ		N-Channel 30 V (D-S) MOSFET	Small package 12A	PowerPAK® SC70-6L 2 x 2 x 0.75 mm	
SiA918EDJ		Dual N-Channel 30 V (D-S) MOSFET	Small package 4.5A	PowerPAK® SC70-6L 2 x 2 x 0.75 mm	

Home Hub : Infrared LED, Infrared Emitter

Transmit Infrared Signal

Product Name	Status	Description	Features	Package	Q-Level
VSMB2948SL		IR Emitter	Small package, high intensity	2.3 x 2.55 x 2.3 mm	

Home Hub : Infrared Rx, Infrared Receiving

Read Infrared Signal

Product Name	Status	Description	Features	Package	Q-Level
TSMP77000		IR Sensor Module	Small package	6.8 x 3.0 x 3.2 mm	

Home Hub : LED, LED Display

LED Red/Amber/Yellow

Product Name	Status	Description	Features	Package	Q-Level
VLMR/VLMK/VLMY				2.3 x 1.3 x 1.4 mm	AEC Q101

RGB tri-color LED

Product Name	Status	Description	Features	Package	Q-Level
VLMRGB		Multi SMD LED RGB		3.5 x 2.8 x 1.45 mm	AEC Q101

Home Hub : Power Management, DC Output Pos Cap

Output Voltage Regulation

Product Name	Status	Description	Features	Package	Q-Level
T55		vPolyTanTM Polymer	Output power polymer capacitor	1608 to 7343	

Home Hub : Power Management, pFET Switch

Power Switch

Product Name	Status	Description	Features	Package	Q-Level
SI7619DN		P-Channel 30 V (D-S) MOSFET	Small package, low R _{DS(on)}	PowerPAK 1212-8	