Ordering number : ENA0358

SANYO Semiconductors
DATA SHEET

Monolithic Linear IC

LA5795T — Tuner Power Supply Systems

Overview

The LA5795T is a tuner power supply systems.

Functions and Features

- 8× step-up charge pump system takes a 5V input and produces a 31V output.
- Charge pump technique used to achieve a low-noise power supply.

Specifications

Maximum Ratings at GND = 0V

Parameter	Symbol	Conditions	Ratings			Unit
			min	type	max	
Maximum supply voltage	V_{CC} max				7	V
Allowable power dissipation	Pd max	Mounted on the specified circuit board *			400	mW
Operating temperature	Topr		-25		+90	°C
Storage temperature	Tstg		-40		+150	°C

* Specified circuit board : 20.0×10.0×0.8mm^3, paper-phenol board with 20% wiring density.

Allowable Operating Ranges at Ta = 25°C, V_{CC} = 5V, GND = 0V (unless otherwise specified)

Parameter	Symbol	Conditions	Ratings			Unit
			min	type	max	
Supply voltage	V_{DD}		4.5	5	5.5	V
Operating temperature	Ta		-10		80	°C
Timing capacitance	C_{OSC}		56		330	pF
Oscillator frequency	f_{OSC}		40		250	kHz

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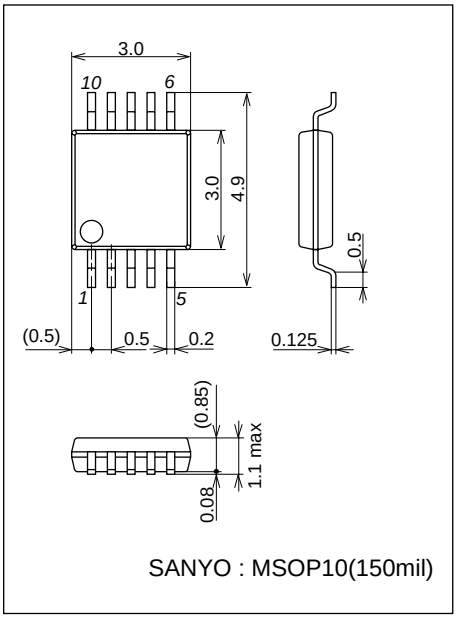
Electrical Characteristics at Ta = 25°C , V_{CC} = 5V, GND = 0V (unless otherwise specified)

Parameter	Symbol	Conditions	Ratings			Unit
			min	type	max	
Current drain	I_{IN}	I_O = 1mA, V_{CC} = 5.0V	26	31	38	mA
Output voltage	V_{OUT}	I_O = 1mA, V_{CC} = 5.0 to 5.25V	29	31	34	V
Output voltage fluctuations	ΔV_{OUT}	I_O = 1mA, V_{CC} = 5.0 to 5.25V		1		V
Oscillator frequency	f_{OSC}	C_{OSC} = 100pF	95	120	145	kHz
Frequency fluctuations 1	f_{dv}	V_{CC} = 4.5V to 5.5V		25		%
Frequency fluctuations 2	f_{dt}	-10°C to 80°C		25		%

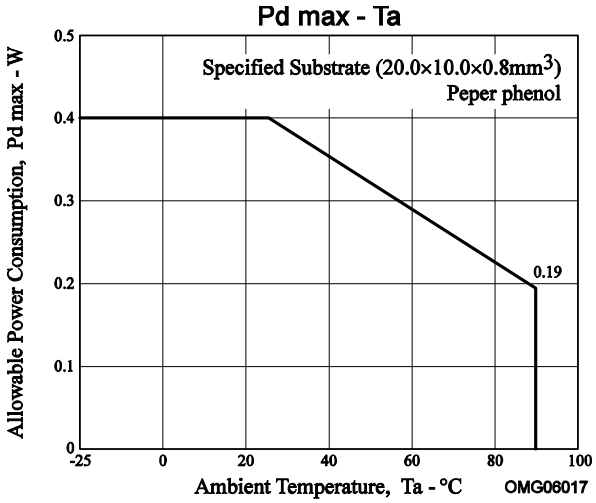
Package Dimensions

unit : mm

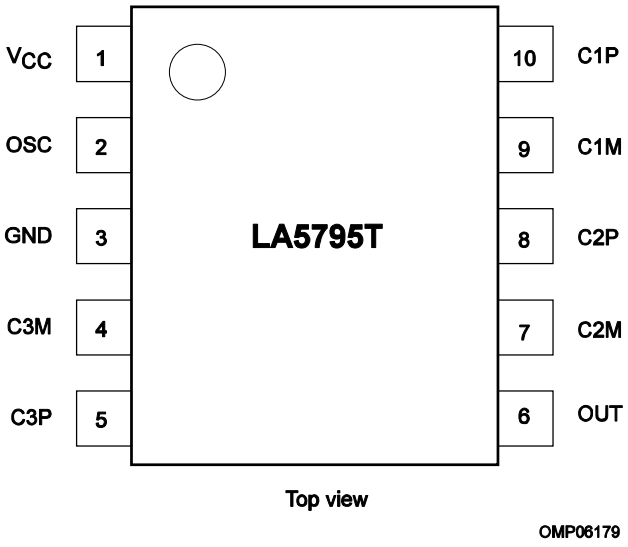
3297



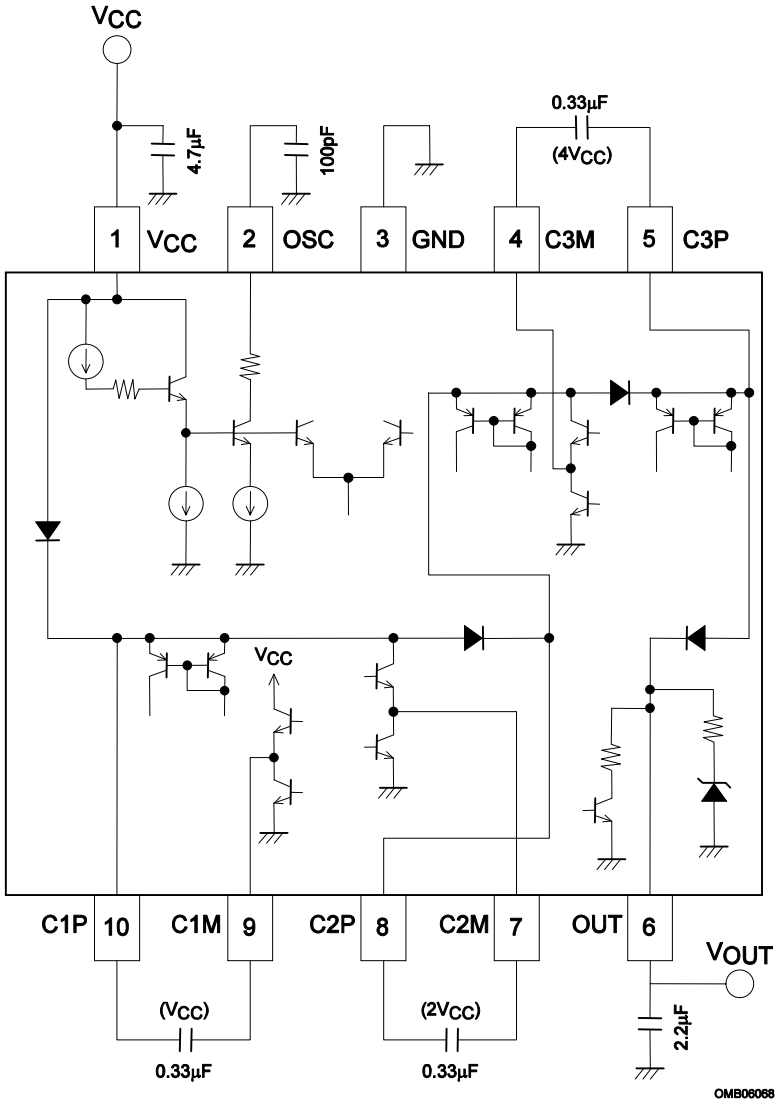
SANYO : MSOP10(150mil)



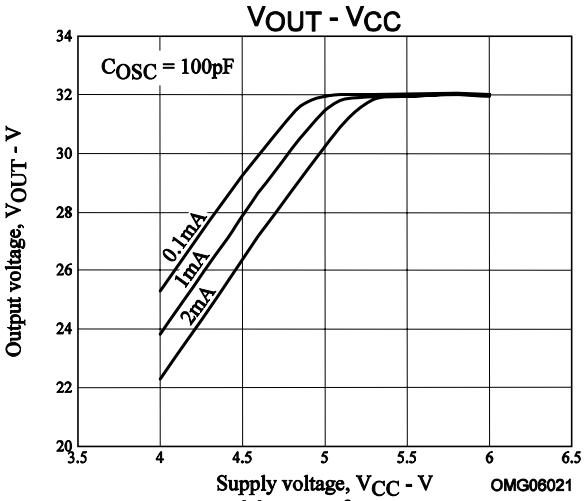
Pin Assignment

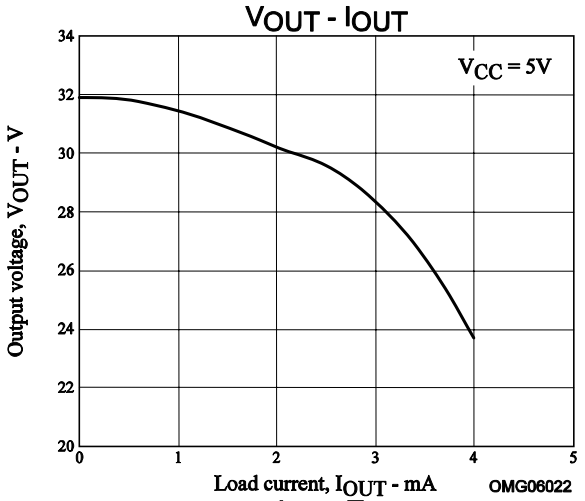


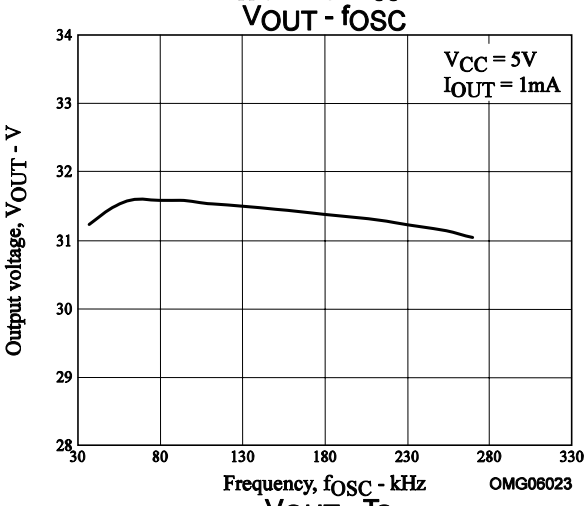
Block Diagram and Recommended Application Circuit

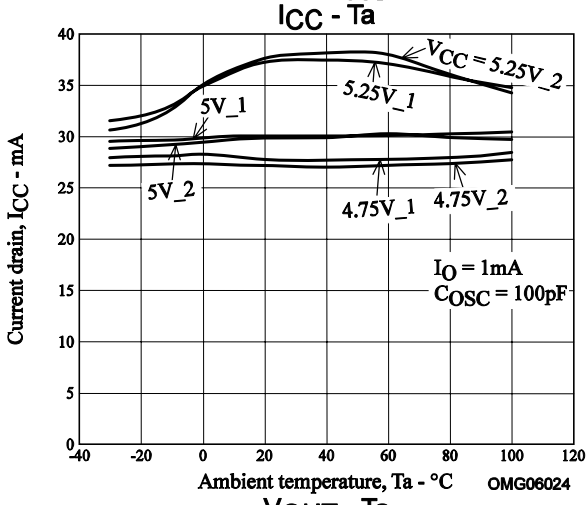


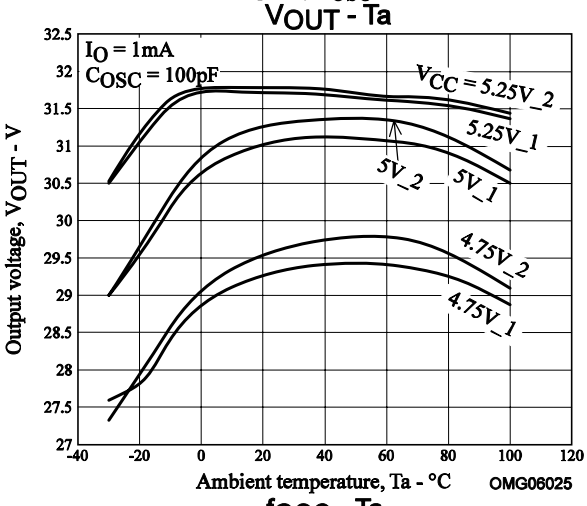
*: Items in parentheses are the voltages actually applied to the capacitors.

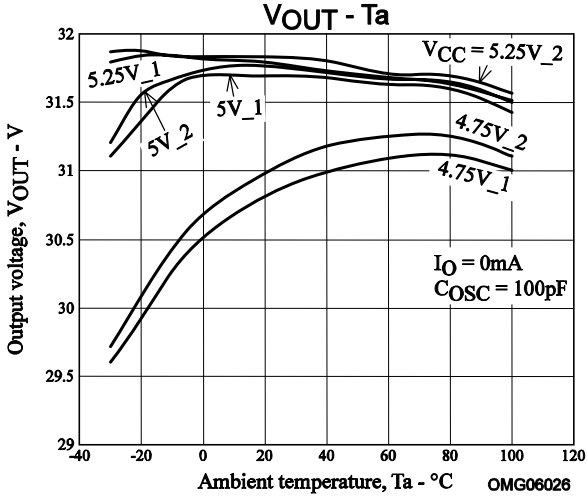

VOUT - VCC
COSC = 100pF
0.1mA
1mA
2mA
Output voltage, VOUT - V
Supply voltage, VCC - V
OMG06021

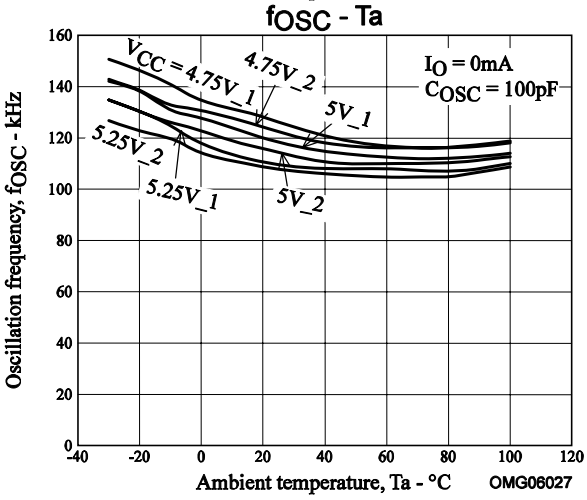

VOUT - IOUT
VCC = 5V
Output voltage, VOUT - V
Load current, IOUT - mA
OMG06022


VOUT - fOSC
VCC = 5V
IOUT = 1mA
Output voltage, VOUT - V
Frequency, fOSC - kHz
OMG06023


ICC - Ta
VCC = 5.25V_2
5.25V_1
5V_1
5V_2
4.75V_1
4.75V_2
IO = 1mA
COSC = 100pF
Current drain, ICC - mA
Ambient temperature, Ta - °C
OMG06024


VOUT - Ta
IO = 1mA
COSC = 100pF
VCC = 5.25V_2
5.25V_1
5V_2
5V_1
4.75V_2
4.75V_1
Output voltage, VOUT - V
Ambient temperature, Ta - °C
OMG06025


VOUT - Ta
VCC = 5.25V_2
5.25V_1
5V_1
5V_2
4.75V_2
4.75V_1
IO = 0mA
COSC = 100pF
Output voltage, VOUT - V
Ambient temperature, Ta - °C
OMG06026


fOSC - Ta
VCC = 4.75V_1
4.75V_2
5V_1
5.25V_2
5.25V_1
5V_2
IO = 0mA
COSC = 100pF
Oscillation frequency, fOSC - kHz
Ambient temperature, Ta - °C
OMG06027

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