Features
- Powers ringing SLICs
- Overcurrent protection
- Surface mount design
- Superior transient response
- Non-isolated outputs
- Ultraquiet outputs
- 10 REN capability

SPT5504C SLIC Power Module

Specifications are subject to change without notice. Customers should verify actual device performance in their specific applications.

Features

■ Powers ringing SLICs
■ Overcurrent protection
■ Surface mount design
■ Superior transient response
■ Non-isolated outputs
■ Ultraquiet outputs
■ 10 REN capability
■ Compact design
■ Simplifies assembly & test
■ Fast time-to-market
■ Remote inhibit
■ Eliminates ALEL caps
■ Patent 6,195,273
■ RoHS compliant version available

Features

■ Powers ringing SLICs
■ Overcurrent protection
■ Surface mount design
■ Superior transient response
■ Non-isolated outputs
■ Ultraquiet outputs
■ 10 REN capability

Input Specifications

Voltage ...................................4.75 VDC Min.
...............................................5 VDC Nom.
...............................................5.25 VDC Max.
Current
No Load..............................120 mA Nom.
...............................................150 mA Max.
IBAT1 = 100 mA ...........................1920 mA Nom.
...............................................1980 mA Max.
IBAT2 = 100 mA ...........................750 mA Nom.
...............................................780 mA Max.
Disabled ..................................20 mA Max.
Remote Enable
Low = Enable
...................................0.4 VDC Max. (open = enable)
High = Disable
...................................4.0 VDC Min. (source ≤ 1 mA)

Output Specifications

Power ......................................................7 W
VBAT1 Voltage .................................... -74 V Min.
............................................... -72 V Nom.
............................................... -70 V Max.
Current
0 to 100 mA
...................................25 mA Nom.
...............................................45 mA Max.
10 REN (2 s on, 4 s off)
...................................120 mA Min. (trip < 150 ms)
...................................120 mA Max.
Ripple Voltage ...........................15 mV Nom.
...............................................40 mV Max.
Temperature Coefficient (T = -25 °C)
...................................-25 mV/°C Nom.
...............................................-40 mV/°C Max.
VBAT2 Voltage (Two 50 mA Outputs)
...................................-25 V Min.
...............................................-24 V Nom.
...............................................-23 V Max.
Current
0 to 100 mA
...................................5 mA Nom.
...............................................20 mA Max.
Ripple Voltage ...........................0.5 mV Nom.
...............................................20 mV Max.
Temperature Coefficient (T = -25 °C)
...................................1.2 mV/°C Nom.
...............................................4 mV/°C Max.
VBAT2 Load Regulation
(0 to 50 mA)
...................................0.5 mV/mA Nom.
...............................................1 mV/mA Max.
VBAT2 Setpoint Accuracy
...................................2 % Nom.
...............................................4 % Max.
Cross Regulation (0 to 100 mA)
...................................0.1 mV/mA Nom.
...............................................0.2 mV/mA Max.

General Information

The SPT5504C is a member of Bourns Switch Power SLIC Power module family. The output voltages provide low-noise operation for very quiet off-hook conditions and on-hook transmissions. The SPT5504C is capable of 7 W total output power, with up to 100 mA available from each output rail. The SPT5504C's easy to use surface mount design and compact footprint minimize the board space dedicated to power (less than 1.4 in²). Its robust design ensures reliable power and eliminates the need for Aluminum Electrolytic capacitors. By integrating the entire power solution, the OEM customer saves time and money in engineering, debugging, purchasing hard-to-source components, test and inventory.

Output Decoupling

Although not specifically required for proper/specified operation of the SPT5504C, external decoupling capacitors may be employed to reduce noise and interaction with adjacent circuits. Output decoupling can be achieved by placing 0.1 µf ceramic caps at the load. Note that larger cap values can substantially increase the start-up currents drawn from the 5 V source.

Input Decoupling

Local input decoupling is recommended to reduce the apparent source impedance to the SPT5504C.

C1 0.1 µF, X7R ceramic
C2 0.1 µF, X7R ceramic
CT 100 µF, 10 V, low ESR tantalum (AVX TPS series or Kemet T495 series).

Fault Protection

F1 may be used in distributed systems to isolate single-board failures.
F1 should be ≥ 2.5 A, It ≥ 0.2 A t sec, R ≤ 25 mΩ.

Product Dimensions

Dimensions = MILLIMETERS (INCHES)
TOLERANCES = (xx) = ± 25 (0.001)
(xxx) = ± 35 (0.001)

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SPT5504C SLIC Power Module

Product Schematic

Ordering Information

Standard Part.........................SPT5504C
Fully RoHS Compliant Version ............SPT5504C-LF

PIN DESCRIPTIONS:
5 Vin 4.75-5.25 VDC input, <3 A
VBAT1 -72 V, 100 mA output
VBAT2 -24 V, 2 x 50 mA outputs
GND Common input and output returns
Inhibit Logic level remote inhibit
(>4.0 V, source 1 mA),
Enabled when open or <0.4 V.
NC No connection

RECOMMEND SOLID GROUND PLANE ON COMPONENT SIDE OF MOTHER BOARD UNDER SPT5504C.