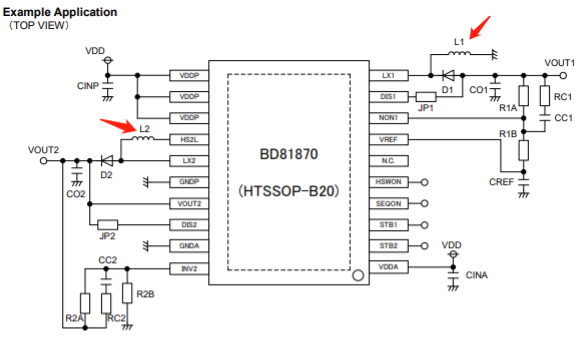
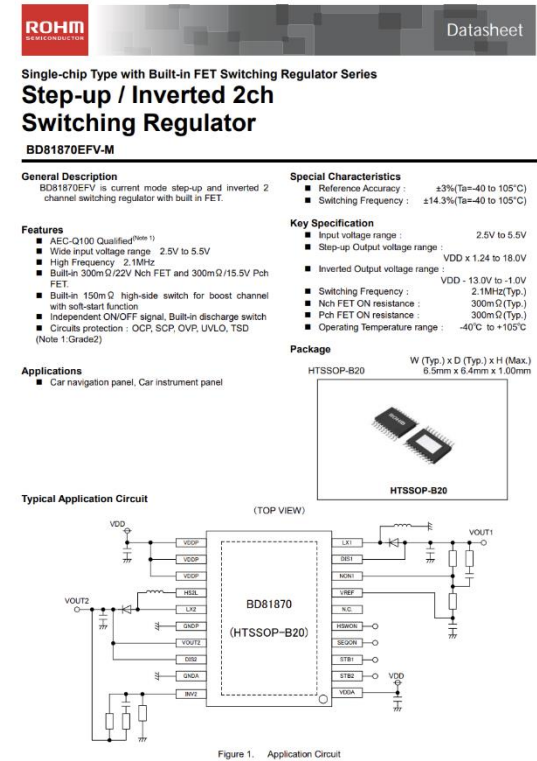


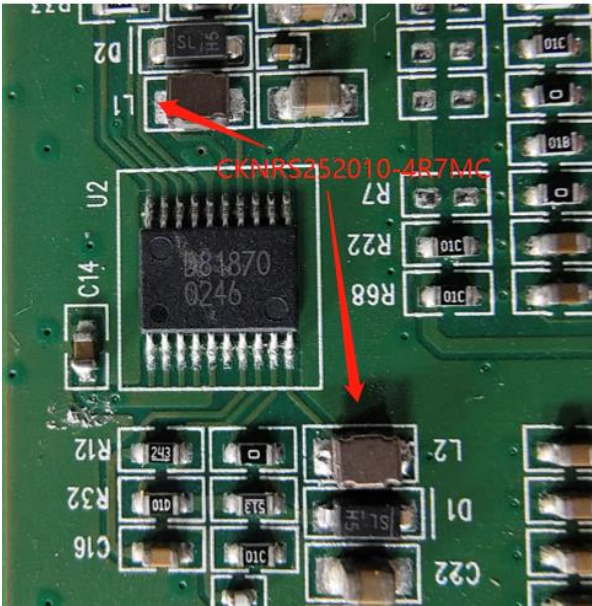
ROHM 电源管理稳压 IC 芯片 BD81870 搭配使用 CKNRS252010 系列功率电感

在 ROHM 的电源管理 IC，型号 BD81870，的推荐电路中，需要接入两个电感至 LX1 和 HS2L 引脚。虽然 ROHM 原本推荐使用太阳诱电的 NRS4012T4R7MDGJV 电感，其尺寸为 4mm x 4mm x 1.2mm，工作电流为 1.2A，但其较大的尺寸不利于电路板的小型化设计，且会占用较多电路板空间。鉴于此，我们建议采用今凯电子的 CKNRS252010-4R7MC 贴片功率电感作为替代。该电感的感值为 4.7uH，额定电流高达 1.3A，且尺寸仅为 2.5mm x 2.0mm，高度最大为 1.0mm，与 BD81870 芯片高度一致。这种紧凑的设计极大地有利于电路板的小型化，并且可以有效替代 NRS4012T4R7MDGJV，同时还能降低成本。

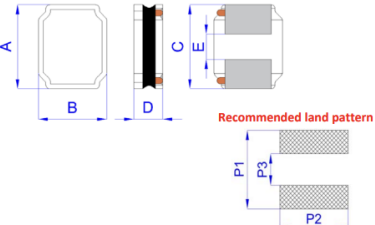
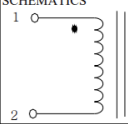


Application Circuit components list			
VDD 3.6V, VOUT1 -6.2V/200mA, VOUT2 6.2V/200mA			
Parts name	Value	Company	Parts Number
CINA	1uF/16V	Murata	GCM188R71C105KA64
C1N	10uF/16V	Murata	GCM31CR71C106KA64
L1	4.7uH/1.2A	Yuden	NRS4012T4R7MDGJV
D1	30V/1A	ROHM	RB550VAM-30TR
CO1	22uF/10V x2 series	Yuden	LMK316ABJ226KLHT
R1A	24kΩ, 100kΩ series	ROHM	MCR03
R1B	20kΩ	ROHM	MCR03
CC1	22pF/50V	Murata	GCM1885C1H220JA16
RC1	10kΩ	ROHM	MCR03
CREF	0.1uF/10V	Yuden	LMK105BJ104KVHF
L2	4.7uH/1.2A	Yuden	NRS4012T4R7MDGJV
D2	30V/1A	ROHM	RB550VAM-30TR
CO2	22uF/10V x2 series	Yuden	LMK316ABJ226KLHT
R2A	270kΩ x2 parallel	ROHM	MCR03
R2B	20kΩ	ROHM	MCR03
CC2	15pF/50V	Murata	GCM1885C1H150JA16
RC2	5.1kΩ	ROHM	MCR03

使用 CKNRS252010-4R7MC 搭配 BD81870 的实际案例



CKNRS252010-4R7MC 的产品规格书

CHK CHK 广州市今凯电子有限公司 GUANG ZHOU CHK ELECTRONIC Co., Ltd								
CUSTOMER		0			REVISION NO.		A	
CUSTOMER'S P/N		0			PAGE		P 1/8	
DESCRIPTION		SMD POWER INDUCTOR			DRAWN NO.		0	
PART NO.		CKNRS252010 Series			DATE		2023/5/12	
1.SHAPE & DIMENSION								
UNIT: mm 					SCHEMATICS 			
					MARKING COLOR			
					NA			
A	B	C	D	E	P1	P2	P3	
2.5	2.0	2.5	1.05	1.05	2.9	2.4	0.8	
0.3/-0.1	0.3/-0.1	0.3/-0.1	MAX	±0.25	Ref.	Ref.	Ref.	
品名R33高度为1.1MAX								

◆ CKNRS252010 Series		Specification:							
Part Number	Inductance	Teat Freq	DCR(mΩ)		Saturation Current (A)		Temp. Rise Current (A)		
	(μH)	(Hz)	Max	Typ	Max	Typ	Max	Typ	
CKNRS252010-R24YC-E	0.24	100KHz/1V	32	24	6.70	7.20	4.00	4.70	
CKNRS252010-R33YC-E	0.33	100KHz/1V	39	28	5.30	5.60	3.85	4.50	
CKNRS252010-R47YC-E	0.47	100KHz/1V	47	38	4.90	5.50	3.20	3.80	
CKNRS252010-R68YC-E	0.68	100KHz/1V	59	43	3.60	4.20	2.80	3.30	
CKNRS252010-1R0YC-E	1.00	100KHz/1V	76	59	3.20	3.50	2.50	3.00	
CKNRS252010-1R5YC-E	1.50	100KHz/1V	116	96	2.70	3.20	2.10	2.40	
CKNRS252010-2R2MC-E	2.20	100KHz/1V	158	129	2.00	2.30	1.60	1.90	
CKNRS252010LD-3R3MC-E	3.30	100KHz/1V	245	196	1.60	1.80	1.20	1.40	
CKNRS252010LD-4R7MC-E	4.70	100KHz/1V	320	245	1.30	1.50	1.10	1.30	
CKNRS252010LD-6R8MC-E	6.80	100KHz/1V	420	340	1.00	1.10	0.90	1.00	
CKNRS252010LD-100MC-E	10.0	100KHz/1V	650	435	0.90	1.00	0.80	0.90	