

## 典型性能 Features

- ◆ 20-60 瓦功率输出 (20-60Watts of Output Power)
- ◆ 高隔离耐压 (High isolation voltage)
- ◆ 长期短路保护, 自恢复 (Short Circuit Protection ,Automatic Recovery)
- ◆ 小型化封装 (Small Package)
- ◆ CE、ROHS、中铁认证、EN50155
- ◆ 100%国产化 (100% localization)



## 电气特性 Electrical Specifications

输入特性 Input	Min	Type	Max	Notes
输入电压范围	10V	24V	40V	
Input Voltage Range	40V	74V/110V	160V	
控制功能		ON		CNT 悬空或接TTL高电平 CNT pin left open or CNT pin connected to TTL logic high
ON/OFF Control		OFF		CNT 与-Vin 相连 CNT pin is at a logic low
逻辑低 Logic Low			1.2 V	
启动延时时间 Start-up Delay Time		10mS		
输出特性 Output	Min	Type	Max	Notes
输出电压精度 Set point Accuracy			±1%	
负载效应 Load Regulation			±0.5%	
源效应 Line Regulation			±0.2%	
输出电压调节 TRIM Range			±10%	
动态响应 Dynamic Response			4%Vo Pk deviation 400μS settling time	50~75% load 50~25% load
温度系数 Temperature Regulation		±0.2%/°C		
输出过流保护 Current Limit Threshold	110%		160%	
输出过压保护 Over-voltage Protection	110%		140%	
短路保护 Short-Circuit Protection	长期短路自恢复 Continuous, Automatic Recovery			
综合特性 General	Min	Type	Max	Notes
隔离电压 Isolation Voltage		2000Vac		INPUT TO OUT

开关频率 Switching Frequency		300KHz		
平均故障间隔时间 MTBF		2×10 <sup>6</sup> Hrs		Mil HDBK 217F Tc=25℃
工作壳温 Case Temperature	-40℃		+90℃	
储存温度 Storage Temperature	-55℃		+125℃	
相对湿度 Relative Humidity	10%		90%	
管脚焊接温度 Pin Solder Temperature			250℃	Wave Solder <10S
手工焊接时间 Hand Soldering Time			5S	Iron Temperature 425℃
传导 Conducted Emission	GB9254/CISPR22/EN55022 Class A (推荐电路见图)			
静电放电 Electrostatic Discharge	GB17626/EN61000-4-2 空气放电±8KV, 接触放电±6KV			
浪涌抗扰度 Surge Immunity	GB17626/EN61000-4-5 ±2KV (推荐电路见图) perf. Criteria A			
脉冲群抗扰度 Electrical Fast Transient	GB17626/EN61000-4-4 ±2KV (推荐电路见图) perf. Criteria A			

## 产品型号列表

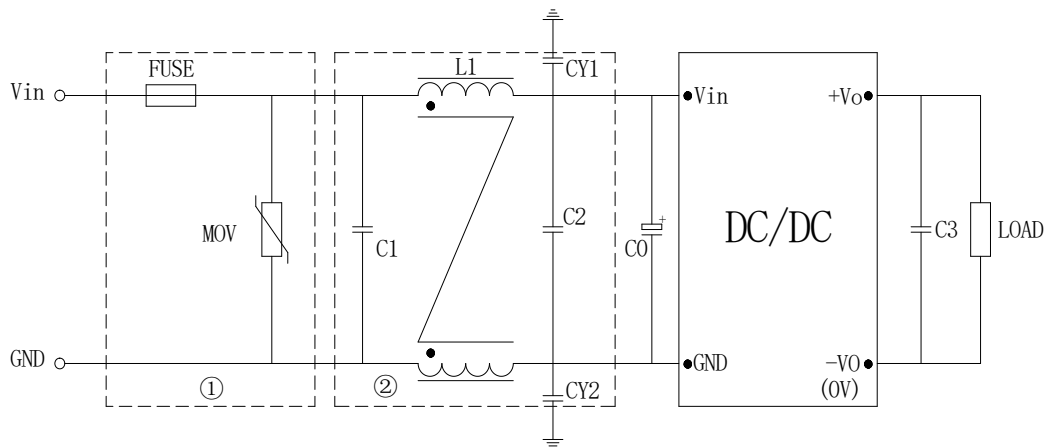
型号 Models	输入电压范围 Input Voltage Range	输出电压 (Vdc) Output Voltage	输出电流 (A) Output current	纹波噪声(mv) Ripple and noise	典型效率 Efficiency	容性负载 (μF) Max.Capacitor Load
CRS20-24S3V3	10-40V	3.3	5.0	50	86%	1000
CRS20-24S5	10-40V	5.05	4.0	50	88%	1000
CRS20-24S12	10-40V	12	1.66	100	88%	680
CRS20-24S15	10-40V	15	1.4	100	88%	680
CRS20-24S24	10-40V	24	0.83	100	88%	470
CRS20-24S48	10-40V	48	0.41	300	88%	220
CRS20-110S3V3	40-160V	3.3	5.0	50	88%	1000
CRS20-110S5	40-160V	5.05	4.0	50	88%	1000
CRS20-110S12	40-160V	12	1.66	100	89%	680
CRS20-110S15	40-160V	15	1.4	100	89%	680
CRS20-110S24	40-160V	24	0.83	100	88%	470
CRS20-110S48	40-160V	48	0.41	300	88%	220

CRS30-24S3V3	10-40V	3.3	6.0	50	86%	6800
CRS30-24S5	10-40V	5.05	6.0	50	88%	6800
CRS30-24S12	10-40V	12	2.5	100	88%	680
CRS30-24S15	10-40V	15	2.0	100	88%	680
CRS30-24S24	10-40V	24	1.25	100	88%	470
CRS30-24S48	10-40V	48	0.625	300	88%	220
CRS30-110S3V3	40-160V	3.3	6.0	50	88%	6800
CRS30-110S5	40-160V	5.05	6.0	50	88%	6800
CRS30-110S12	40-160V	12	2.5	100	89%	680
CRS30-110S15	40-160V	15	2.0	100	89%	680
CRS30-110S24	40-160V	24	1.25	100	88%	470
CRS30-110S48	40-160V	48	0.625	300	88%	220
CRS40-24S3V3	10-40V	3.3	8.0	50	86%	6800
CRS40-24S5	10-40V	5.05	8.0	50	88%	6800
CRS40-24S9	10-40V	9	4.44	100	88%	680
CRS40-24S12	10-40V	12	3.33	100	88%	680
CRS40-24S15	10-40V	15	2.66	100	88%	680
CRS40-24S24	10-40V	24	1.66	100	88%	470
CRS40-24S48	10-40V	48	0.83	300	88%	220
CRS40-110S3V3	40-160V	3.3	8.0	50	88%	6800
CRS40-110S5	40-160V	5.05	8.0	50	88%	6800
CRS40-110S12	40-160V	12	3.33	100	89%	680
CRS40-110S15	40-160V	15	2.66	100	89%	680
CRS40-110S24	40-160V	24	1.66	100	88%	470
CRS40-110S48	40-160V	48	0.83	300	88%	220
CRS50-24S3V3	10-40V	3.3	10	50	86%	6800
CRS50-24S5	10-40V	5.05	10	50	88%	6800
CRS50-24S15	10-40V	15	3.33	100	88%	680
CRS50-24S24	10-40V	24	2.08	100	88%	470
CRS50-24S48	10-40V	48	1.04	300	88%	220

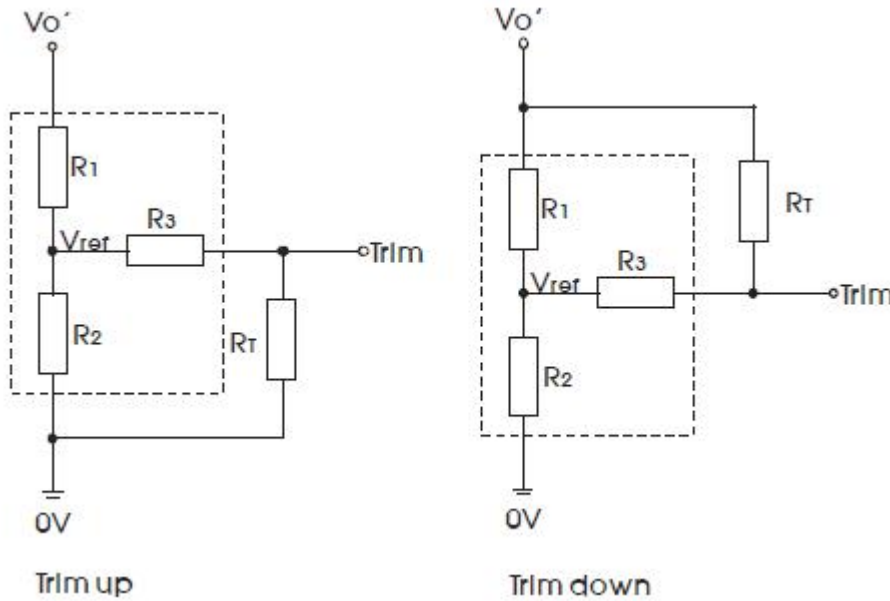
CRS50-110S3V3	40-160V	3.3	10	50	88%	6800
CRS50-110S5	40-160V	5.05	10	50	88%	6800
CRS50-110S12	40-160V	12	4.16	100	89%	680
CRS50-110S15	40-160V	15	3.33	100	89%	680
CRS50-110S24	40-160V	24	2.08	100	88%	470
CRS50-110S48	40-160V	48	1.04	300	88%	220
CRS60-24S3V3	10-40V	3.3	12	50	86%	6800
CRS60-24S5	10-40V	5.05	12	50	88%	6800
CRS60-24S12	10-40V	12	5.0	100	88%	680
CRS60-24S15	10-40V	15	4.0	100	88%	680
CRS60-24S24	10-40V	24	2.5	100	88%	470
CRS60-24S48	10-40V	48	1.25	300	88%	220

■说明：仅列出典型型号，其它型号，请确定功率，输入电压及输出电压，致电我公司。  
尾缀带 H 的产品标配散热器

## 电磁兼容应用 (EMC)



型号	Vin: 24V	Vin: 110V
FUSE	根据具体电源模块型号电流选择	
MOV	14D101K	14D101K
C0	220μF/50V	100μF/100V
C1、C2	4.7μF/50V	2.2μF/100V
C3	100μF	
LCM	1mH	
CY1、CY2	2.2nF Y2 安规电容	

**输出调节应用 (TRIM Function)**


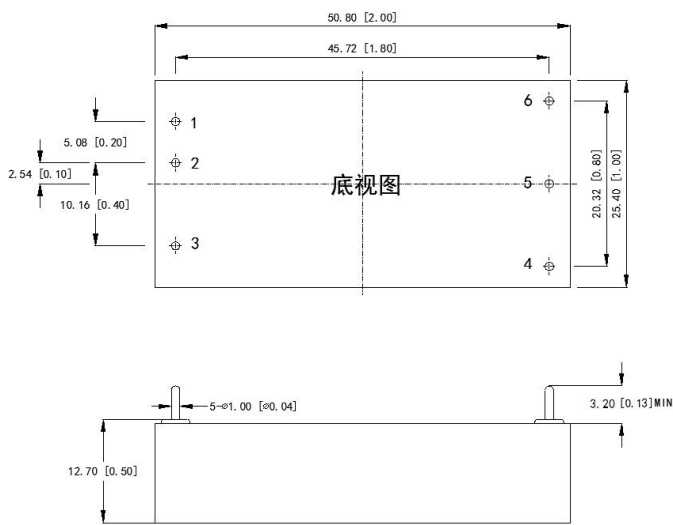
$$up : R_T = \frac{TR_2}{R_2 - T} - R_3 \quad T = \frac{V_{ref}}{V_{o'} - V_{ref}} \cdot R_1 \text{ (调高电压)}$$

$$down : R_T = \frac{TR_1}{R_1 - T} - R_3 \quad T = \frac{V_{o'} - V_{ref}}{V_{ref}} \cdot R_2 \text{ (调低电压)}$$

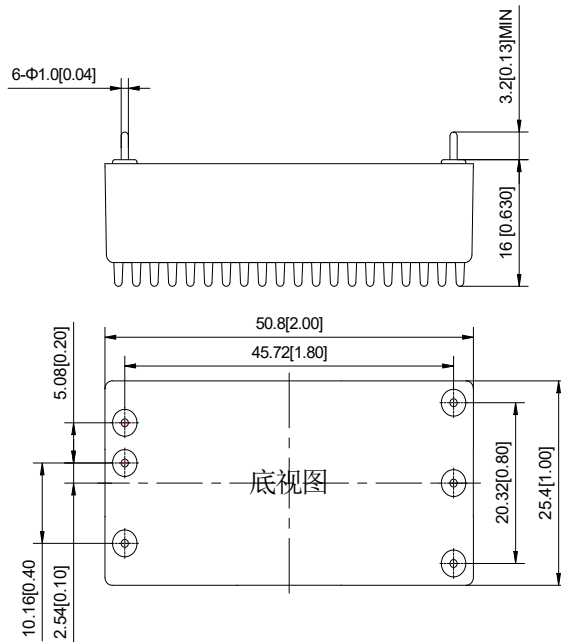
Vout (V)	R1(KΩ)	R2(KΩ)	R3(KΩ)	Vref(V)
3.3	3.32	2.0	8.2	1.24
5	2.55	2.49	8.2	2.5
9	6.49	2.49	10	2.5
12	9.53	2.49	12	2.5
15	12.5	2.49	15	2.5
24	21.5	2.49	20	2.5
48	45.3	2.49	22	2.5

## 机械图及管脚说明 (Mechanical Chart、Pins) (Unit: mm/inch)

普通尺寸图



加散热片尾缀 H 尺寸图



管脚 Pin	1	2	3	4	5	6
功能 Function	+Vin	-Vin	CNT	TRIM	-Vo	+Vo

注:安装定位尺寸公差按 GB/T1804-2000 F 级标准、外型尺寸公差按 GB/T1804-2000 C 级标准。