



回路説明

この回路は、2つの部分から構成されると考えられます。1つはLED操作部です。もう1つは、調光器操作とPWM信号とを兼ねた部分です。

LED操作部が出力コンデンサをDC状態まで充電します。調光器操作部は、調光器のSCRに負荷電流を供給し、シリーズ・パスMOSFETにゲート電圧を供給します。このシリーズMOSFETのゲートを駆動することにより、LEDのピーク定格電流でLEDにパルス幅変調をかけます。定電流レギュレータNSIC2050は、LEDに対する過電流保護と過電圧保護の働きをします。NSI5010は、調光器操作回路の消費電力を制限する働きをします。

最適な性能を得るためには、回路への入力電圧が最小導通角であるときにMOSFETのゲート電圧(11 kΩと1.5 kΩの分圧器で駆動)をスレッシュホールド電圧にする必要があります。

また、一部の調光器は、NSI50010をNSI45020AT1Gに交換できるように負荷電流を20 mAにする必要がありますが、余分な電力損失を招きます。

主な特長

- 80%以上の効率
- 3.61 W未満
- 調光範囲に応じて調光
- 大幅に低いBOMコスト
- さまざまな調光器に応用可能

Table 1. DEVICE DETAILS

Device	Application	Input Voltage	Output Power	Topology	I/O Isolation
NSIC2050 NSI5010	AC LED Dimmable	100-127 Vac	6 W	Cap Drop and PWM Sensing	No

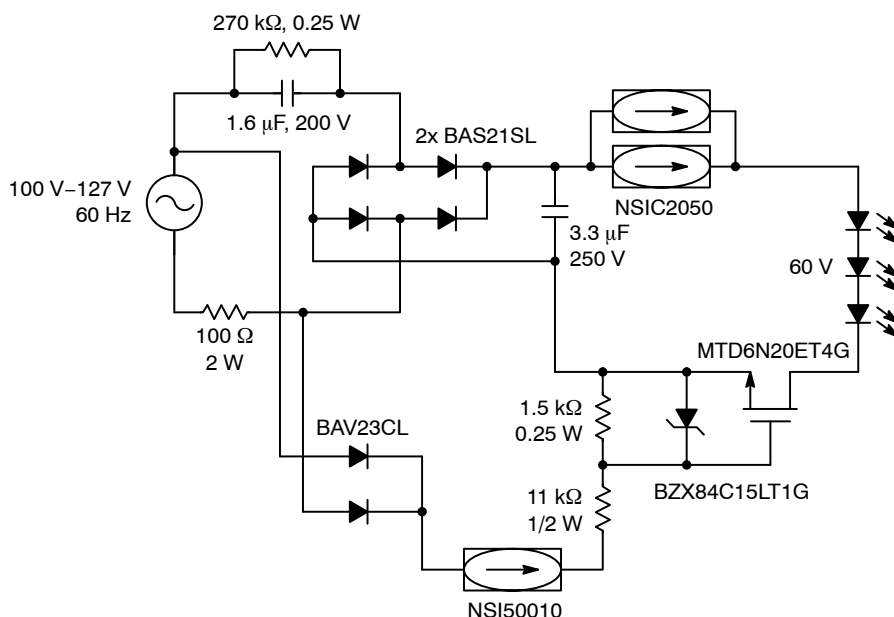


Figure 1. CCR with Dimmable Interface

DN05021/D

Table 2. OTHER SPECIFICATIONS


	Output	Unit
Output Voltage	60	V
Ripple	100	%
Nominal Current	63	mA rms
Max Current	106	mA
Min Current	0	mA

PFC (Yes/No)	No
Minimum Efficiency	80%
Inrush Limiting/Fuse	N/A (100 Ω, 2 W)

	100 V _{RMS}	127 V _{RMS}
I _{RMS(IN)}	46.46 mA	55.09 mA
PF	0.589	0.514
THD	43.97%	45.6%
I _{RMS(OUT)}	55 mA	63 mA
P _(in)	2.69 W	3.6 W

Manufacturer	Serial Number	Notes
Lutron	500-15591A	Smooth Dim Below 40%
Lutron	TGCL-153PH	Smooth Dim Below 5%
Lutron	CTCL-153PDH	Smooth Dim Below 5%
Pass & Seymour	450 W - CFL/LED	Smooth Dim Below 5%
Pass & Seymour	700 W Incandescent	Small Dead Travel

*This list is compiled from a limited selection of Dimmers.

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