

Application Guide

LED Lighting

Passive Solutions Powering LED Lighting Applications

Input

- EMI Capacitors
- Common Mode Chokes
- Disc Varistors (MOV)

Rectification

- Aluminum Electrolytic
- Box Film Capacitors
- Ceramic MLCC

Conversion

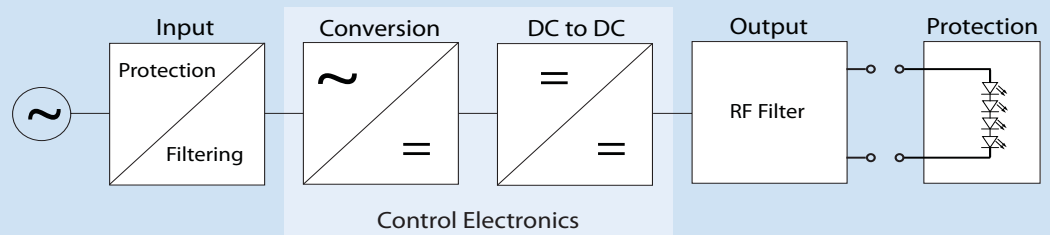
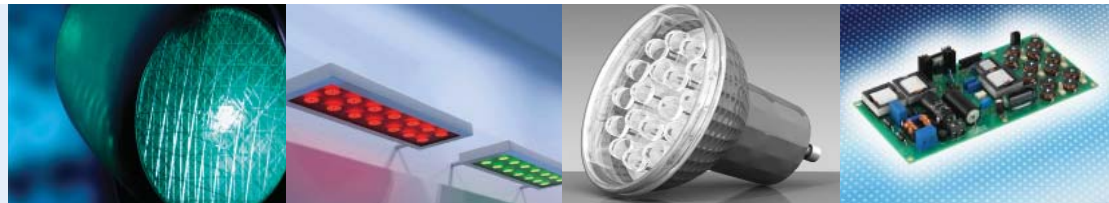
- Power Inductors - SMT
- Transformers
- Current Sensors
- Thermistors
- Ceramic MLCC

Output

- Aluminum Electrolytic
- Power Inductors - SMT
- Single Ended Inductors
- Ceramic MLCC

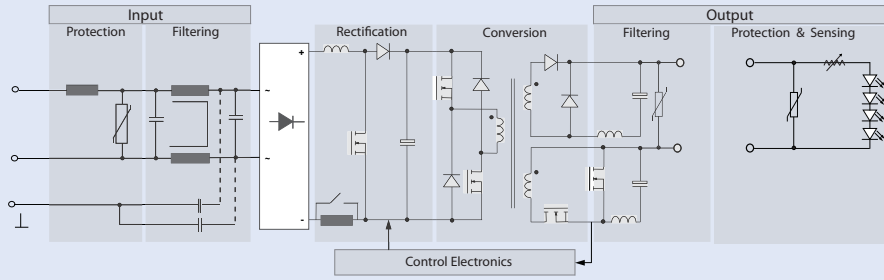
LED Protection & Sensing

- Thermistors
- Disc Varistors (MOV)
- Multilayer Varistors (MLV)



LED lighting technology offers enormous energy-saving potential. Energy-saving lamps and LED lighting systems need about 80 percent less energy than conventional technologies. TDK-EPC has key technologies supporting electronic ballasts and power supplies for LED lighting systems and offers a very broad range of inductors, capacitors and protection devices.

Schematic Circuit



Product Guide

Series	Technical Data	Features	Type	Input	Rectification	Conversion	Output	Protection (LED)	
Aluminum Electrolytic Capacitors									
Single ended	 C_R : 47...2200 μ F, V_R : 10...500V DC	85°C ... 150°C, \leq 100V	B41xxx					•	
Snap-in		85°C ... 125°C, \geq 160V	B43xxx		•				
	C_R : 47...12,000 μ F, V_R : 10...500V DC	85°C ... 105°C, \leq 100V	B41xxx		•				
		85°C ... 105°C, \geq 160V	B43xxx		•				
Ceramic Capacitors									
General, High Cap, Mid Voltage	 C_R : up to 100 μ F, V_R : 4 ...630V	0201 to 2220 sizes	C types						
		AEC-Q200, Performance	CG types		•	•	•		
		Crack Mitigation	CKG types						
Dipped, Radial Leaded	C_R : up to 100 μ F, V_R : 6.3 ...630V	Acoustic Noise Countermeasure	FK type		•	•	•		
Safety Standard Approved	C_R : 0.0001...0.01 μ F	X1, Y1, Y2 250VAC	CD types CS types	•					
Film Capacitors									
EMI Capacitors	 C_R : 0.001...1 μ F C_R : 0.010...6.8 μ F C_R : 0.010...45 μ F C_R : 0.001...0.010 μ F	Y2 300VAC	B3202x	•					
		X1 330VAC	B3291x	•					
		X2 305VAC	B3292x	•					
		Y1 250VAC	B81123	•					
MKP DC Link	C_R : 0.47 μ F...110 μ F V_R : 450VDC...1300VDC	Boxed, High Power Boxed, High Density	B3267x B3277x		•				
Magnetics									
Common Mode Chokes	 I_R : 0.4...2.6A, L_R : 0.33...5mH I_R : 0.7...2.3A, L_R : 10...100mH I_R : 0.3...4.6A, L_R : 3.3...100mH I_R : 0.3...16A, L_R : 0.2...100mH	U Core	B82730U, LH, UF	•					
		Frame Core	B8273xF	•					
		D/E Core	B8273x	•					
		Toroidal	B8272x	•					
		SMD: 0805...1812 sizes	ACM	•					
SMT Power Inductors	 I_R : 1...10A, I_{Z1} : 90...1000 Ω I_R : 0.13...10.6A, L_R : 1...1500 μ H I_R : 0.11...11 A, L_R : 0.33...1000 μ H	Wound, Shielded	CFL, LTF, SLF, VLF, VLP			•	•		
		Wound, Unshielded, Shielded	B824xx B8255x, VLM			•	•		
						•	•		
Single Ended Inductors	I_R : 0.12...7.7A, L_R : 1...15,000 μ H	Drum, Unshielded	SL, TSL	•			•		
Power Transformers	 V_{in} : 80V...265V DC	Custom Types	B78xxx, SRL, SRW			•			
		Flyback	B82802			•			
						•			
Current Sensing Transformer	I_{sense} : 7, 20, 40A	SMD: E4.2, E5, E12.6, EP5	B82801			•			
Gate Drive Transformers	E^*dt : 22...41 V* μ s, V_{test} : 500V AC	SMD: EP5	B82804			•			
Protection Devices									
Varistors	 I_{pk} : 100...20,000A I_{pk} : up to...400A I_{pk} : 400...2,500A	Disc MOV, 5 ... 25mm	B72xxx	•			•		
		SMD MLV 0201...1812 sizes	B72xxx				•	•	
		CU3225, CU4032, CU4648	B726xx		•		•		
Thermistors	β : 3550...4480 T_{sense} : 70°C...145°C	SMD NTC: 0402...1206 sizes SMD PTC: 0402...0805 sizes	B57... B59...			•	•		
								•	