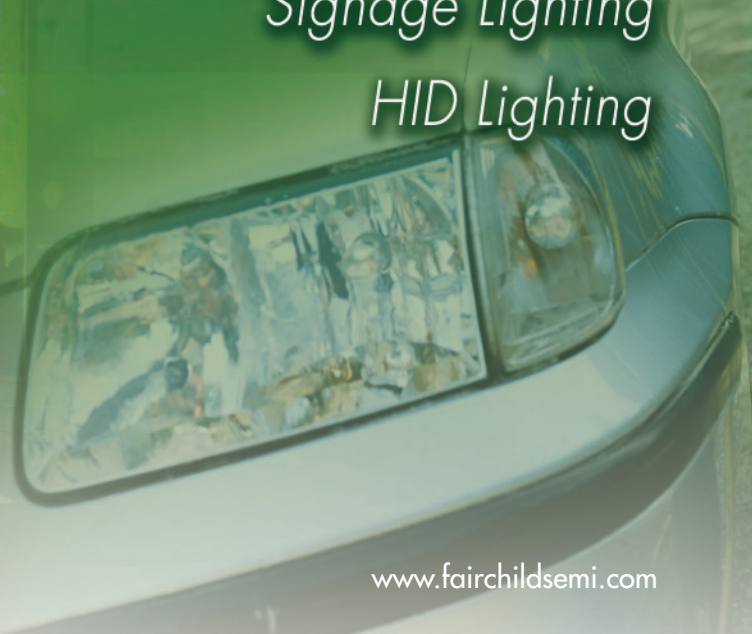


LIGHTING SOLUTIONS

TO MAXIMIZE ENERGY EFFICIENCY



Linear Fluorescent Lamp Ballasts
Compact Fluorescent Lamp Ballasts
LED Lighting Solutions
Signage Lighting
HID Lighting



Saving our world, 1mW at a time™

Fairchild Semiconductor provides solutions for all lighting applications including linear fluorescent ballast, compact fluorescent ballast, LED and HID. Our extensive product portfolio ranges from discretes to integrated solutions that contain PFC controllers, ballast control ICs, high voltage gate drivers and MOSFETs. With our commitment to energy savings and meeting the most stringent regulations, we have developed innovative products that maximize performance while reducing board space, design complexity and system costs. In addition, our Global Power ResourceSM, comprised of online tools, FAEs and regional centers staffed by power engineers, is the industry standard for customer design support.

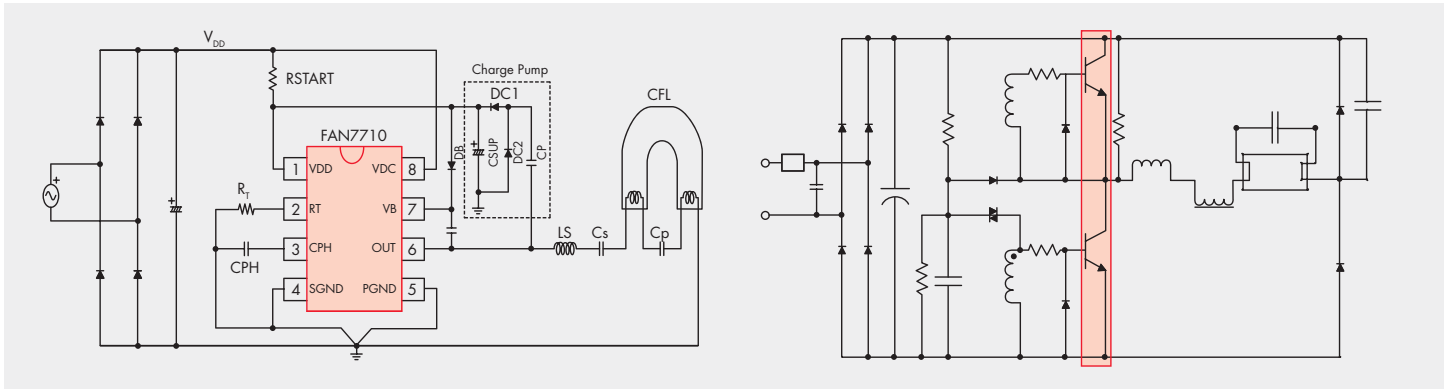


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COMPACT FLUORESCENT LAMP BALLAST

BALLAST CONTROL ICs AND POWER TRANSISTORS



Ballast Control ICs

Optimized for an electronic ballast, these controllers require minimal board area and reduce component count. The controllers have many comprehensive protection features that work through filament failure, failure of a lamp to strike and automatic restarts.

Product Number	Startup Current (mA)	Frequency Variance (%)	Output Peak Current		Protection		Feature	Package
			Sink (mA)	Source (mA)	OLP/OVP	TSD		
FAN7710	0.12	±8 (Internal Ct)	800 (ID Saturation)		Auto Detect	Yes	Integrated Half Bridge MOSFET	8-DIP
FAN7711	0.12	±8 (Internal Ct)	650	350	Auto Detect	Yes	Controller + Gate Driver	8-SOP/DIP

Power Transistors

Product Number	V _{CBO} (V)	V _{CEO} (V)	V _{EBO} (V)	I _C (A)	P _C (W)	h _{FE}				V _{CE(sat)}			t _{STG} (µs)	t _F (µs)	Package
						Min.	Max.	@ I _C (A)	@ V _{CE} (V)	Max.(V)	@ I _C (A)	@ I _B (A)			
FJE3303	700	400	9	1.5	20	8	21	0.5	2	0.5	0.5	0.1	4	0.7	TO-126
FJN3303	700	400	9	1.5	1.1	8	21	0.5	2	0.5	0.5	0.1	4	0.7	TO-92
FJN13003	700	400	9	1.5	1.1	9	21	0.5	2	0.5	0.5	0.1	4	0.7	TO-92
FJP3305	700	400	9	4	75	19	35	1	5	0.5	1	0.2	0.9	4.0	TO-220
FJP13007	700	400	9	8	80	8	60	2	5	1	2	0.4	3	0.7	TO-220
FJP3307D	700	400	9	8	80	8	40	2	5	1	2	0.4	3	0.2	TO-220
FJP13009	700	400	9	12	50	8	40	5	5	1	5	1	3	0.7	TO-220
KSC5039	800	400	7	5	70	10	-	0.3	5	1.5	2.5	0.5	3	0.8	TO-220
KSC5305D	800	400	12	5	75	22	-	0.8	1	0.4	0.8	0.08	2	0.2	TO-220
FJP5321	800	500	7	5	100	15	40	0.6	5	1	3	0.6	6.5	0.3	TO-220
FJP5355	900	440	12	5	50	15	-	0.01	2	0.2	0.8	0.2	1.2	0.4	TO-220
FJP5554	1050	400	15	4	70	20	50	-	-	0.5	-	-	1.2	0.3	TO-220
FJP5555	1050	400	14	5	75	20	40	0.8	3	0.5	1	0.2	2.5	0.3	TO-220
FJD5555	1050	400	14	5	1.34	20	40	0.8	3	0.5	1	0.2	2.5	0.3	TO-252(DPAK)
FJD5553	1050	400	14	3	1.25	30	60	0.4	3	0.5	1	0.2	2.5	0.3	TO-252(DPAK)
KSC5026M	1100	800	7	1.5	20	10	40	0.1	5	2	0.75	0.15	3	0.3	TO-126
FJP5027	1100	800	7	3	50	10	40	0.2	5	2	1.5	0.3	3	0.3	TO-220
KSC5030F	1100	800	7	6	60	10	40	0.4	5	2	3	0.6	3	0.3	TO-3PF
KSC5502D	1200	600	12	2	50	12	30	0.5	2.5	0.6	0.4	0.08	2	0.2	TO-252(DPAK)
KSC5603D	1600	800	12	3	100	20	35	0.4	3	1.2	2	0.4	0.25	0.3	TO-220

Note: Fairchild provides products for those blocks highlighted in red.

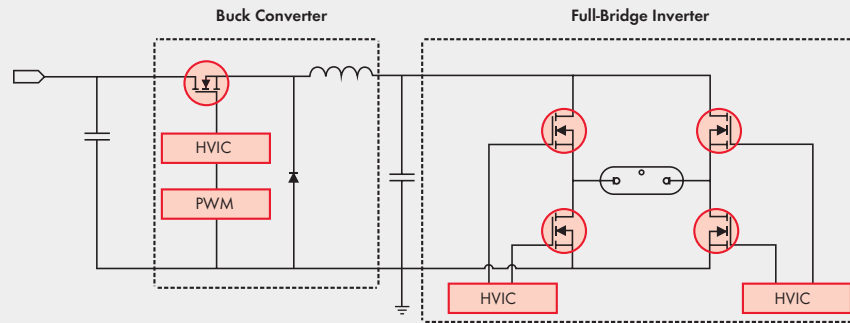
Power MOSFETs

Fairchild's MOSFET portfolio is one of the industry's broadest, and includes leading edge SuperFET™, QFET™ and UniFET™ MOSFETs. Our extensive packaging solutions have advantages that designers are looking for such as small size, low package height and excellent thermal and electrical performance.

Product Number	BV_{DSS} Min. (V)	$R_{DS(ON)}$ Max. (Ω) @ $V_{GS} = 10V$	Q_g Typ (nC) @ $V_{GS} = 10V$	I_D (A)	P_D (W)	Package
FQU3P50	-500	4.9	18	2.1	50	TO-251(IPAK)
FQD3P50	-500	4.9	18	2.1	50	TO-252(DPAK)
FQD1P50	-500	10.5	11	1.2	38	TO-252(DPAK)
FQD4P40	-400	3.1	18	2.7	50	TO-252(DPAK)
FQD2P40	-400	6.5	10	1.6	38	TO-252(DPAK)
FQD4P25	-250	2.1	10	3.1	45	TO-252(DPAK)
FQI2P25	-250	4	6.5	2.3	52	TO-262(I ² PAK)
FQB9P25	-250	0.62	29	9.4	120	TO-263(D ² PAK)
FQB2P25	-250	4	6.5	2.3	52	TO-263(D ² PAK)
FQU7P20	-200	0.69	19	5.7	55	TO-251(IPAK)
FQU5P20	-200	1.4	10	3.7	45	TO-251(IPAK)
FQD7P20	-200	0.69	19	5.7	55	TO-252(DPAK)
FQD5P20	-200	1.4	10	3.7	45	TO-252(DPAK)
FQD3P20	-200	2.7	6	2.4	37	TO-252(DPAK)
FQB3P20	-200	2.7	6	2.8	52	TO-263(D ² PAK)
FQU7N20	200	0.69	8	5.3	45	TO-251(IPAK)
FQD7N20	200	0.69	8	5.3	45	TO-252(DPAK)
FDD6N20	200	0.8	8	4.5	45	TO-250(DPAK)
FDD7N20	200	0.69	5	5	43	TO-252(DPAK)
FQD8N25	250	0.55	12	6.2	50	TO-252(DPAK)
FQD6N25	250	1	6.6	4.4	45	TO-252(DPAK)
FDD6N25	250	1.1	5	4.5	45	TO-252(DPAK)
FQD4N25	250	1.75	4.3	3	37	TO-252(DPAK)
FQI4N25	250	1.75	4.3	3.6	52	TO-262(I ² PAK)
FQP9N30	300	0.45	17	9	98	TO-220
FQP5N30	300	0.9	9.8	5.4	70	TO-220

Power MOSFETs (Continued)

Product Number	BV_{DSS} Min. (V)	$R_{DS(ON)}$ Max. (Ω) @ $V_{GS} = 10V$	Q_g Typ (nC) @ $V_{GS} = 10V$	I_D (A)	P_D (W)	Package
FQP3N30	300	2.2	5.5	3.2	55	TO-220
FDD3N40	400	3.4	4	2.5	25	TO-252(DPAK)
FDU3N40	400	3.4	4.5	2	30	TO-251(IPAK)
FQD2N40	400	5.8	4	1.4	25	TO-252(DPAK)
SSM1N45B	450	4.25	6.5	0.5	0.9	SOT-223
SSN1N45B	450	4.25	6.5	0.5	0.9	TO-92
FQU3N50C	500	2.5	10	2.5	35	TO-251(IPAK)
FQU3N60C	600	3.6	10	2.4	50	TO-251(IPAK)
FQU4N50	500	2.7	10	2.6	45	TO-251(IPAK)
FQU1N50	500	9	4	1.1	25	TO-251(IPAK)
FQD3N50C	500	2.5	10	2.5	35	TO-252(DPAK)
FQD4N50	500	2.7	10	2.6	45	TO-252(DPAK)
FQD2N50	500	5.3	6	1.6	30	TO-252(DPAK)
FQD1N50	500	9	4	1.1	25	TO-252(DPAK)
FQN1N50C	500	6	4.9	0.38	0.89	TO-92
FQNL2N50B	500	5.3	6	0.35	1.5	TO-92L
FQNL1N50B	500	9	4	0.27	1.5	TO-92L
FCU5N60	600	0.95	16	4.6	54	TO-251(IPAK)
FQU1N60	600	11.5	5	1	30	TO-251(IPAK)
FCD5N60	600	0.95	16	4.6	54	TO-252(DPAK)
FCD4N60	600	1.2	12.8	3.9	50	TO-252(DPAK)
FQN1N60C	600	11.5	4.8	0.3	1	TO-92



High Voltage Gate Drivers (HVIC)

These drivers improve system reliability by utilizing an innovative common-mode dv/dt noise canceling circuit that provides excellent noise immunity. With a voltage capability up to 600V and a very fast switching speed ($dv/dt = 50V/ns$ (max.)), these drivers are optimal for driving MOSFETs and IGBTs in a wide array of applications.

Product Number	Circuit		Offset Voltage (V)	Output current (mA)		Delay Time (ns)		Shut Down	Dead Time Control	Quiescent Current (μA)		dv/dt (V/ns)	V_B (V)	Package
	Type	Input to Output		Source	Sink	t_{ON}	t_{OFF}			I_{QBS}	I_{OCC}			
FAN7361	High Side	1 to 1	600	250	500	120	90	No	No	50	30	50	-9.8	8-SOP
FAN7362	High Side	1 to 1	600	250	500	120	90	No	No	50	30	50	-9.8	8-SOP
FAN7380	Half-bridge	2 to 2	600	90	180	135	130	No	Fixed	45	70	50	-9.8	8-SOP
FAN7382	High & Low Side	2 to 2	600	350	650	170	200	No	No	45	70	50	-9.8	8-SOP/DIP
FAN7385	2 Ch. High Side	2 to 2	600	350	650	110	110	No	No	50	28	50	-9.8	14-SOP
FAN7371	High Side	1 to 1	600	4000	4000	150	150	No	No	60	25	50	-9.8	8-SOP
FAN7387	Self Oscillation	1 to 2	600	350	650	170	200	Yes	Variable	50	220	50	-9.8	8-SOP/DIP
FAN7388	3 Phase	6 to 6	600	350	650	130	150	No	Fixed	50	160	50	-9.8	20-SOP
FAN7390	High & Low Side	2 to 2	600	4500	4500	140	140	No	No	45	65	50	-9.8	8-SOP/DIP

Power MOSFETs

Fairchild's MOSFET portfolio is one of the industry's broadest, and includes leading edge SuperFET, QFET, UniFET and FRFET[®] MOSFETs. Fairchild's innovative packaging solutions have advantages that designers are looking for such as small size, low package height, and excellent thermal and electrical performance.

Product Number	BV_{DSS} Min. (V)	$R_{DS(ON)}$ Max. (Ω) @ $V_{GS} = 10V$	Q_g Typ (nC) @ $V_{GS} = 10V$	I_D (A)	P_D (W)	Package
HUF75639S3S	100	0.025	57	56	200	TO-263(D ² PAK)
FDD3672	100	0.028	24	44	135	TO-252(DPAK)
FDB3652	100	0.016	41	61	150	TO-263(D ² PAK)
FDP39N20	200	0.066	38	39	251	TO-220
FQP19N20C	200	0.17	40.5	19	139	TO-220
FQPF34N20	200	0.075	60	17.5	55	TO-220F
FDS2672	200	0.08	34	4.5	2.5	8-SOP
FQP32N20C	200	0.082	82.5	28	156	TO-220
FDS2734	250	0.15	34	3.4	2.5	8-SOP
FQP16N25	250	0.23	27	16	142	TO-220
FQP16N25C	250	0.27	41	15.6	139	TO-220

POWER MOSFETS

Power MOSFETs (Continued)

Product Number	BV_{DSS} Min. (V)	$R_{DS(ON)}$ Max. (Ω) @ $V_{GS} = 10V$	Q_g Typ (nC) @ $V_{GS} = 10V$	I_D (A)	P_D (W)	Package
FQPF27N25	250	0.11	50	14	55	TO-220F
FQPF16N25	250	0.23	27	9.5	50	TO-220F
FDP2710	250	0.0425	78	50	260	TO-220
FDPF2710T	250	0.0425	78	25	62.5	TO-220F
FDP33N25	250	0.094	36.8	33	235	TO-220
FDP20N50	500	0.23	45.6	20	250	TO-220
FDP18N50	500	0.265	38	18	235	TO-220
FDP16N50	500	0.38	32	16	200	TO-220
FQP13N50C	500	0.48	43	13	195	TO-220
FDFP20N50	500	0.23	45.6	20	62	TO-220F
FDFP18N50	500	0.265	38	18	58	TO-220F
FDPF16N50	500	0.38	32	16	52	TO-220F
FQPF13N50C	500	0.48	43	13	48	TO-220F
FDP5N50	500	1.4	11	5	85	TO-220
FDD5N50	500	1.4	11	4	40	TO-252(DPAK)
FDD6N50	500	0.9	12.8	6	89	TO-252(DPAK)
FDP7N50	500	0.9	12.8	7	89	TO-220
FDP12N50	500	0.65	22	11.5	165	TO-220
FDPF5N50T	500	1.4	11	5	28	TO-220F
FDPF7N50	500	0.9	12.8	7	39	TO-220F
FDPF12N50T	500	0.65	22	11.5	42	TO-220F
FCP20N60	600	0.19	75	20	208	TO-220
FCP11N60	600	0.38	40	11	125	TO-220
FCP7N60	600	0.6	25	7	83	TO-220
FCU7N60	600	0.6	23	7	83	TO-251(IPAK)
FCD5N60	600	0.95	16	4.6	54	TO-252(DPAK)
FCD4N60	600	1.2	12.8	3.9	50	TO-252(DPAK)
FCP16N60	600	0.26	55	16	167	TO-220
FCPF7N60	600	0.6	25	7	31	TO-220F
FCPF11N60	600	0.38	40	11	36	TO-220F
FCPF20N60	600	0.19	75	20	39	TO-220F

Fast Recovery MOSFETs (FRFET)							
Product Number	V_{DSS} Min. (V)	$R_{DS(ON)}$ Max. (Ω) @ $V_{GS} = 10V$	Q_g Typ (nC) @ $V_{GS} = 10V$	I_D (A)	P_D (W)	t_{rr} Typ (ns)	Package
FDPF5N50FT	500	1.55	11	5	28	65	TO-220F
FQPF5N50CF	500	1.55	18	5	38	65	TO-220F
FQB5N50CF	500	1.55	18	5	96	65	TO-263(D ² PAK)
FDPF7N50F	500	1.15	15	6	38.5	85	TO-220F
FDD6N50F	500	1.15	15	5.5	89	85	TO-252(DPAK)
FQPF9N50CF	500	0.85	28	9	44	100	TO-220F
FQB9N50CF	500	0.85	28	9	173	100	TO-263(D ² PAK)
FQPF10N50CF	500	0.61	43	10	48	50	TO-220F
FQPF11N50CF	500	0.55	43	11	48	90	TO-220F
FQP11N50CF	500	0.55	43	11	195	90	TO-220
FDPF12N50FT	500	0.7	21	11.5	42	95	TO-220F
FQPF13N50CF	500	0.54	43	13	48	100	TO-220F
FDPF20N50FT	500	0.26	50	20	38.5	154	TO-220F
FDD5N50F	500	1.7	8	4.5	40	65	TO-252(DPAK)
FDB12N50F	500	0.68	22	12	165	95	TO-263(D ² PAK)
FQPF8N60CF	600	1.5	28	6.26	48	82	TO-220F
FQB8N60CF	600	1.5	28	6.26	147	82	TO-263(D ² PAK)
FQPF10N60CF	600	0.8	44	9	50	120	TO-220F
FCPF11N60F	600	0.38	40	11	36	120	TO-220F
FCP11N60F	600	0.38	40	11	125	120	TO-220
FCA20N60F	600	0.19	75	20	208	120	TO-3P
FCB20N60F	600	0.19	75	20	208	120	TO-263(D ² PAK)
FDPF16N50U	500	0.45	32	16	42	85	TO-220F
FDPF12N50U	500	0.75	22	12	38.5	60	TO-220F
FDB12N50U	500	0.75	22	12	165	60	TO-263(D ² PAK)
FDPF7N50U	500	1.5	12.8	5	39	40	TO-220F
FDPF5N50U	500	2	8	4	28	35	TO-220F
FDD5N50U	500	2	8	4	40	35	TO-252(DPAK)

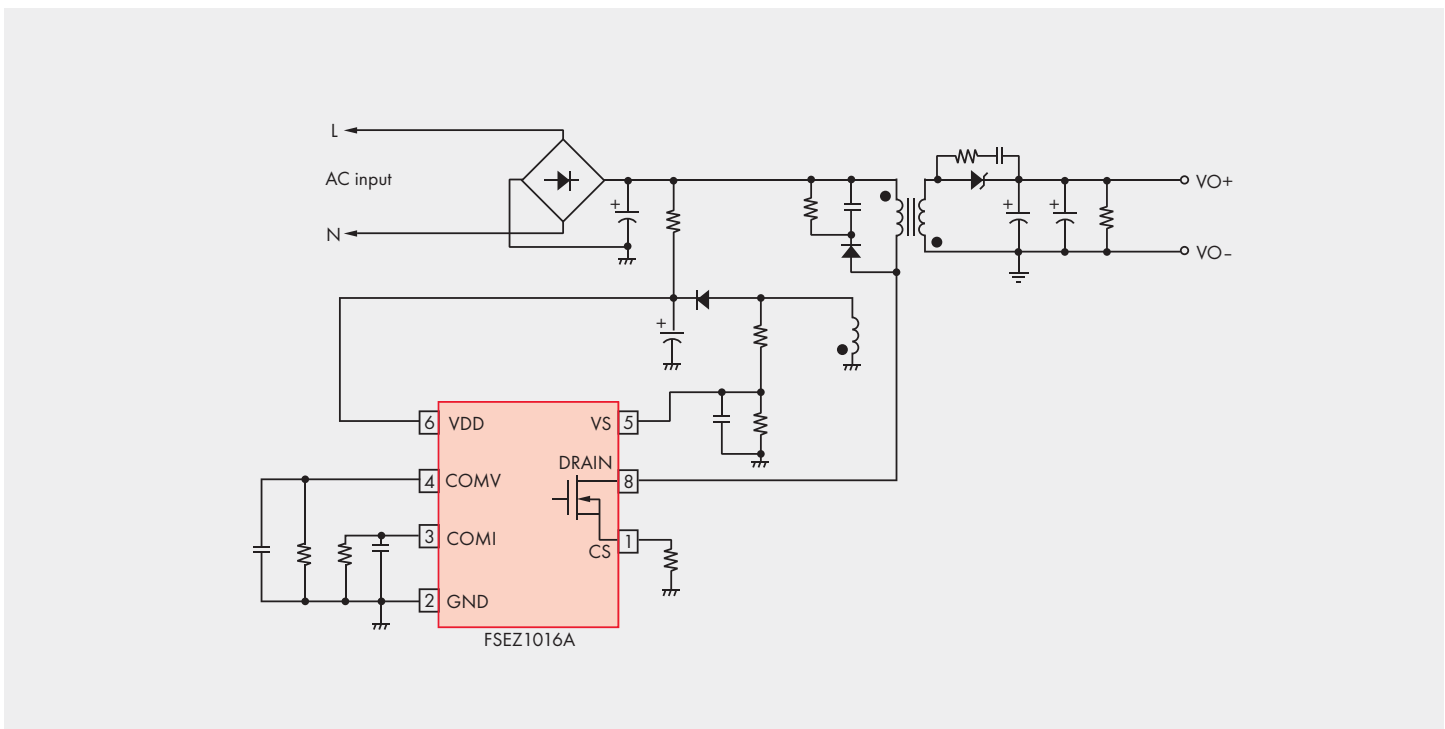
<25W SOLUTIONS

Fairchild offers a wide range of LED lighting solutions for different power levels to best suit your design needs.

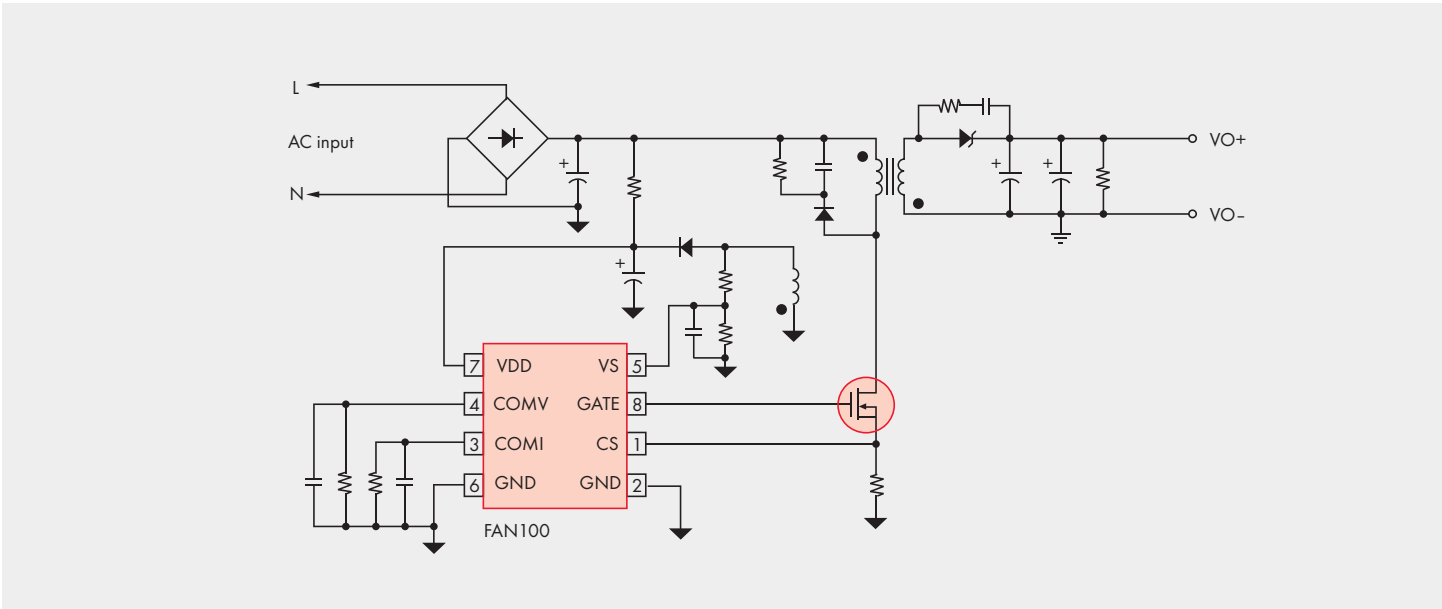
AC Input	90V ~ 264V	190V ~ 264V	85V ~ 264V
LED Output	1 Ch, 350mA, 2V ~ 24V 1 Ch, 700mA, 2V ~ 24V 1 Ch, 1000mA, 2V ~ 24V	1 Ch, 350mA, 3V ~ 48V 1 Ch, 700mA, 3V ~ 48V 1 Ch, 1000mA, 3V ~ 48V	6 Ch, 350mA, 15V ~ 96V 6 Ch, 700mA, 15V ~ 48V 6 Ch, 1000mA, 15V ~ 34V
Power consumption	<25W	25W ~ 100W	>100W
PFC	No	Yes, PF>0.9	Yes, PF > 0.9
Current Accuracy	±5% for DC level	±5% for DC level	±5% for DC level
Proposed Topology	Primary Side Regulation	Quasi-Resonant Converter	BCM PFC + LLC
Target Efficiency @ Full Load @ AC110	~80%	>85%	>90%
Application	Decoration/Indication/Commercial	Table/Garden	General/Street

<25W Solutions

With Fairchild's FSEZ1016A and FAN100/102 controller products, designers are able to implement AC input LED lighting systems without the secondary side control circuit and optocoupler.



AC-DC Primary Side Regulation with MOSFET Integrated for Constant Current Output



AC-DC Primary Side Regulation for Constant Current Output

Primary-Side-Control PWM Controller

Product Number	Drain Voltage (V) Max.	Switching Frequency (kHz)	$R_{DS(ON)}$ (ohm)	Protection		PSR*			Frequency Hopping	H/L Line Comp	Features	Typical Topology	Package
				OVP*	TSD* (OTP)*	CV (±%)	CC (±%)	Ripple (mV)					
FAN100	-	42	-	Auto Restart	Auto Restart	7	5	100	Yes	Yes	PSR Controller	Flyback	8-SOP
FAN102	-	42	-	Auto Restart	Auto Restart	5	5	100	Yes	Yes	PSR Controller	Flyback	8-SOP
FSEZ1016A ⁽¹⁾	600	42	11.5	Auto Restart	Auto Restart	7	5	100	Yes	Yes	PSR Controller + MOSFET	Flyback	7-SOP/DIP

* Please refer to page (7) for more information about 600V MOSFETs

* OVP: Over voltage protection

* TSD: Thermal shutdown

* OTP: Over temperature protection

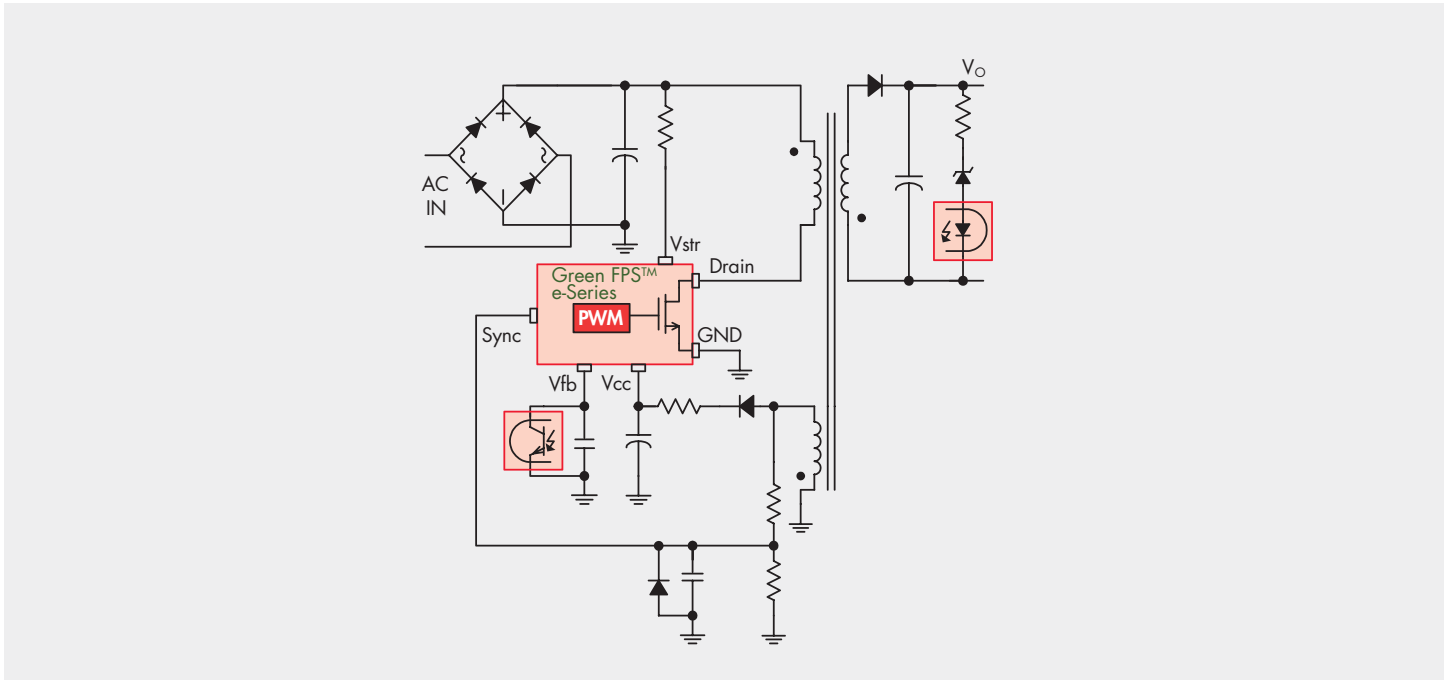
* PSR: Primary side regulation

(1) In development

25W-100W SOLUTIONS

25W-100W Solutions:

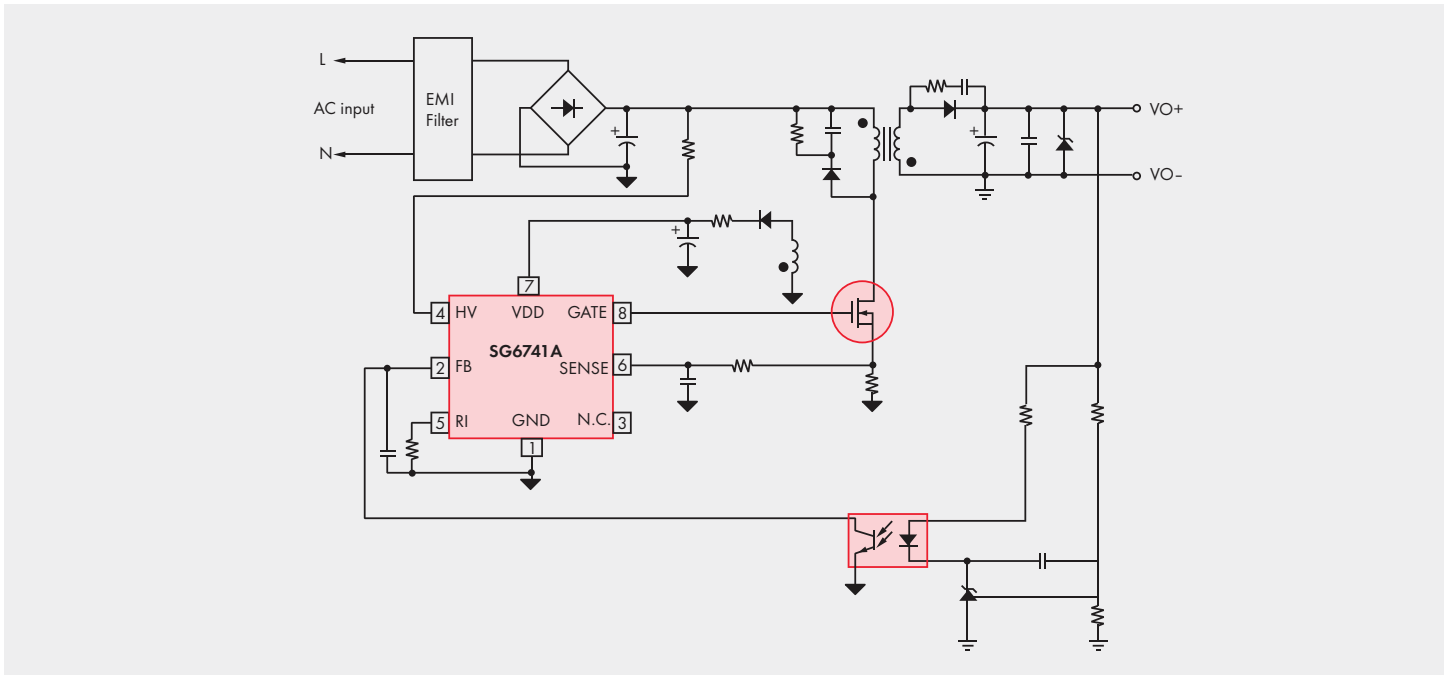
Fairchild offers two lighting solutions for the 25W-100W power supply designs. The first solution uses the quasi-resonant converter as the PWM stage resulting in higher efficiency and reliability. The second solution consists of a boundary mode PFC controller and a highly integrated green mode PWM controller. Both of these designs require the secondary side control circuit.



Typical Flyback Application

Green FPS™ e-Series										
Product Number	Application	Start-up Current	V _{DD} OVP	Green Mode	Switching Frequency	Frequency Hopping	OTP/TSD	OLP	MOSFET	Package
FSQ311 FSQ0165 FSQ0265 FSQ0365	SSR (VSC*)	HV	Auto Restart	Burst	55KHz/89KHz	No	Yes	Yes	V _D 1A/2A/ 3A-650V	DIP-8/ SOP-8

* VSC: Valley Switching Converter



Typical Flyback Application

PFC Controllers

Product Number	Type	Operating Current (mA)	Start-up Current (µA)	Package
FAN6961	BCM PFC	4.5	10	DIP-8, SOP-8
FAN7530	BCM PFC	1.5	40	DIP-8, SOP-8
FAN7529	BCM PFC	1.5	40	DIP-8, SOP-8
FAN7528	BCM PFC	2.5	40	DIP-8, SOP-8
FAN7527B	BCM PFC	3	60	DIP-8, SOP-8

Green Mode PWM Controller

Product Number	Application	Start-up Current	V _{DD} OVP	Green Mode	Switching Frequency	Frequency Hopping	OTP/TSD	OLP	MOSFET	Package
SG6859A	SSR	9µA	Auto Restart	Linear+Burst	Adjustable 65KHz - 75KHz	Yes	No	Yes	-	DIP-8/SOT-26
SG6741A	SSR	HV	Auto Restart	Linear+Burst	Programmable	Yes	No	Yes	-	DIP-8/SOP-8

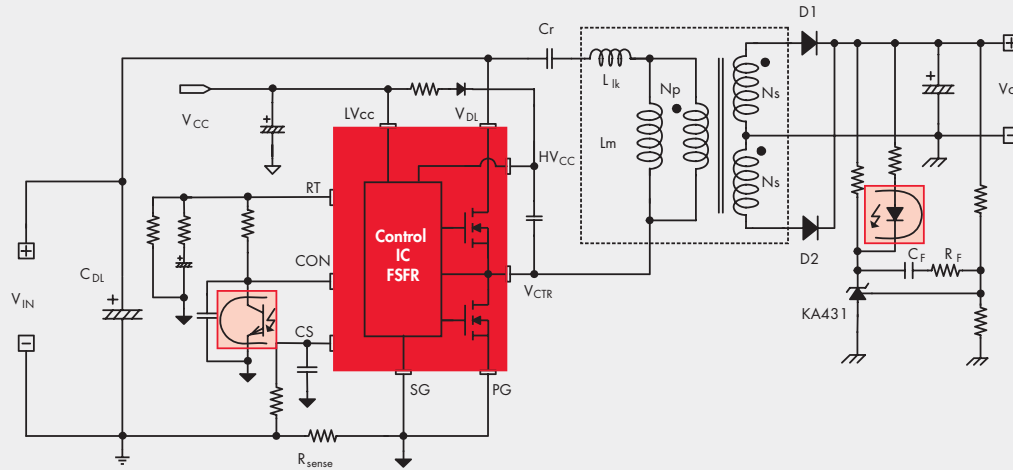
4-Pin DIP, Phototransistor Output, DC Sensing Input

Product Number	CTR @ ≤ 10mA I _F (%)		BV _{CEO} (V)	BV _{ECO} (V)	t _r /t _f (µs)	V _{ISO} AC _{RMS} (V) 1 Minute	T _{OPR} °C Range
	Min.	Max.	Min.	Min.	Typ.		
FOD817A	80	160	70	6	4/3	5000	-55 to +110
FOD817B	130	260	70	6	4/3	5000	-55 to +110
FOD817C	200	400	70	6	4/3	5000	-55 to +110
FOD817D	300	600	70	6	4/3	5000	-55 to +110

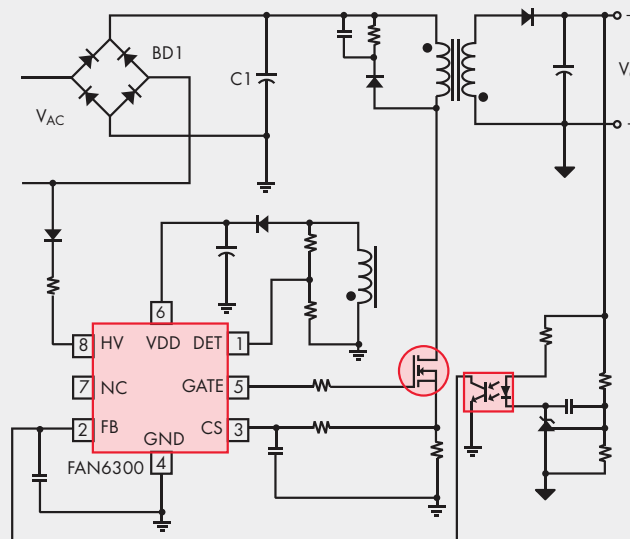
>100W SOLUTIONS

>100W Solutions

Fairchild offers two LED lighting solutions for the >100W power supply design. One solution consists of a high power factor pre-regulator based on the boundary mode PFC controller and an isolated DC-DC converter based on a resonant LLC topology. The other design consists of a boundary mode PFC controller and a highly integrated quasi-resonant current mode PWM controller. The secondary side control circuit is required for this design.



LLC Resonant Half-Bridge Converter



Typical Flyback Application

PWM Controller

Product Number	Application	Start-up Current	V _{DD} OVP	Green Mode	Switching Frequency	Frequency Hopping	OTP/TSD	OLP	Package
FAN6300	SSR (QR)	HV	Latch	Linear + Burst	100KHz Max.	No	Yes	Yes	DIP-8, SOP-8

Green FPS™ Power Switch

Product Number	Drain Voltage (Max.) (V)	Switching Frequency (kHz)	Po Max. [W]		I _{peak} Limit [A]	R _{DS(ON)} [ohm]	Protection					Soft Start	Package
			85-265V _{AC}	230V _{AC}			OLP	OCP	OVP	OSP	TSD		
			Without H/S ⁽²⁾	With H/S ⁽¹⁾									
FSFR2100	600	100	200	450	External Sensing Resistor	0.38*2pcs	AR	Latch	AR	-	Latch	Y	9SIP
FSFR2000	500	100	160	350		0.67*2pcs	AR	Latch	AR	-	Latch	Y	9SIP
FSFR1900	500	100	140	300		0.85*2pcs	AR	Latch	AR	-	Latch	Y	9SIP
FSFR1800	500	100	120	260		0.95*2pcs	AR	Latch	AR	-	Latch	Y	9SIP
FSFR1700	500	100	90	200		1.25*2pcs	AR	Latch	AR	-	Latch	Y	9SIP

⁽¹⁾ IC will provide 100kHz internally, and there is one pin to set frequency Min. Va

⁽²⁾ 350-400 VIN after PFC

4-Pin Full Pitch MFP, Phototransistor Output, DC Sensing Input

Product Number	CTR @ 5mA I _F (%)		BV _{CEO} (V)	BV _{ECO} (V)	t _R /t _F (μs)	V _{ISO} AC _{RMS} (V)	T _{OPR}
	Min.	Max.	Min.	Min.	Typ.	1 Minute	°C Range
FODM121A	100	300	80	7	3/3	3750	-40 to +110
FODM121B	50	150	80	7	3/3	3750	-40 to +110
FODM121C	100	200	80	7	3/3	3750	-40 to +110
FODM121D	50	100	80	7	3/3	3750	-40 to +110

8-Pin SOIC, Optically Isolated Error Amplifier, DC Sensing Input with Voltage Reference

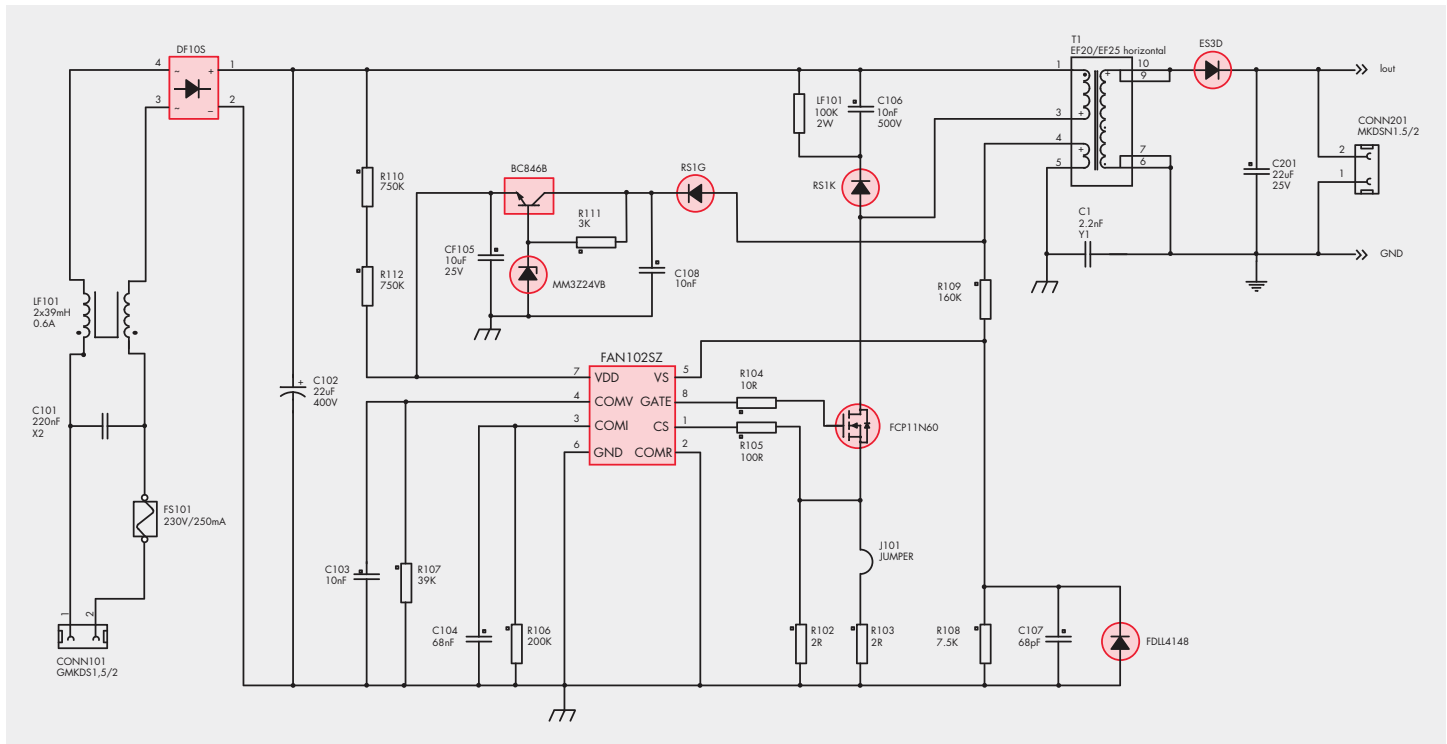
Product Number	CTR @ 10mA I _F (%)		V _{REF} (V) Min.		BV _{CEO} (V) Min.	V _{ISO} AC _{RMS} (V)	T _{OPR}
	Min.	Max.	Min.	Max.			
FOD2712	100	200	1.221	1.259	70	2500	-40 to +85
FOD2742A	100	200	2.482	2.508	70	2500	-25 to +85
FOD2742B	100	200	2.470	2.520	70	2500	-25 to +85
FOD2742C	100	200	2.450	2.550	70	2500	-25 to +85

Universal Input 12W LED Lighting

Typical Applications: Decoration indication and commercial

This solution is an isolated, primary-side regulated off-line AC-DC converter in flyback topology. It has a universal input voltage range of $85V_{RMS}$ to $265V_{RMS}$ at a line frequency of 50Hz to 60Hz. It has one constant current output, that is selectable between 350mA and 700mA and offers a maximum output voltage of 17V. The FAN102 controller used in this design is a highly integrated green mode PWM controller.

- Current accuracy is $> 5\%$
- Voltage limit accuracy is $> 5\%$



Product Number	Description
DF10S	1.5A Bridge Rectifier
RS1K	1.0A Fast Recovery Rectifier
RS1G	1.0A Fast Recovery Rectifier
MM3Z24VB	24.0V, 200mW, 5% Zener
ES3D	3.0A Ultra Fast Recovery Rectifier
FAN102SZ	Primary-Side-Control PWM Controller
FCD4N60	600V N-Channel MOSFET
BC846B	NPN Epitaxial Silicon Transistor

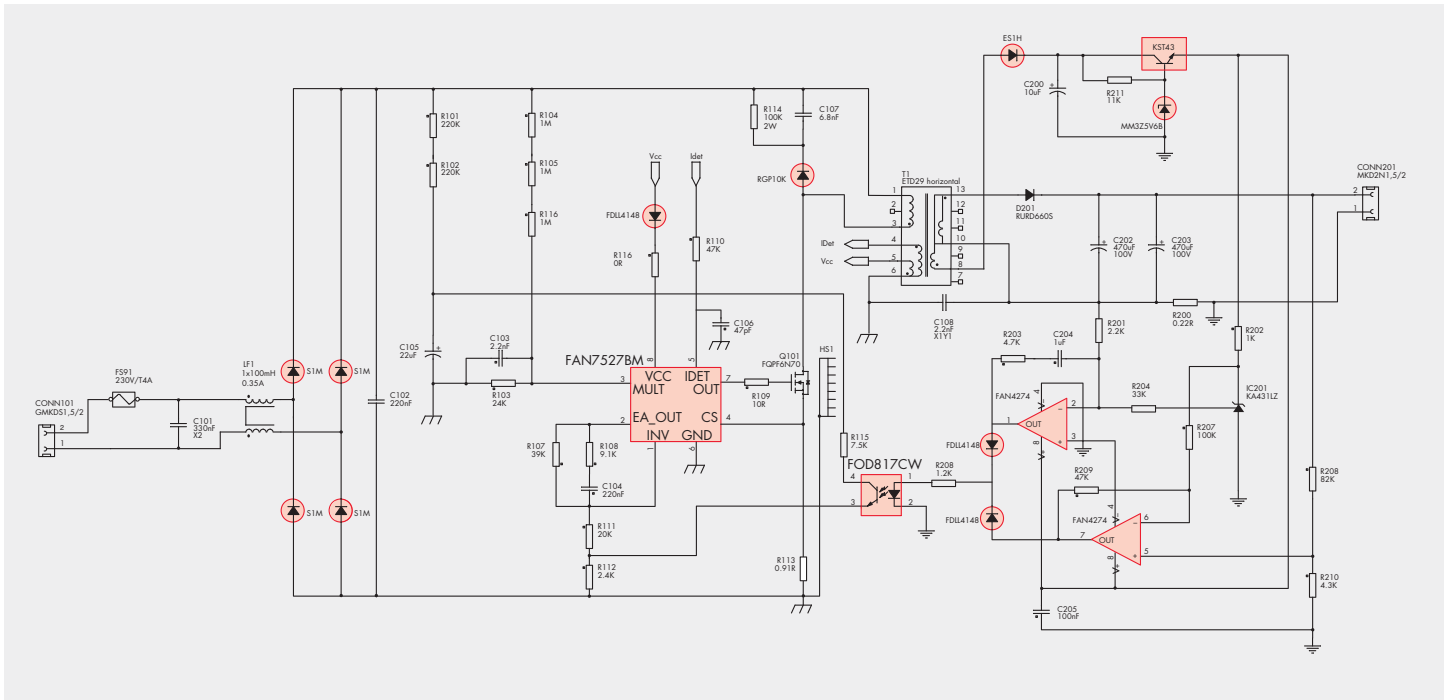
For more information visit: www.fairchildsemi.com/referencedesign

European Input LED Ballast

Typical Application: LED Table Lamp

This solution for an isolated LED ballast consists of the FAN7527 boundary mode PFC controller, the FAN4274IMU8 dual RRIO CMOS amplifier and the FQPF6N70 QFET MOSFET. The input voltage range is $185V_{RMS}$ to $265V_{RMS}$ and the solution features one DC output with a constant current of $700mA @ 48V$ max.

- Single stage high power factor design
- Very cost effective
- Efficiency >85% at full load
- PF > 0.93 at nominal input voltage
- Output current can be easily adjusted



Product Number	Description
S1M	1.0A General Purpose Rectifier
RGP10K	1.0A Fast Recovery Rectifier
FDLL4148	High Conductance Fast Diode
ES1H	1.0A Ultra Fast Recovery Rectifier
MM3Z5V6B	5.6V, 200mW, 5% Zener
FAN7527BM	Boundary Mode PFC Control
FOD817CW	Phototransistor Output Optocoupler
FAN4274IMU8	Dual RRIO CMOS Amplifier
KST43	NPN Epitaxial Silicon Transistor

For more information visit: www.fairchildsemi.com/referencedesign

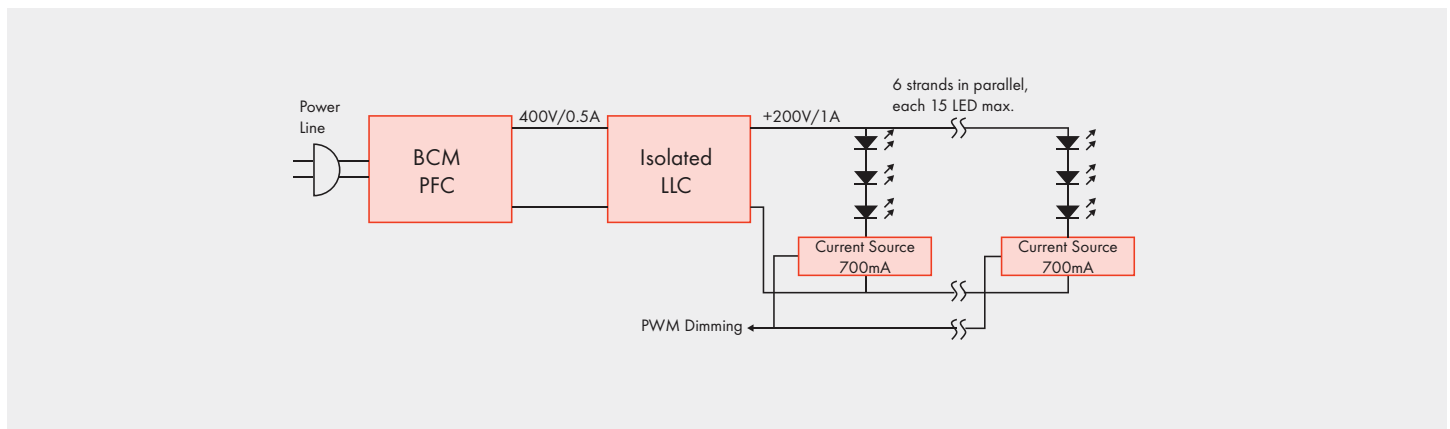
DESIGN EXAMPLES

200W Power Supply For LED Lighting

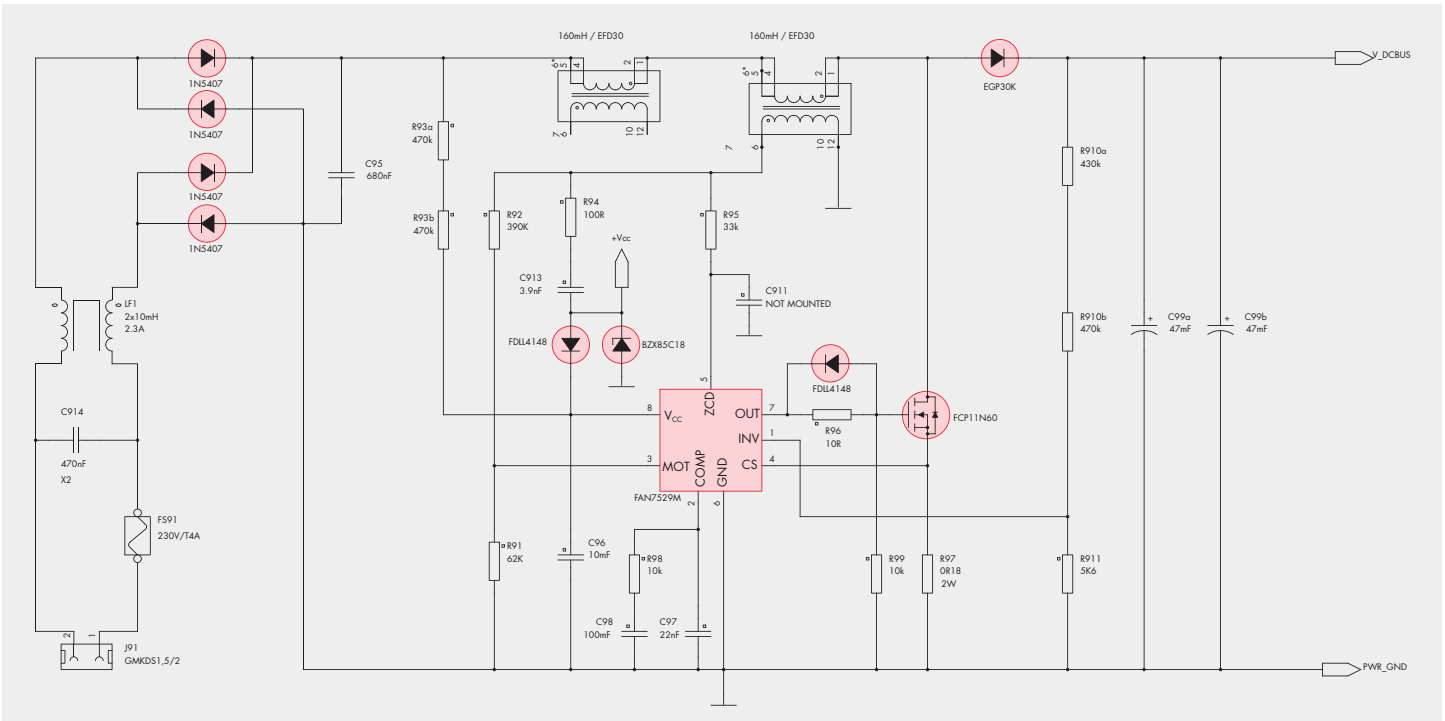
Typical Application: LED Street Lights

This solution for a 200W power supply utilizes the FSFR2100 Fairchild Power Switch, (FPS). The input voltage range is $90V_{RMS}$ to $265V_{RMS}$ and there are six outputs with $0.7A/48V$ max. each. This design consists of a high power factor pre-regulator based on the FAN6961 voltage mode PFC controller and an isolated DC-DC converter based on a resonant LLC topology.

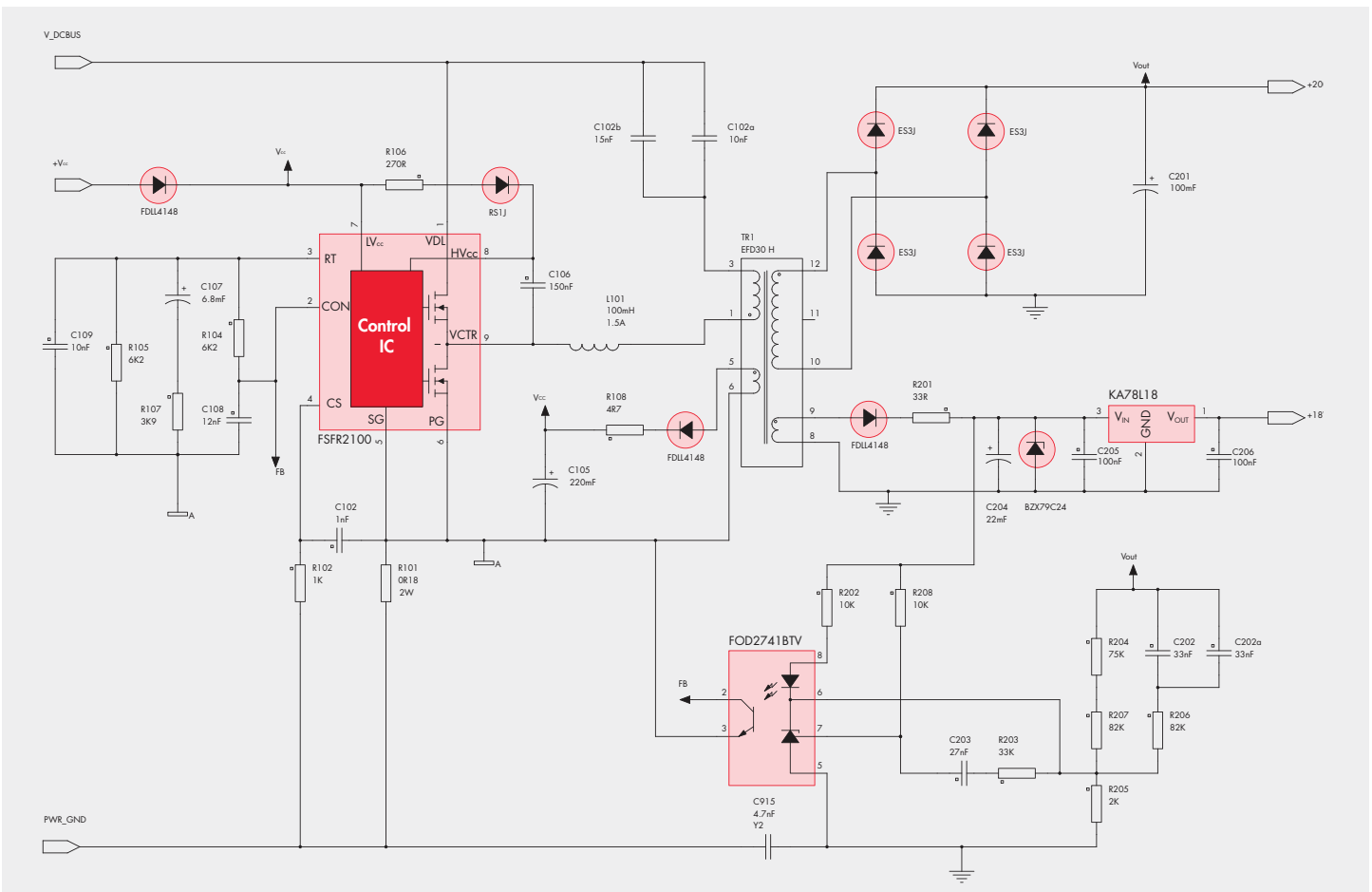
- Very compact design
- Efficiency >94% at full load
- 1.2W standby power
- Low EMI
- Heatsink for PFC switch only
- Dimmable via PWM signal



Please see page 22 and 23 for detailed schematics

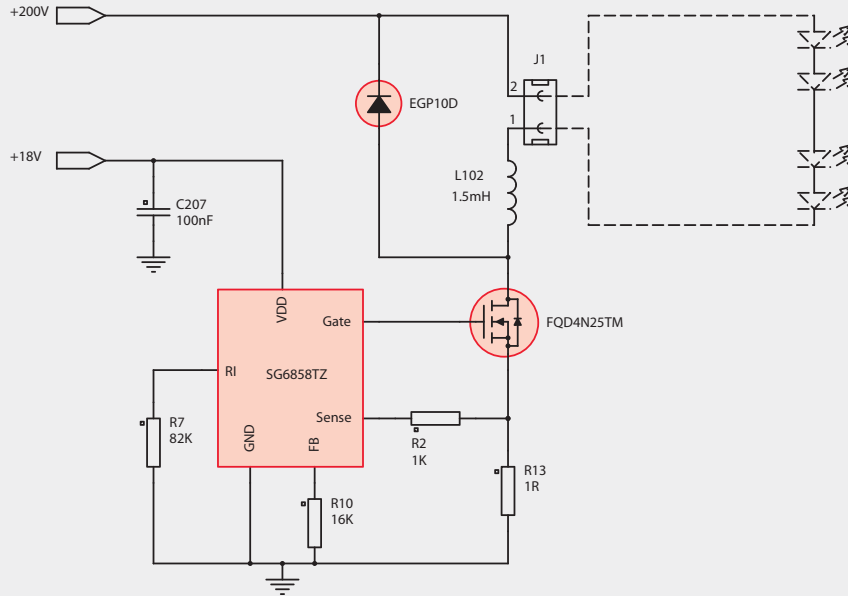


PFC with Rectifier and EMI-Filter



LLC

200W POWER SUPPLY FOR LED LIGHTING



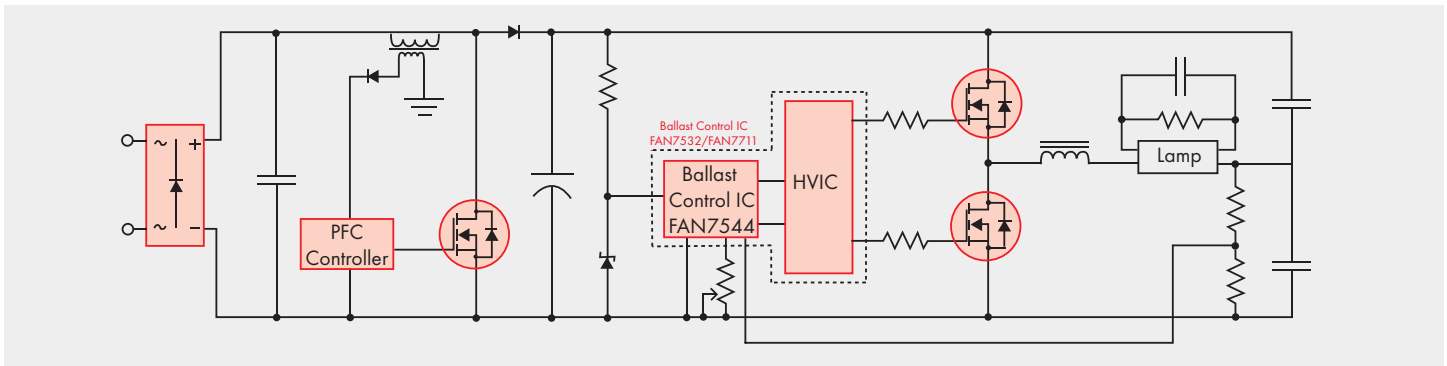
Current Source

Product Number	Description
FDLL4148	High Conductance Fast Diode
EGP30K	3.0A Ultra Fast Recovery Rectifier
BZX85C22	22V, 1W Zener Diode
1N5407	3.0A General Purpose Rectifier
RS1J	1.0A Fast Recovery Rectifier
ES3J	3.0A Ultra Fast Recovery Rectifier
BZX79C30	30V, 0.5W Zener Diode
ES1F	1.0A Ultra Fast Recovery Rectifier
1N4148	High Conductance Fast Diode
FSFR2100	Fairchild Power Switch for Half-Bridge Resonant Converter
KA78L18	3-TerMin.al 0.1A Positive Voltage Regulator
FAN6961SZ	Green Mode PFC/Forward PWM Controller
SG6858TZ	Green Mode PWM Controller for Flyback Converters
FOD2741BTV	Error Amplifier Optocoupler
FCP11N60	600V N-Channel SuperFET

For more information visit: www.fairchildsemi.com/referencedesign

LINEAR FLUORESCENT LAMP BALLAST

BALLAST CONTROL ICs AND HIGH VOLTAGE GATE DRIVERS



Ballast Control ICs

Optimized for an electronic ballast, these controllers require minimal board area and reduce component count. The controllers have many comprehensive protection features that work through filament failure, failure of a lamp to strike and automatic restarts.

Product Number	Startup Current (mA)	Frequency Variance (%)	Output Current		Protection		Features	Package
			Sink (mA)	Source (mA)	OLP/OVP	TSD		
FAN7535	0.16	±8 (Internal Ct)	650	350	Auto Detect	Yes	PFC Ballast Combo	24-SOP
FAN7711	0.12	±8 (Internal Ct)	650	350	Auto Detect	Yes	Controller + Gate Driver	8-SOP/DIP
FAN7532	0.12	± 4	500	250	OLP/OVP	Yes	Controller + Gate Driver	16-SOP
FAN7544	0.14	± 9	500	500	–	Yes	Controller	8-SOP/DIP

High Voltage Gate Drivers (HVIC)

These drivers improve system reliability by utilizing an innovative common-mode dv/dt noise canceling circuit that provides excellent noise immunity. With a voltage capability up to 600V and a very fast switching speed ($dv/dt = 50V/ns$ (max.)), these drivers are optimal for driving MOSFETs and IGBTs in a wide array of applications.

Product Number	Circuit		Offset Voltage (V)	Output Current (mA)		Delay Time (ns)		Shut-down	Dead Time Control	Quiescent Current (µA)		dv/dt (V/ns)	V _B (V)	Package
	Type	Input to Output		Source	Sink	t _{ON}	t _{OFF}			I _{QBS}	I _{QCC}			
FAN7361	High Side	1 to 1	600	250	500	120	90	No	No	50	30	50	-9.8	8-SOP
FAN7362	High Side	1 to 1	600	250	500	120	90	No	No	50	30	50	-9.8	8-SOP
FAN7380	Half-bridge	2 to 2	600	90	180	135	130	No	Fixed	45	70	50	-9.8	8-SOP
FAN7382	High & Low Side	2 to 2	600	350	650	170	200	No	No	45	70	50	-9.8	8-SOP/DIP
FAN7383	Half-bridge	1 to 2	600	350	650	500	170	Yes	Variable	35	650	50	-9.8	14-SOP
FAN73832	Half-bridge	1 to 2	600	350	650	580	180	Yes	Variable	35	300	50	-9.8	8-SOP/DIP
FAN7384	Half-bridge	2 to 2	600	250	500	180	170	Yes	Fixed	50	600	50	-9.8	14-SOP
FAN7385	2 Ch. High Side	2 to 2	600	350	650	110	110	No	No	50	28	50	-9.8	14-SOP
FAN7371	High Side	1 to 1	600	4000	4000	150	150	No	No	60	25	50	-9.8	8-SOP
FAN7387	Self Oscillation	1 to 2	600	350	650	170	200	Yes	Variable	50	220	50	-9.8	8-SOP/DIP
FAN7388	3 Phase	6 to 6	600	350	650	130	150	No	Fixed	50	160	50	-9.8	20-SOP
FAN7390	High & Low Side	2 to 2	600	4500	4500	140	140	No	No	45	65	50	-9.8	8-SOP/DIP

POWER MOSFETs (300V~500V)

Power MOSFETs

Fairchild's MOSFET portfolio is one of the industry's broadest, and includes leading edge SuperFET, QFET, UniFET and FRFET MOSFETs. Our extensive packaging solutions have advantages that designers are looking for such as superior size, low package height and excellent thermal and electrical performance.

Power MOSFETs (300V ~ 500V)						
Product Number	V_{DS} Min. (V)	$R_{DS(ON)}$ Max. (Ω) @ $V_{GS} = 10V$	Q_g Typ (nC) @ $V_{GS} = 10V$	I_D (A)	P_D (W)	Package
FDPF14N30	300	0.29	18	14	35	TO-220F
FDPF12N35	350	0.38	18	7.5	50	TO-220F
FQP11N40C	400	0.53	28	11	135	TO-220
FQP6N40C	400	1	16	6	73	TO-220
FQP6N40CF	400	1.1	16	6	73	TO-220
FQP3N40	400	3.4	6	2.5	55	TO-220
FQPF11N40C	400	0.53	28	11	44	TO-220F
FQPF6N40CF	400	1.1	16	6	38	TO-220F
FQPF3N40	400	3.4	6	1.6	20	TO-220F
FQU5N40	400	1.6	10	3.4	45	TO-251 (IPAK)
FQD5N40	400	1.6	10	3.4	45	TO-252 (DPAK)
FQD6N40C	400	1	16	4.5	48	TO-252 (DPAK)
FQB6N40C	400	1	16	6	73	TO-263 (D ² PAK)
FQP9N50	500	0.73	28	9	147	TO-220
FQP9N50C	500	0.8	28	9	135	TO-220
FQP6N50C	500	1.2	19	5.5	98	TO-220
FQP5N50C	500	1.4	18	5	73	TO-220
FQP3N50C	500	2.5	10	3	62	TO-220
FQP4N50	500	2.7	10	3.4	70	TO-220
FQPF9N50	500	0.73	28	5.3	50	TO-220F
FQPF9N50C	500	0.8	28	9	44	TO-220F
FQPF5N50C	500	1.4	18	5	38	TO-220F
FQPF5N50CF	500	1.55	18	5	38	TO-220F
FQPF3N50C	500	2.5	10	3	25	TO-220F
FQPF4N50	500	2.7	10	2.3	35	TO-220F
FQU6N50C	500	1.2	19	4.5	61	TO-251 (IPAK)
FQU5N50C	500	1.4	18	4	48	TO-251 (IPAK)
FQU3N50C	500	2.5	10	2.5	35	TO-251 (IPAK)
FQU4N50	500	2.7	10	2.6	45	TO-251 (IPAK)
FQU1N50	500	9	4	1.1	25	TO-251 (IPAK)
FDD5N50	500	1.4	11	4	40	TO-252 (DPAK)
FDD6N50	500	0.9	12.8	6	89	TO-252 (DPAK)
FQD6N50C	500	1.2	19	4.5	61	TO-252 (DPAK)
FQD5N50C	500	1.4	18	4	48	TO-252 (DPAK)
FQD3N50C	500	2.5	10	2.5	35	TO-252 (DPAK)
FQD4N50	500	2.7	10	2.6	45	TO-252 (DPAK)
FQD2N50	500	5.3	6	1.6	30	TO-252 (DPAK)
FQD1N50	500	9	4	1.1	25	TO-252 (DPAK)
FQI9N50C	500	0.8	28	9	135	TO-262 (I ² PAK)
FQB9N50C	500	0.8	28	9	135	TO-263 (D ² PAK)

Power MOSFETs (600V)						
Product Number	V_{DSS} Min. (V)	$R_{DS(ON)}$ Max. (Ω) @ $V_{GS} = 10V$	Q_g Typ (nC) @ $V_{GS} = 10V$	I_D (A)	P_D (W)	Package
FCP11N60	600	0.38	40	11	125	TO-220
FCP7N60	600	0.6	25	7	83	TO-220
FQP12N60C	600	0.65	48	12	225	TO-220
FQP12N60	600	0.7	42	10.5	180	TO-220
FQP8N60C	600	1.2	28	7.5	147	TO-220
FQP6N60C	600	2	16	5.5	125	TO-220
FQP5N60C	600	2.5	15	4.5	100	TO-220
FQP3N60C	600	3.4	10.5	3	75	TO-220
FQP3N60	600	3.6	10	3	75	TO-220
FQP2N60C	600	4.7	8.5	2	54	TO-220
FCPF7N60	600	0.6	25	7	31	TO-220F
FQPF12N60C	600	0.65	48	12	51	TO-220F
FQPF12N60	600	0.7	42	5.8	55	TO-220F
FQPF8N60C	600	1.2	28	7.5	48	TO-220F
FQPF8N60CF	600	1.5	28	6.26	147	TO-220F
FQPF6N60C	600	2	16	5.5	40	TO-220F
FQPF5N60C	600	2.5	15	4.5	33	TO-220F
FQPF3N60	600	3.6	10	2	34	TO-220F
FQPF2N60	600	4.7	9	1.6	28	TO-220F
FQPF2N60C	600	4.7	8.5	2	23	TO-220F
FQU5N60C	600	2.5	15	2.8	49	TO-251 (IPAK)
FQU3N60	600	3.6	10	2.4	50	TO-251 (IPAK)
FQU2N60C	600	4.7	8.5	1.9	44	TO-251 (IPAK)
FQU1N60	600	11.5	5	1	30	TO-251 (IPAK)
FCD7N60	600	0.6	23	7	83	TO-252 (DPAK)
FCD5N60	600	0.95	16	4.6	54	TO-252 (DPAK)
FCD4N60	600	1.2	12.8	3.9	50	TO-252 (DPAK)
FQD6N60C	600	2	16	4	80	TO-252 (DPAK)
FQD5N60C	600	2.5	15	2.8	49	TO-252 (DPAK)
FQD3N60C	600	3.4	10.5	2.4	50	TO-252 (DPAK)
FQD3N60	600	3.6	10	2.4	50	TO-252 (DPAK)
FQD2N60C	600	4.7	8.5	1.9	44	TO-252 (DPAK)
FQI7N60	600	1	29	7.4	142	TO-262(I ² PAK)
FQI8N60C	600	1.2	28	7.5	147	TO-262(I ² PAK)
FQB7N60	600	1	29	7.4	142	TO-263(D ² PAK)
FQB8N60C	600	1.2	28	7.5	147	TO-263(D ² PAK)
FQB3N60C	600	3.4	10.5	3	75	TO-263(D ² PAK)
FQN1N60C	600	11.5	4.8	0.3	1	TO-92
FQT1N60C	600	11.5	4.8	0.3	2.1	SOT-223

LINEAR FLUORESCENT LAMP BALLAST

POWER MOSFETs (800V ~ 1000V) AND FAST RECOVERY MOSFETs

Power MOSFETs (800V~1000V)						
Product Number	BV _{DSS} Min. (V)	R _{DS(ON)} Max. (Ω) @ V _{GS} = 10V	Q _g Typ (nC) @ V _{GS} = 10V	I _D (A)	P _D (W)	Package
FQT1N80	800	20	5.5	0.2	2.9	SOT-223
FQP5N80	800	2.6	25	4.8	140	TO-220
FQP4N80	800	3.6	19	3.9	130	TO-220
FQP3N80C	800	4.8	13	3	107	TO-220
FQP3N80	800	5	15	3	107	TO-220
FQP2N80	800	6.3	12	2.4	85	TO-220
FQPF7N80	800	1.5	40	3.8	56	TO-220F
FQPF6N80	800	1.95	31	3.3	51	TO-220F
FQPF4N80	800	3.6	19	2.2	43	TO-220F
FQPF3N80C	800	4.8	13	3	39	TO-220F
FQPF3N80	800	5	15	1.8	39	TO-220F
FQPF2N80	800	6.3	12	1.5	35	TO-220F
FQU2N80	800	6.3	12	1.8	50	TO-251 (IPAK)
FQD2N80	800	6.3	12	1.8	50	TO-252 (DPAK)
FQI7N80	800	1.5	40	6.6	167	TO-262 (IPAK)
FQP6N90	900	1.9	40	5.8	167	TO-220
FQP5N90	900	2.3	31	5.4	158	TO-220
FQP4N90	900	3.1	24	4.2	140	TO-220
FQP4N90C	900	4.2	17	4	140	TO-220
FQP3N90	900	4.25	20	3.6	130	TO-220
FQP2N90	900	7.2	12	2.2	85	TO-220
FQPF4N90	900	3.1	24	2.5	47	TO-220F
FQPF4N90C	900	4.2	17	4	47	TO-220F
FQPF3N90	900	4.25	20	2.1	43	TO-220F
FQPF2N90	900	7.2	12	1.4	35	TO-220F
FQU2N90	900	7.2	12	1.7	50	TO-251 (IPAK)
FQD2N90	900	7.2	12	1.7	50	TO-252 (DPAK)
FQU2N100	1000	10	12	1.7	50	TO-251 (IPAK)
FQD2N100	1000	9	12	1.7	2.5	TO-252 (DPAK)

Fast Recovery MOSFETs (FRFET)							
Product Number	BV _{DSS} Min. (V)	R _{DS(ON)} Max. (Ω) @ V _{GS} = 10V	Q _g Typ (nC) @ V _{GS} = 10V	I _D (A)	P _D (W)	t _{rr} Typ (ns)	Package
FDPF5N50FT	500	1.55	11	5	28	65	TO-220F
FQPF5N50CF	500	1.55	18	5	38	65	TO-220F
FQB5N50CF	500	1.55	18	5	96	85	TO-263 (D ² PAK)
FDPF7N50F	500	1.15	15	6	38.5	85	TO-220F
FDD6N50F	500	1.15	15	5.5	89	75	TO-252 (DPAK)
FQPF9N50CF	500	0.85	28	9	44	100	TO-220F
FQB9N50CF	500	0.85	28	9	173	100	TO-263 (D ² PAK)
FQPF10N50CF	500	0.61	43	10	48	50	TO-220F
FQPF11N50CF	500	0.55	43	11	48	90	TO-220F
FQP11N50CF	500	0.55	43	11	195	90	TO-220
FDPF12N50FT	500	0.7	21	11.5	42	95	TO-220F
FQPF13N50CF	500	0.54	43	13	48	100	TO-220F

LINEAR FLUORESCENT LAMP BALLAST

FAST RECOVERY MOSFETS, PFC CONTROLLERS, DIODES AND RECTIFIERS

Fast Recovery MOSFETs (FRFET) Continued							
Product Number	BV _{DSS} Min. (V)	R _{DS(ON)} Max. (Ω) @ V _{GS} = 10V	Q _g Typ (nC) @ V _{GS} = 10V	I _D (A)	P _D (W)	t _{rr} Typ (ns)	Package
FDPF20N50FT	500	0.26	50	20	38.5	154	TO-220F
FDD5N50F	500	1.7	8	4.5	40	65	TO-252(DPAK)
FDB12N50F	500	0.68	22	12	165	95	TO-263(D ² PAK)
FQPF8N60CF	600	1.5	28	6.26	48	82	TO-220F
FQB8N60CF	600	1.5	28	6.26	147	82	TO-263(D ² PAK)
FQPF10N60CF	600	0.8	44	9	50	120	TO-220F
FCPF11N60F	600	0.38	40	11	36	120	TO-220F
FCP11N60F	600	0.38	40	11	125	120	TO-220
FCA20N60F	600	0.19	75	20	208	120	TO-3P
FCB20N60F	600	0.19	75	20	208	120	TO-263(D ² PAK)

PFC Controllers

Fairchild's PFC controllers provide simple and high performance active power factor correction. These PFC controllers are optimized for electronic ballasts and low power and high density power supplies which require minimum board size, reduced external components and low power dissipation.

Product Number	Type	PFC Control	Startup Current (μA)	Operating Current (mA)	Drive Out (A)	Current Limit	Package
FAN7527B	BCF PFC	Discontinuous (Transition)	60	3	0.5	Yes	DIP/SOIC
FAN7529	BCF PFC	Discontinuous (Transition)	40	1.5	0.5	Yes	DIP/SOIC
FAN7530	BCF PFC	Discontinuous (Transition)	40	1.5	0.5	Yes	DIP/SOIC
SG6961	BCF PFC	DCM	10	4.5	–	Yes	DIP/SOIC

Diodes and Rectifiers

Fairchild's diodes are optimized for low loss performance in high frequency hard switched applications. The STEALTH™ family exhibits low reverse recovery current (I_{RM(REC)}) and exceptionally soft recovery under typical operating conditions.

Product Number	V _{RRM} (V)	I _{F(AV)} (A)	V _{FM} (V)	t _{rr} (ns)	I _{FSM} (A)	I _{RM} (μA)	Package
FFPF10UP60S	600	10	2.2	40	50	100	TO-220F
FFP08H60S	600	8	2.1	35	60	100	TO-220
FFPF08H60S	600	8	2.1	35	60	100	TO-220F
FFP08S60S	600	8	2.6	25	80	100	TO-220
FFPF08S60S	600	8	2.6	25	80	500	TO-220F
RHRD660S	600	6	2.1	35	60	100	TO-252(DPAK)
RURD660S	600	6	1.5	60	60	100	TO-252(DPAK)
ISL9R460P2	600	4	2.4	22	50	100	TO-220
ISL9R460PF2	600	4	2.4	22	50	100	TO-220F
FFP04H60S	600	4	2.1	35	40	100	TO-220
FFPF04H60S	600	4	2.1	35	40	100	TO-220F
FFP04S60S	600	4	2.6	23	40	500	TO-220
FFPF04S60S	600	4	2.6	23	40	500	TO-220F

ADDITIONAL RESOURCES

High Voltage Gate Drivers (HVIC)

www.fairchildsemi.com/whats_new/hvic/index.html

Lighting Block Diagrams

www.fairchildsemi.com/markets/lighting

www.fairchildsemi.com/applications/ballast

www.fairchildsemi.com/applications/cfl

www.fairchildsemi.com/markets/automotive/hid_lighting.html

QFET™ MOSFETs

www.fairchildsemi.com/Product Numbers/discrete/qfet_mos.html

SuperFET™ MOSFETs

www.fairchildsemi.com/whats_new/superfet/index.html

For datasheets, application notes, samples and more, please visit: www.fairchildsemi.com

**PRODUCTS &
SAMPLES**

APPLICATIONS

DESIGN SUPPORT

COMPANY

POWER MANAGEMENT ICs

AC-DC: Power Factor Correction

- Continuous Conduction Mode (CCM) PFC Controllers
- Critical (CrCM) / Boundary Conduction Mode (BCM) PFC Controllers
- PFC + PWM Combination (Combo) Controllers

Digital Power Solutions

- Digital Power Controllers
- Digital Power Converters
- Digital Power Support Drivers

Isolated DC-DC

- Green-Mode PWM Controllers
- Integrated Green-Mode PWM Regulators (Green FPS™)
- Integrated PWM Regulators (FPS™)
- Primary-side only CV/CC Controllers
- Standard SMPS PWM Controllers

Non-Isolated DC-DC

- Charge-Pump Converters
- Multi-phase Controllers
- Step-down Controllers (External Switch)
- Step-down Regulators (Integrated Switch)
- Step-up Regulators (Integrated Switch)

Power Drivers

- High Voltage Gate Drivers (HVIC)
- Low-Side Gate Drivers
- Synchronous Rectifier Controllers/Drivers
- Synchronous-Buck/Multi-phase Drivers

Supervisory/Monitor ICs

- Ground Fault Interrupt (GFI) Controllers
- Supervisors + PWM
- Temperature Sensors
- Voltage Supervisors/Detectors/Stabilizers

Voltage Regulators

- LDOs
- Positive Voltage Linear Regulators
- Negative Voltage Linear Regulators
- Shunt Regulators

POWER SEMICONDUCTORS

Diodes & Rectifiers

- Bridge Rectifiers
- Rectifiers
- Schottky Diodes and Rectifiers
- Small Signal Diodes
- Transient Voltage Suppressors
- Zener Diodes

IGBTs

- Discrete IGBTs
- IGBT Modules

Integrated Power Solutions

- DrMOS FET Plus Driver Multi-Chip Module
- IGBT Module
- Full Function Load Switches (IntelliMAX™)
- MOSFET/Schottky Combos
- Smart Power Modules (SPM®)
- Smart Switches

MOSFETs

- Discrete MOSFETs
- Full Function Load Switches (IntelliMAX™)
- MOSFET/Schottky Combos

Transistors

- BJTs
- IGBT Discrete
- JFETs
- Load Switches
- MOSFETs
- MOSFET/Schottky Combos
- Small Signal Transistors

TRIACs

- TRIACs

LIGHTING AND DISPLAY

- CCFL Ballast IC
- CFL/Lighting Ballast Control IC
- Critical (CrCM)/Boundary Conduction Mode (BCM) PFC Controllers for Lighting
- High Voltage Gate Drivers (HVIC)
- LED Drivers
- PDP Smart Power Module (PDP-SPM™)

SIGNAL PATH ICs

Amplifiers & Comparators

- Audio Amplifiers
- Comparators
- Current Sense Amplifier
- High Performance Amplifiers (>1.5MHz)
- Operational Amplifiers

Signal Conversion

- Triple Video DACs
- Video Filter Drivers
- Video Switch Matrix/Multiplexers

Interface

- LVDS
- Serializer/Deserializer (µSerDes™)
- USB Transceiver

Switches

- Analog/Audio Switches
- Bus Switches
- USB Switches
- Video Switches

LOGIC | TINYLOGIC®

- Buffers, Drivers, Transceivers
- Flip flops, Latches, Registers
- Gates
- MSI Functions
- Multiplexer/Demultiplexer Encoders/Decoders
- Specialty Logic
- TinyLogic®
- Voltage Level Translators

OPTOELECTRONICS

- Infrared Products
- Optocouplers