

# TOPSwitch-GX Family

Extended Power, Design Flexible,  
EcoSmart<sup>®</sup>, Integrated Off-line Switcher IC



FEBRUARY 2006 UPDATE



Applications: Charger, DVD, Set-Top Box, PC Standby, Broadband Modem, Notebook Adapter, LCD Monitor.

## PRODUCT HIGHLIGHTS

- Extended power range for higher power applications
- No heatsink required up to 34 W using P package
- Tight temperature and absolute tolerance on critical parameters
- Integrates high-voltage power MOSFET, PWM control, fault protection, and other control circuitry onto a monolithic IC
- TO-220/262/263, DIP-8 & SMD-8 packages

## FEATURES & BENEFITS

### LOW SYSTEM COST, HIGH DESIGN FLEXIBILITY

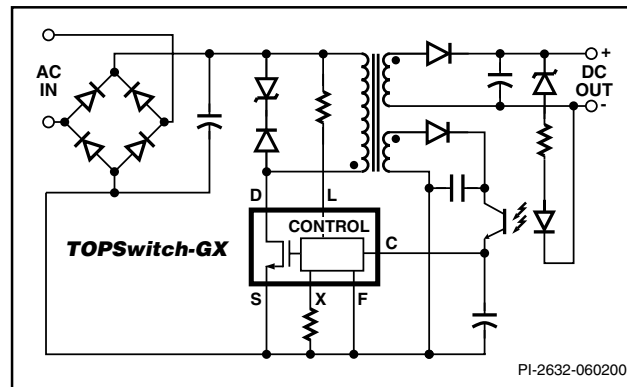
- Fully integrated soft-start for minimum stress/overshoot
- Externally programmable accurate current limit
- Wider duty cycle for more power, smaller input capacitor
- Separate line sense & current limit pins on Y/R/F packages
- Line under-voltage (UV) detection for no turn-off glitches
- Line overvoltage (OV) shutdown extends line surge limit
- Line feed-forward with maximum duty cycle ( $DC_{MAX}$ ) reduction rejects ripple and limits  $DC_{MAX}$  at high line
- 132 kHz frequency reduces transformer/power supply size

### EcoSmart<sup>®</sup> - ENERGY EFFICIENCY

- Extremely low consumption in remote OFF mode (80 mW @ 110 VAC, 160 mW @ 230 VAC)
- Frequency lowered with load for high standby efficiency
- Allows shutdown/wake-up via LAN/input port



## TYPICAL FLYBACK APPLICATION

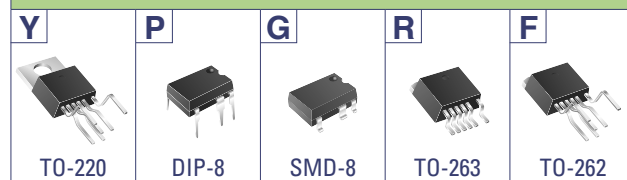


## PRODUCT FAMILY

PRODUCT	230 VAC $\pm 15\%$		85-265 VAC	
	Adapter	Open Frame	Adapter	Open Frame
TOP242 P or G	9 W	15 W	6.5 W	10 W
TOP242 R	21 W	22 W	11 W	14 W
TOP242 Y or F	10 W	22 W	7 W	14 W
TOP243 P or G	13 W	25 W	9 W	15 W
TOP243 R	29 W	45 W	17 W	23 W
TOP243 Y or F	20 W	45 W	15 W	30 W
TOP244 P or G	16 W	28 W	11 W	20 W
TOP244 R	34 W	50 W	20 W	28 W
TOP244 Y or F	30 W	65 W	20 W	45 W
TOP245 P or G	19 W	30 W	13 W	22 W
TOP245 R	37 W	57 W	23 W	33 W
TOP245 Y or F	40 W	85 W	26 W	60 W
TOP246 P or G	21 W	34 W	15 W	26 W
TOP246 R	40 W	64 W	26 W	38 W
TOP246 Y or F	60 W	125 W	40 W	90 W
TOP247 R	42 W	70 W	28 W	43 W
TOP247 Y or F	85 W	165 W	55 W	125 W
TOP248 R	43 W	75 W	30 W	48 W
TOP248 Y or F	105 W	205 W	70 W	155 W
TOP249 R	44 W	79 W	31 W	53 W
TOP249 Y or F	120 W	250 W	80 W	180 W
TOP250 R	45 W	82 W	32 W	55 W
TOP250 Y or F	135 W	290 W	90 W	210 W

See Data Sheet for Additional Notes and Conditions

## PACKAGE OPTIONS



# TOPSwitch-GX<sup>®</sup> Family Design Tools



## POWER SUPPLY DESIGN SOFTWARE

With **PI Expert™**, you're only "mouse-clicks" away from determining the key components in your next switching power supply design, including the best Power Integrations power IC and design details for the transformer! It's fast & easy...and best of all, **FREE!**

## DESIGN ACCELERATOR KITS

DAKs include a working prototype power supply, sample devices, unpopulated pcb, data sheet, comprehensive engineering report & other related documentation.

<b>DAK-12</b>	145 W, PC Main Power Supply
<b>DAK-31</b>	180 W, PC Main Power Supply
<b>DAK-32</b>	20 W, Universal Input, DVD Supply, No Heatsink
<b>DAK-33</b>	45 W, 12 V LCD Power Supply
<b>DAK-34</b>	30 W, 12 V Universal Input Power Supply



## TOPSwitch-GX PRODUCT & DESIGN COLLATERAL\*

Data Sheet	TOP242-250	TOPSwitch-GX Family Data Sheet
Application Notes	AN-29	TOPSwitch-GX Flyback Quick Selection Curves
	AN-30	TOPSwitch-GX Forward Design Methodology
	AN-32	TOPSwitch-GX Flyback Design Methodology
Design Ideas	DI-12	Application: Lead Acid Battery Charger Design (16 W, Universal Input)
	DI-16	Application: Set-top Box (57 W, 230 VAC Input)
	DI-17	Application: PC Standby (17 W)
	DI-20	Application: PC Main ATX (145 W)
	DI-21	Application: LCD Monitor Adapter (45 W, Universal Input)
	DI-22	Application: Laptop Adapter (70 W, 19 V, Universal Input)
	DI-23	Application: High Speed Modem (10 W, Universal Input)
	DI-26	Application: DVB-T (7 W, 230 VAC Input)
	DI-30	Application: PC Main SFX (180 W)
	DI-35	Application: Audio Amplifier w/ No Heatsink (16 W - 35 W Peak, Universal Input)
	DI-39	Application: DVD (13 W, Universal Input)
	DI-41	Application: Set-top Box (43 W, 100/115 VAC Input)
	DI-43	Application: Medium Power AC-DC Power Supply (30 W, Universal Input)
	DI-55	Application: DVD w/ No Heatsink (20 W, Universal Input)
DI-66	Application: LCD Monitor (45 W, 90 - 265 VAC Input)	
DI-67	Application: LED Arrays (17.6 W, 108 - 132 VAC, 60 Hz Input)	

\* Downloadable from [www.powerint.com](http://www.powerint.com)



