

# eFuses (Integrated FET)

## Quick Reference Guide



eFuses (electronic fuses) offer highly integrated power rail protection solutions for a variety of applications. Often used to replace fuses and polyfuses/PTCs, eFuses add adjustable current limiting, overcurrent protection, overvoltage protection (OVP), reverse current protection, surge protection, output voltage clamping, adjustable slew rate control, under voltage lockout (UVLO) and voltage & current monitoring. All of these protection features are integrated into a variety of space saving packages, simplifying any power design.

Browse the complete eFuse portfolio:  
[www.ti.com/eFuse](http://www.ti.com/eFuse)

### Applications:

- Resettable Fuse
- Integrated Hotswap IC
- Power Mux/ORing

GPN	V <sub>MAX</sub>	V <sub>ABS MAX</sub>	I <sub>LIM</sub> (A)	R <sub>ON</sub> * (mΩ)	OVP	Special Features
TPS25921A	18	20	0.4 – 1.6	90	Adjustable (ext. resistor)	±2% Accurate Current Limit, ±3% UVLO/OVLO Thresholds
TPS25923	5.5	20	1 – 5	28	6.1V V <sub>OUT</sub> Clamp	BFET pin can drive external blocking FET to protect against reverse current
TPS25924	13.8	20	1 – 5	28	15V V <sub>OUT</sub> Clamp	BFET pin can drive external blocking FET to protect against reverse current
TPS25927	18	20	1 – 5	28	None	BFET pin can drive external blocking FET to protect against reverse current
TPS25940	18	20	0.6 – 5.3	42	Adjustable (ext. resistor)	Int. back to back FETs, I <sub>MON</sub> , PG, low power DevSleep mode for SSDs
TPS25942	18	20	0.6 – 5.3	42	Adjustable (ext. resistor)	Int. back to back FETs, I <sub>MON</sub> , PG, current limit until thermal shutdown
TPS25944	18	20	0.6 – 5.3	42	Adjustable (ext. resistor)	Int. back to back FETs, I <sub>MON</sub> , PG, circuit breaker on overload timeout
TPS24750	18	20	0.01 - 12	3	Adjustable (ext. resistor)	GATE pin can drive external blocking FET to protect against reverse current
TPS2660	55V	60V	0.1 – 2	150	Adjustable (ext. resistor)	Integrated back to back FETs, I <sub>MON</sub> , 60V reverse polarity protection

\*ON-Resistance (R<sub>ON</sub>) is the resistance across the load switch from V<sub>IN</sub> to V<sub>OUT</sub>. R<sub>ON</sub> is not the same as R<sub>DS(ON)</sub>, pass FET resistance, which ignores additional resistance from the bond wires & packaging.

# Design Resources and Support

## More Device Information

- [ti.com/loadswitch](http://ti.com/loadswitch)
- [ti.com/efuse](http://ti.com/efuse)

## Application Notes

- SBVA039: [AC Adapter Input Detection](#)
- SLVA715: [Reduce Diode Losses in Redundant Systems](#)
- SLPA013: [Hybrid Battery Charger with Load Control for Telecom Equipment](#)

## TI Designs

- TIDA-00331: [Precision Power Limiting Solution](#)
- TIDA-00429: [eFuse Power Switch with Dev-Sleep SATA interface](#)
- PMP9761: [High-Efficiency Backup Power Supply Reference Design](#)

## E2E

- Load Switches and Power Path Protection: [http://e2e.ti.com/support/power\\_management/switches/](http://e2e.ti.com/support/power_management/switches/)

## TI Worldwide Technical Support

### Internet

**TI Semiconductor Product Information Center Home Page**  
[support.ti.com](http://support.ti.com)

**TI E2E™ Community Home Page**  
[e2e.ti.com](http://e2e.ti.com)

### Product Information Centers

<b>Americas</b>	Phone	+1(512) 434-1560
<b>Brazil</b>	Phone	0800-891-2616
<b>Mexico</b>	Phone	0800-670-7544
	Fax	+1(972) 927-6377
	Internet/Email	<a href="http://support.ti.com/sc/pic/americas.htm">support.ti.com/sc/pic/americas.htm</a>

### Europe, Middle East, and Africa

Phone	
European Free Call	00800-ASK-TEXAS (00800 275 83927)
International	+49 (0) 8161 80 2121
Russian Support	+7 (4) 95 98 10 701
<b>Note:</b> The European Free Call (Toll Free) number is not active in all countries. If you have technical difficulty calling the free call number, please use the international number above.	

Fax	+1(49) (0) 8161 80 2045
Internet	<a href="http://www.ti.com/asktexas">www.ti.com/asktexas</a>
Direct Email	<a href="mailto:asktexas@ti.com">asktexas@ti.com</a>

### Japan

Phone	Domestic (toll-free number)	0120-92-3326
Fax	International	+81-3-3344-5317
	Domestic	0120-81-0036
Internet/Email	International	<a href="http://support.ti.com/sc/pic/japan.htm">support.ti.com/sc/pic/japan.htm</a>
	Domestic	<a href="http://www.tij.co.jp/pic">www.tij.co.jp/pic</a>

### Asia

Phone	Toll-Free Number
<b>Note:</b> Toll-free numbers may not support mobile and IP phones.	
Australia	1-800-999-084
China	800-820-8682
Hong Kong	800-96-5941
India	000-800-100-8888
Indonesia	001-803-8861-1006
Korea	080-551-2804
Malaysia	1-800-80-3973
New Zealand	0800-446-934
Philippines	1-800-765-7404
Singapore	800-886-1028
Taiwan	0800-006800
Thailand	001-800-886-0010
International	+86-21-23073444
Fax	+86-21-23073686
Email	<a href="mailto:tiasia@ti.com">tiasia@ti.com</a> or <a href="mailto:ti-china@ti.com">ti-china@ti.com</a>
Internet	<a href="http://support.ti.com/sc/pic/asia.htm">support.ti.com/sc/pic/asia.htm</a>

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Amplifiers	<a href="http://amplifier.ti.com">amplifier.ti.com</a>
Data Converters	<a href="http://dataconverter.ti.com">dataconverter.ti.com</a>
DLP® Products	<a href="http://www.dlp.com">www.dlp.com</a>
DSP	<a href="http://dsp.ti.com">dsp.ti.com</a>
Clocks and Timers	<a href="http://www.ti.com/clocks">www.ti.com/clocks</a>
Interface	<a href="http://interface.ti.com">interface.ti.com</a>
Logic	<a href="http://logic.ti.com">logic.ti.com</a>
Power Mgmt	<a href="http://power.ti.com">power.ti.com</a>
Microcontrollers	<a href="http://microcontroller.ti.com">microcontroller.ti.com</a>
RFID	<a href="http://www.ti-rfid.com">www.ti-rfid.com</a>
OMAP Applications Processors	<a href="http://www.ti.com/omap">www.ti.com/omap</a>
Wireless Connectivity	<a href="http://www.ti.com/wirelessconnectivity">www.ti.com/wirelessconnectivity</a>

### Applications

Automotive and Transportation	<a href="http://www.ti.com/automotive">www.ti.com/automotive</a>
Communications and Telecom	<a href="http://www.ti.com/communications">www.ti.com/communications</a>
Computers and Peripherals	<a href="http://www.ti.com/computers">www.ti.com/computers</a>
Consumer Electronics	<a href="http://www.ti.com/consumer-apps">www.ti.com/consumer-apps</a>
Energy and Lighting	<a href="http://www.ti.com/energy">www.ti.com/energy</a>
Industrial	<a href="http://www.ti.com/industrial">www.ti.com/industrial</a>
Medical	<a href="http://www.ti.com/medical">www.ti.com/medical</a>
Security	<a href="http://www.ti.com/security">www.ti.com/security</a>
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