eFuses (Integrated FET)

Quick Reference Guide

TEXAS INSTRUMENTS

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

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

GPN	V_{MAX}	$V_{ABS\ MAX}$	I_{LIM} (A)	$R_{ON}*$ (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_{OUT} Clamp	BFET pin can drive external blocking FET to protect against reverse current
TPS25924	13.8	20	1 – 5	28	15V V_{OUT} 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_{MON}, PG, low power DevSleep mode for SSDs
TPS25942	18	20	0.6 – 5.3	42	Adjustable (ext. resistor)	Int. back to back FETs, I_{MON}, PG, current limit until thermal shutdown
TPS25944	18	20	0.6 – 5.3	42	Adjustable (ext. resistor)	Int. back to back FETs, I_{MON}, 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_{MON}, 60V reverse polarity protection

*ON-Resistance (R_{ON}) is the resistance across the load switch from V_{IN} to V_{OUT}. R_{ON} is not the same as $R_{DS(ON)}$, pass FET resistance, which ignores additional resistance from the bond wires & packaging.

Design Resources and Support

More Device Information
- ti.com/loadswitch
- 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/

TI Worldwide Technical Support

Internet
TI Semiconductor Product Information Center Home Page
support.ti.com

TI E2E™ Community Home Page
e2e.ti.com

Product Information Centers

Americas	Phone	+1(512) 434-1560
Brazil	Phone	0800-891-2616
Mexico	Phone	0800-670-7544
	Fax	+1(972) 927-6377
	Internet/Email	support.ti.com/sc/pic/americas.htm

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

Note: 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	+(49) (0) 8161 80 2045
Internet	www.ti.com/asktexas
Direct Email	asktexas@ti.com

Japan

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

Asia
Phone   Toll-Free Number

Note: 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	tiasia@ti.com or ti-china@ti.com
Internet	support.ti.com/sc/pic/asia.htm

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IMPORTANT NOTICE

Products		Applications	
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