



## New SiZF4800LDT 80 V Symmetric Dual MOSFET Delivers Best in Class $R_{DS(ON)}$ in PowerPAIR® 3x3FS to Increase Power Density, Efficiency, and Thermal Performance, While Requiring 50 % Less PCB Space Than the PowerPAIR 1212 to Save Space, Reduce Component Counts, and Simplify Designs

### Product Benefits:

- High and low side TrenchFET® Gen IV MOSFETs in a single 3.3 mm by 3.3 mm PowerPAIR® 3x3FS package
  - Delivers increased power density and efficiency, while enhancing thermal performance, reducing component counts, and simplifying designs
  - High and low side MOSFETs form an optimized combination for 50 % duty cycles
- Logic level turn-on at 4.5 V simplifies circuit driving
- Best in class on-resistance down to 18.5 m $\Omega$  typical at 4.5 V increases power density
- Low on-resistance times gate charge — a key figure of merit (FOM) for MOSFETs used in power conversion applications — of 131 m $\Omega$ \*nC and on-resistance times gain-drain charge of 37 m $\Omega$ \*nC provide increased efficiency for high frequency switching applications
- Flip-chip technology enhances thermal dissipation
- 100 % Rg- and UIS-tested, RoHS-compliant, and halogen-free



### Market Applications:

- Synchronous buck converters, point of load (POL) converters, and half- and full-bridge power stages for DC/DC converters in radio base stations, industrial motor drives, welding equipment, and power tools

### The News:

Vishay Intertechnology introduces a new 80 V symmetric dual n-channel power MOSFET that combines high and low side TrenchFET Gen IV MOSFETs in a single 3.3 mm by 3.3 mm PowerPAIR 3x3FS package. For power conversion in industrial and telecom applications, the Vishay Siliconix SiZF4800LDT increases power density and efficiency, while enhancing thermal performance, reducing component counts, and simplifying designs.

- The dual MOSFET can be used in place of two discrete devices in the PowerPAK 1212 package — saving 50 % board space
- Compared to discrete devices with similar on-resistance, efficiency is improved by 0.4 % and parasitic inductance is minimized
- Typical on-resistance at 4.5 V is 16 % lower than the closest competing device in the same package dimensions
- Flip-chip technology provides 54 % lower thermal resistance compared to closest competing device



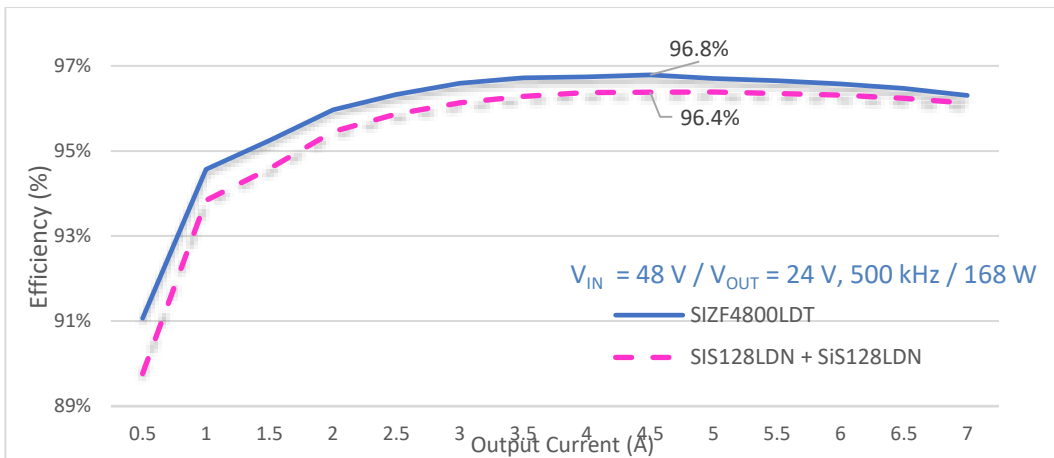
- Combination of low on-resistance and thermal resistance results in 36 A continuous drain current, which is 38 % higher than the closest competing device.
- A unique pin configuration enables a simplified PCB layout and supports shortened switching loops to minimize parasitic inductance

**Competitor Comparison Table:**

Part number		SiZF4800LDT (New)	Competitor	SiZF4800LDT Performance improved
Package		PowerPAIR 3x3FS	PowerPAIR 3x3FS	
Dimensions (mm)		3.3 x 3.3 x 0.75	3.3 x 3.3 x 0.75	-
Configuration		Symmetric dual	Symmetric dual	-
V <sub>DS</sub> (V)		80	80	-
V <sub>GS</sub> (V)		± 20	± 20	-
R <sub>DS(on)</sub> (mΩ) @ 4.5 V <sub>GS</sub>	Typ.	18.5	22	+16 %
	Max.	23.8	29	+18 %
Q <sub>g</sub> (nC) @ 4.5 V <sub>GS</sub>	Typ.	7.1	6.0	-
	FOM	-	131	+1 %
I <sub>D</sub> (A)	Max.	36	26	+38 %
R <sub>thJC</sub> (C/W)	Max.	2.2	4.8	+54 %

**Efficiency Comparison:**

Compared to discrete MOSFETs with similar on-resistance, efficiency is improved by 0.4 % and parasitic inductance is minimized.





## NEW PRODUCT INFORMATION



Product Group: Vishay Siliconix, MOSFETs / February 2024

### Availability:

Samples and production quantities of the SiZF4800LDT are available now, with lead times of 26 weeks.

To access the product datasheet on the Vishay Website, go to <http://www.vishay.com/ppg?62251> (SiZF4800LDT)

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