

New Breakthrough Technology Lowers On-Resistance Down to Just 0.00135 Ω at $V_{GS} = 4.5\text{ V}$



KEY BENEFITS

- Next-generation technology optimizes several key specifications:
 - Down to 0.00135 Ω at $V_{GS} = 4.5\text{ V}$
 - Down to ultra-low 0.001 Ω at $V_{GS} = 10\text{ V}$
 - Very low Q_{gd} and exceptionally low Q_{gd} / Q_{gs} ratio: < 0.5
 - Q_{gd} / Q_{gs} ratio down to 0.3
 - Improved immunity to $C_{dv/dt}$ gate coupling
- Thermally enhanced PowerPAK® packaging increases system power density
 - Larger current handling capability with PowerPAK SO-8
 - Achieve equal or less power loss in 1/3 the footprint area with PowerPAK 1212-8

APPLICATIONS

- Personal computers and peripherals
- Servers, synchronous rectification / VRMs
- Telecom equipment / POL
- DC/DC modules
- ORing / power redundancy
- Game consoles
- DC/AC inverters / industrial

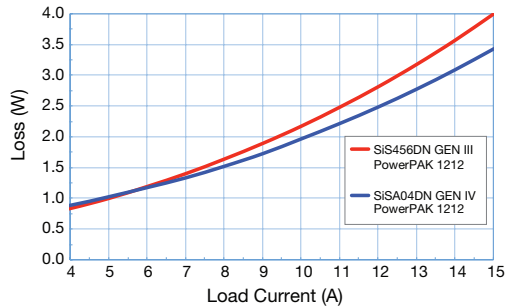
RESOURCES

- Datasheets: <http://www.vishay.com/mosfets/trenchfet-gen-iv/>
- For technical questions contact: pmstechsupport@vishay.com
- More featured products: <http://www.vishay.com/landingpage/tradeshows/powermanagement/2011/mosfets.html>

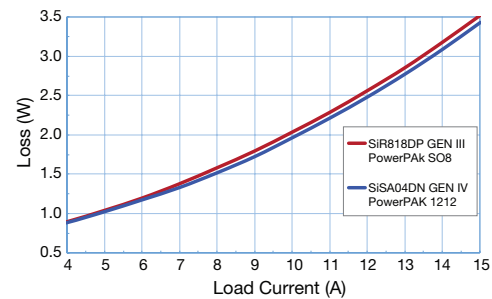


New Breakthrough Technology Lowers On-Resistance Down to Just 0.00135 Ω at V_{GS} = 4.5 V

Power Loss Reduction with Gen IV. 12 V to 1.8 V DC/DC @ 300 kHz
Comparing best available products in the same PowerPAK® 1212 Package



Power Loss Reduction with Gen IV. 12 V to 1.8 V DC/DC @ 300 kHz
Comparing Gen IV device with 3X smaller Gen III device



Package	Part Number	V _{DS} (V)	V _{GS} (V)	R _{DS(on)} (Ω) Max		Q _g (nC)		Q _{gs} (nC)	Q _{gd} (nC)	Q _{gd} /Q _{gs} Ratio	R _G Typ (Ω)	V _{th} (V)	FOM V _{GS} = 4.5 V	Samples
				V _{GS} = 10 V	V _{GS} = 4.5 V	V _{GS} = 10 V	V _{GS} = 4.5 V							
SINGLE N-CHANNEL														
PowerPAK SO-8	SiRA00DP	30	20	0.001	0.00135	147	66	26	8.6	0.33	1.35	1.1	89	Available
	SiRA02DP	30	20	0.002	0.0027	78	34.3	13.6	4.1	0.30	1.05	1.1	93	Available
	SiRA04DP	30	20	0.00215	0.0031	51	22.5	8.6	4	0.47	1.25	1.1	70	Available
	SiRA06DP	30	20	0.0025	0.0035	51	22.5	8.6	4	0.47	1.25	1.1	79	Available
	SiRA36DP	30	20	0.0028	0.0042	37	17.3	6.8	3.2	0.47	0.9	1.2	73	Available
	SiRA10DP	30	20	0.0037	0.005	34	15.4	5.8	2.6	0.45	1.7	1.1	77	Available
	SiRA12DP	30	20	0.0043	0.006	29.5	13.6	5.2	2.6	0.50	1.7	1.1	82	Available
	SiRA14DP	30	20	0.0051	0.0085	19.4	9.4	4	1.8	0.45	1.65	1.1	80	Available
	SiRA34DP	30	20	0.0067	0.0098	16.7	8	2.8	1.8	0.64	1.25	1.1	78	Available
SiRA18DP	30	20	0.0075	0.012	14.3	6.9	2.8	1.6	0.57	1.6	1.2	83	Available	
SO-8	Si4010DY	30	20	0.0034	0.0044	51	22.5	8.6	4	0.47	1.25	1	99	Available
PowerPAK 1212-8	SiSA04DN	30	20	0.00215	0.0031	51	22.5	8.6	4	0.47	1.25	1.1	70	Available
	SiS476DN	30	20	0.0025	0.0035	51	22.5	8.6	4	0.47	1.25	1	79	Available
	SiSA10DN	30	20	0.0037	0.005	34	15.4	5.8	2.6	0.45	1.7	1.1	77	Available
	SiSA12ADN	30	20	0.0043	0.006	29.5	13.6	5.2	2.6	0.50	1.7	1.1	82	Available
	SiSA14DN	30	20	0.0051	0.0085	19.4	9.4	4	1.8	0.45	1.65	1.1	80	Available
	SiS322DNT*	30	20	0.0075	0.012	14.3	6.9	2.8	1.6	0.57	1.6	1.2	83	Available
	SiSA18ADN	30	20	0.0075	0.012	14.3	6.9	2.8	1.6	0.57	1.6	1.2	83	Available
PowerPAK ChipFET	Si5446DU	30	20	0.0064	0.0085	19.7	8.8	4.7	0.75	0.16	1.6	1	75	Available
DUAL N-CHANNEL														
PowerPAIR 6 x 5	SiZ916DT	30	20	0.0064	0.01	17	7.2	3.6	0.94	0.26	2.5	1.2	72	Available
		30	20	0.0013	0.00175	106	45	23.2	5	0.22	1	1	79	
PowerPAIR 3 x 3	SiZ340DT	30	20	0.0095	0.0137	12.3	5.6	2.3	1	0.43	1.7	1	77	Available
		30	20	0.0051	0.007	22.6	10.1	4.2	1.8	0.43	1.3	1	71	
DUAL N-CHANNEL PLUS INTEGRATED SCHOTTKY														
PowerPAIR 6 x 5	SiZ914DT	30	20	0.0064	0.01	17	7.2	3.6	0.94	0.26	2.5	1.2	72	Available
		30	20	0.00137	0.00194	66	30.1	10.9	3.8	0.35	1	1	58	

* Thin PowerPAK 1212-8

For the most recent list of devices, visit <http://www.vishay.com/mosfets/trenchfet-gen-iv/>