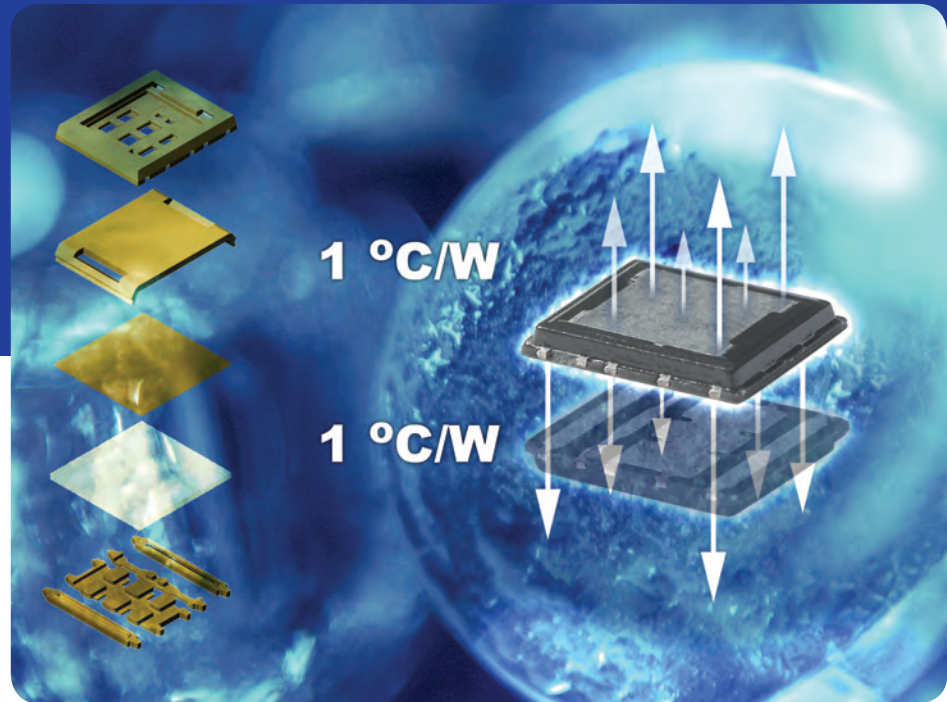




# POWER MOSFETs

PolarPAK®



## PolarPAK Brings Standard Packaging to Double-Sided Cooling

### FEATURES

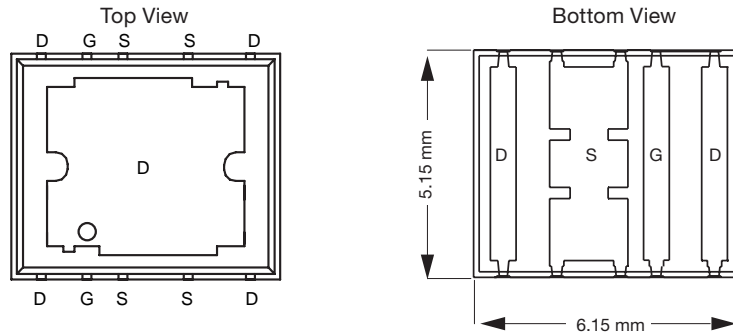
- Leadframe and plastic encapsulation construction
  - Provides better die protection and reliability
  - Easier manufacturing handling
  - Fixed footprint and pad layout independent of die size,  $\leq 100 \text{ V}$
- Licensed by multiple sources
- Top ( $1 \text{ }^\circ\text{C/W}$ ) and bottom ( $1 \text{ }^\circ\text{C/W}$ ) cooling provides dual heat dissipation paths for forced air applications
- Easy to parallel devices, lowering inductance from board layouts
- Low parasitic inductance improves efficiency, especially at higher frequencies
- Double current density ( $> 60 \text{ A}$ ) reduces space and cost
- Same footprint area as SO-8
- $0.8 \text{ mm}$  profile, less than half of SO-8

### APPLICATIONS

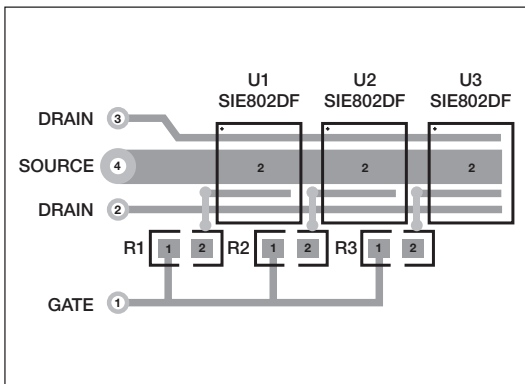
- VRM modules for servers and workstations
- Fixed telecom and data communication systems



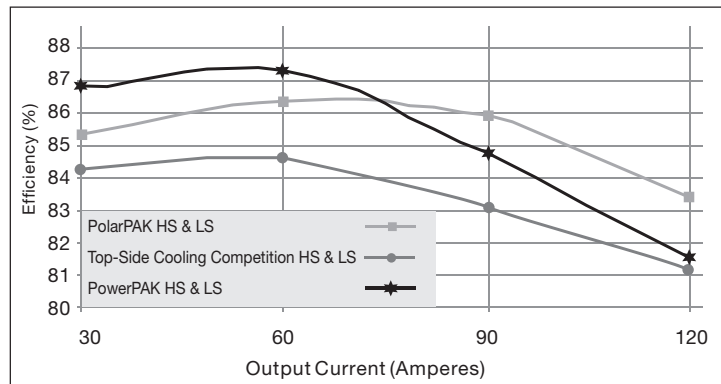
PolarPAK®



POLARPAK PARALLELING



EFFICIENCY COMPARISON ( $V_{IN} = 12\text{ V}$ ,  $V_{OUT} = 1.3\text{ V}$ )



4 phase VRM board, 2x HS & 2x LS

EXAMPLE DEVICES

Part Number	$V_{DS}$ (V)	$V_{GS}$ (V)	$R_{DS(ON)}$ ( $\Omega$ )			Qg (nC)		Samples
			$V_{GS} = 10\text{ V}$	$V_{GS} = 4.5\text{ V}$	$V_{GS} = 2.5\text{ V}$	$V_{GS} = 10\text{ V}$	$V_{GS} = 4.5\text{ V}$	
<b>Single</b>								
SiE874DF	20	20	0.00117	0.0016		95	45	Available
SiE820DF	20	12		0.0035	0.0064	95	43	Available
SiE822DF	20	20	0.0034	0.0055		52	24	Available
SiE882DF	25	20	0.0014	0.0018		96	46	Available
SiE878DF	25	20	0.0052	0.0068		24	11.2	Available
SiE848DF	30	20	0.0016	0.0022		92	43	Available
SiE860DF	30	20	0.0021	0.0028		70	34	Available
SiE862DF	30	20	0.0032	0.0041		48	23	Available
SiE864DF	30	20	0.0056	0.0073		25	11.9	Available
SiE868DF	40	20	0.0023	0.0029		95	45	Available
SiE832DF	40	20	0.0055	0.007		51	25	Available
SiE876DF	60	20	0.0061			51		Available
SiE818DF	75	20	0.0095	0.0125		63	33	Available
SiE854DF	100	20	0.0142			50		Available
SiE804DF	150	20	0.038			70	46	Available
SiE836DF	200	30	0.13			27		Available
<b>MOSFET and Schottky Diode</b>								
SiE726DF	30	20	0.0024	0.0033		105	50	Available

For list of latest devices visit <http://www.vishay.com/mosfets/polarpak-package/>

**DISCLAIMER** All product specifications and data are subject to change without notice. Vishay Intertechnology, Inc., its affiliates, agents, and employees, and all persons acting on its or their behalf (collectively, "Vishay"), disclaim any and all liability for any errors, inaccuracies or incompleteness contained herein or in any other disclosure relating to any product. Vishay disclaims any and all liability arising out of the use or application of any product described herein or of any information provided herein to the maximum extent permitted by law. The product specifications do not expand or otherwise modify Vishay's terms and conditions of purchase, including but not limited to the warranty expressed therein, which apply to these products. No license, express or implied, by estoppel or otherwise, to any intellectual property rights is granted by this document or by any conduct of Vishay. The products shown herein are not designed for use in medical, life-saving, or life-sustaining applications unless otherwise expressly indicated. Customers using or selling Vishay products not expressly indicated for use in such applications do so entirely at their own risk and agree to fully indemnify Vishay for any damages arising or resulting from such use or sale. Please contact authorized Vishay personnel to obtain written terms and conditions regarding products designed for such applications. Product names and markings noted herein may be trademarks of their respective owners.

Build Vishay into your Design