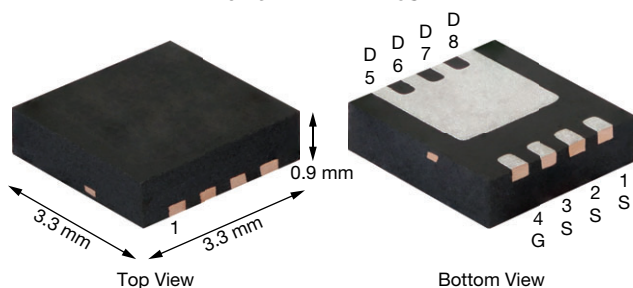


N-Channel 30 V (D-S) Fast Switching MOSFET

PowerPAK® 1212-8SH


FEATURES

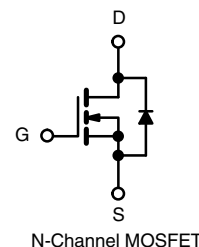
- TrenchFET® power MOSFET
- 100 % R_g tested
- Material categorization: for definitions of compliance please see www.vishay.com/doc?99912



RoHS
COMPLIANT
HALOGEN
FREE

APPLICATIONS

- Synchronous rectification
- Load switch



PRODUCT SUMMARY	
V_{DS} (V)	30
$R_{DS(on)}$ max. (Ω) at $V_{GS} = 10$ V	0.0075
$R_{DS(on)}$ max. (Ω) at $V_{GS} = 4.5$ V	0.0082
Q_g typ. (nC)	18
I_D (A)	17.8
Configuration	Single

ORDERING INFORMATION	
Package	PowerPAK 1212-8
Lead (Pb)-free and halogen-free	SiSH112DN-T1-GE3

ABSOLUTE MAXIMUM RATINGS ($T_A = 25$ °C, unless otherwise noted)				
PARAMETER				

**THERMAL RESISTANCE RATINGS**

PARAMETER		SYMBOL	TYPICAL	MAXIMUM	UNIT
Maximum junction-to-ambient ^a	$t \leq 10$ s	R_{thJA}	24	33	°C/W
	Steady state		65	81	
Maximum junction-to-foot (drain)	Steady state	R_{thJC}	1.9	2.4	

Note

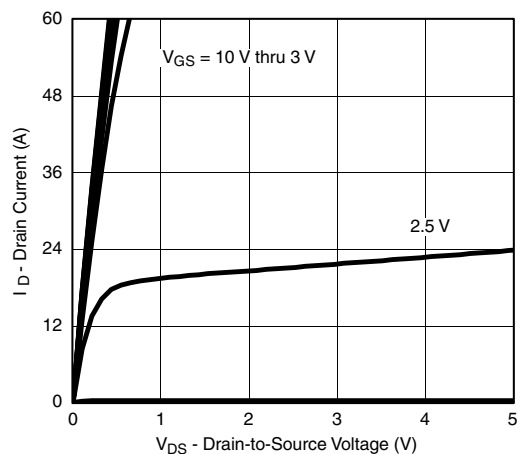
a. Surface mounted on 1" x 1" FR4 board

SPECIFICATIONS ($T_J = 25$ °C, unless otherwise noted)

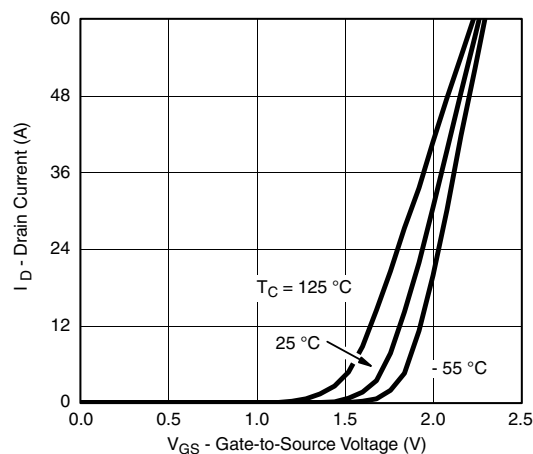
PARAMETER	SYMBOL	TEST CONDITIONS	MIN.	TYP.	MAX.	UNIT
Static						
Gate threshold voltage	$V_{GS(th)}$	$V_{DS} = V_{GS}$, $I_D = 250$ μ A	0.6	-	1.5	V
Gate-body leakage	I_{GSS}	$V_{DS} = 0$ V, $V_{GS} = \pm 12$ V	-	-	± 100	nA
Zero gate voltage drain current	I_{DSS}	$V_{DS} = 30$ V, $V_{GS} = 0$ V	-	-	1	μ A
		$V_{DS} = 30$ V, $V_{GS} = 0$ V, $T_J = 55$ °C	-	-	5	
On-state drain current ^a	$I_{D(on)}$	$V_{DS} \geq 5$ V, $V_{GS} = 10$ V	40	-	-	A
Drain-source on-state resistance ^a	$R_{DS(on)}$	$V_{GS} = 10$ V, $I_D = 17.8$ A	-	0.0060	0.0075	Ω
		$V_{GS} = 4.5$ V, $I_D = 17$ A	-	0.0065	0.0082	
Forward transconductance ^a	g_{fs}	$V_{DS} = 15$ V, $I_D = 17.8$ A	-	97	-	



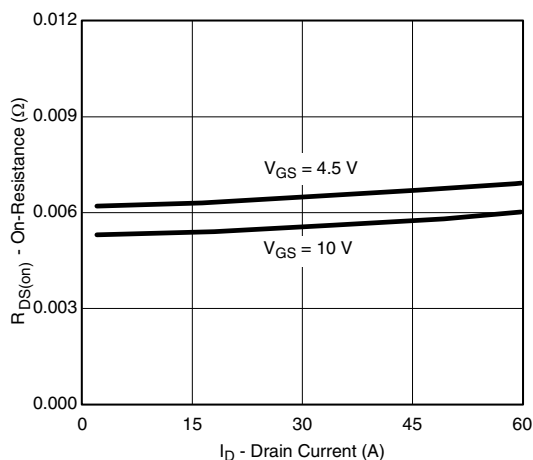
TYPICAL CHARACTERISTICS (25 °C, unless otherwise noted)



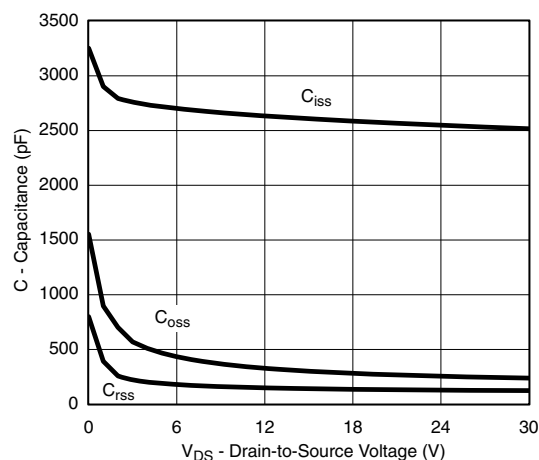
Output Characteristics



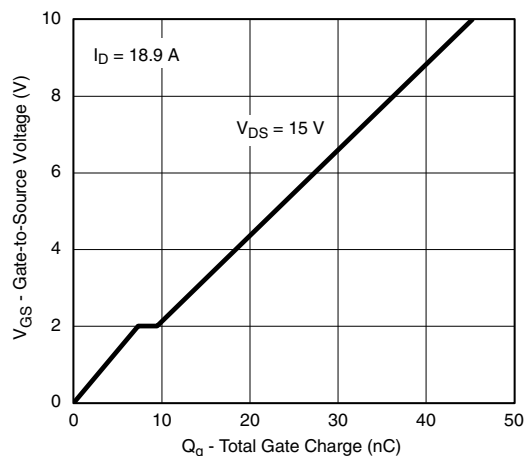
Transfer Characteristics



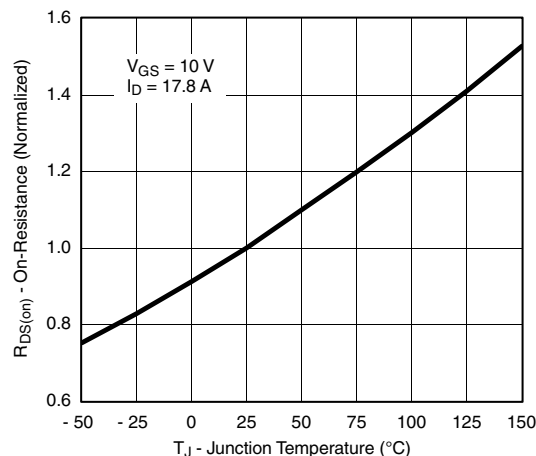
On-Resistance vs. Drain Current



Capacitance



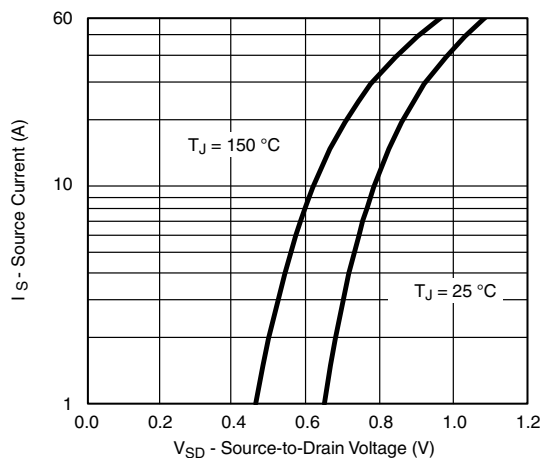
Gate Charge



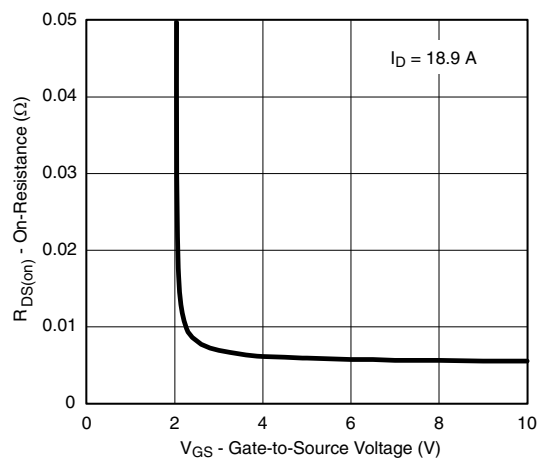
On-Resistance vs. Junction Temperature



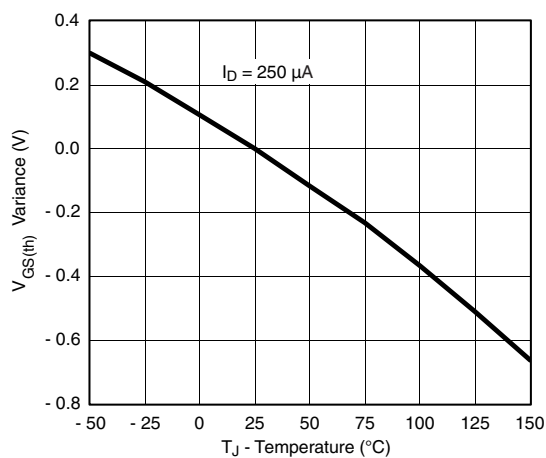
TYPICAL CHARACTERISTICS (25 °C, unless otherwise noted)



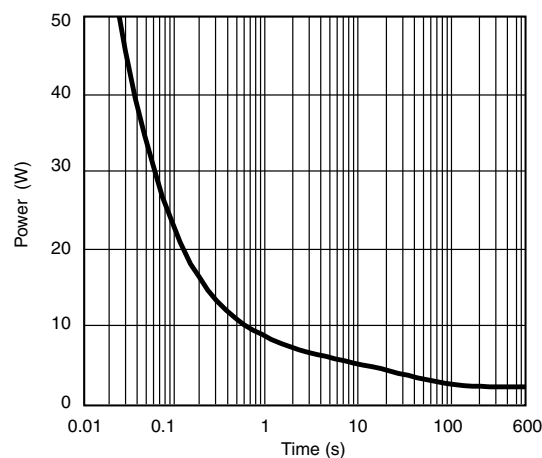
Source-Drain Diode Forward Voltage



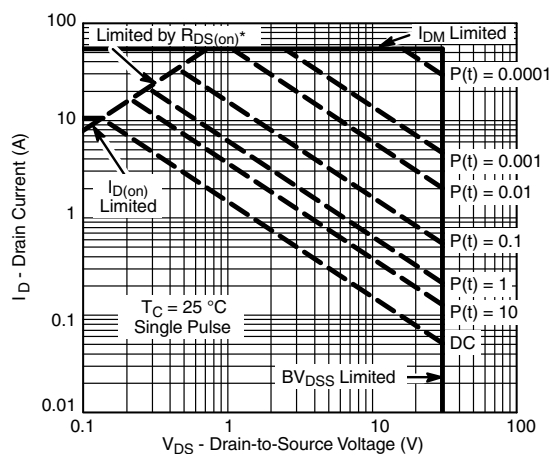
On-Resistance vs. Gate-to-Source Voltage



Threshold Voltage



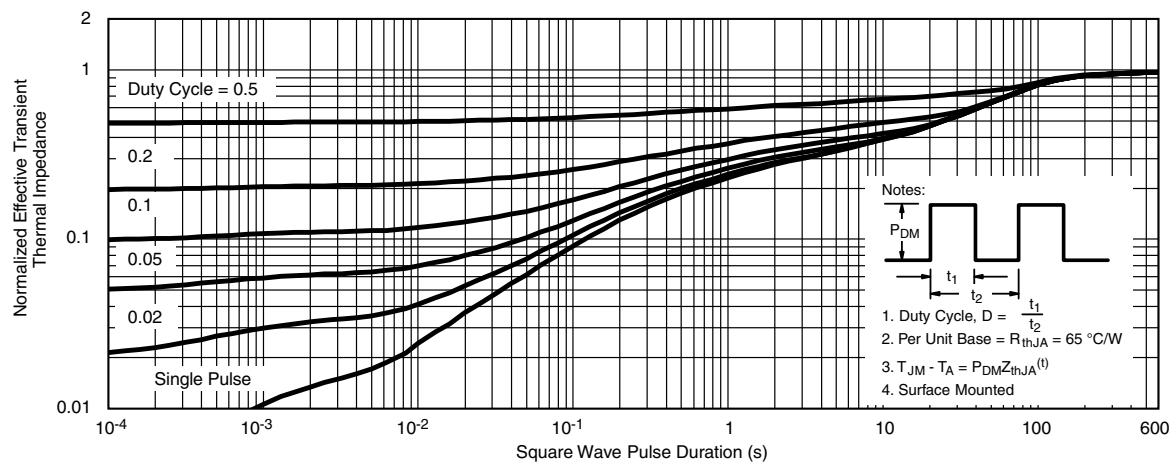
Single Pulse Power, Junction-to-Ambient



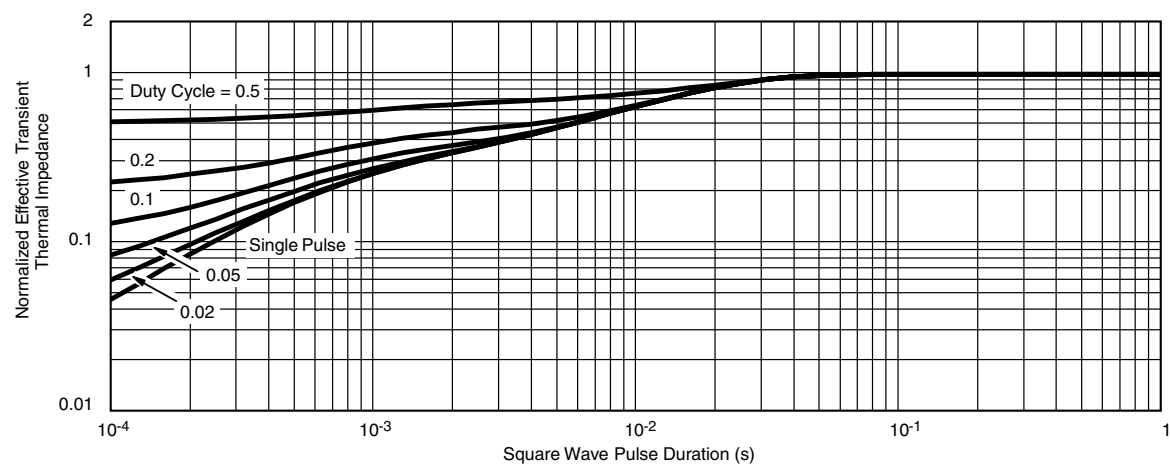
Safe Operating Area, Junction-to-Ambient



TYPICAL CHARACTERISTICS (25 °C, unless otherwise noted)



Normalized Thermal Transient Impedance, Junction-to-Ambient

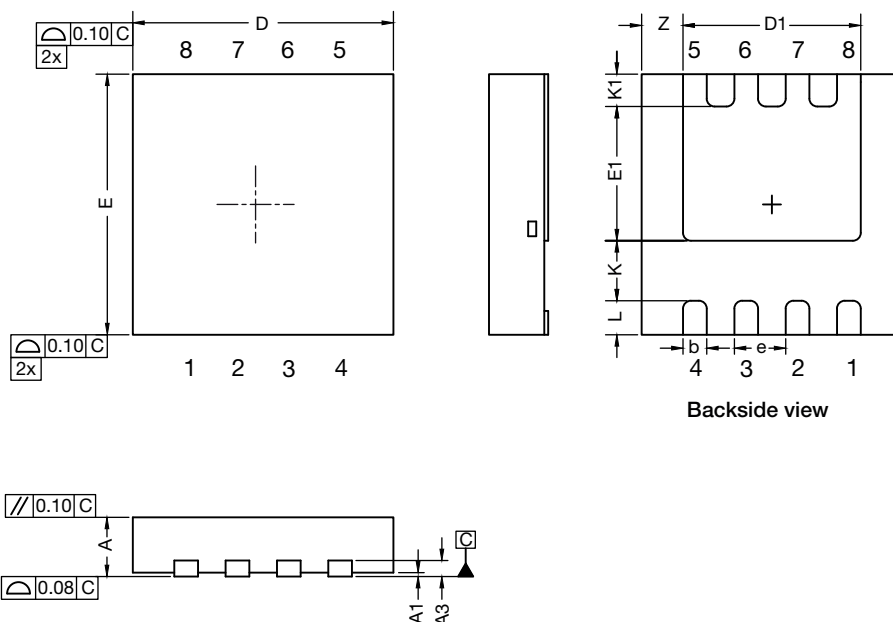


Normalized Thermal Transient Impedance, Junction-to-Case

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PowerPAK® 1212-SWLH



DIM.	MILLIMETERS			INCHES		
	MIN.	NOM.	MAX.	MIN.	NOM.	MAX.
A	0.82	0.90	0.98	0.032	0.035	0.038
A1	0	-	0.05	0	-	0.002
A3	0.20 ref.			0.008 ref.		
b	0.30 BSC			0.012 BSC		
D	3.30 BSC			0.130 BSC		
D1	2.15	2.25	2.35	0.084	0.088	0.092
E	3.30 BSC			0.130 BSC		
E1	1.60	1.70	1.80	0.063	0.067	0.071
e	0.65 BSC			0.026 BSC		
K	0.76 typ.			0.030 typ.		
K1	0.41 typ.			0.016 typ.		
L	0.43 BSC			0.017 BSC		
Z	0.525 typ.			0.021 typ.		
ECN: C						



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