



Chipsmall Limited consists of a professional team with an average of over 10 year of expertise in the distribution of electronic components. Based in Hongkong, we have already established firm and mutual-benefit business relationships with customers from,Europe,America and south Asia,supplying obsolete and hard-to-find components to meet their specific needs.

With the principle of “Quality Parts,Customers Priority,Honest Operation,and Considerate Service”,our business mainly focus on the distribution of electronic components. Line cards we deal with include Microchip,ALPS,ROHM,Xilinx,Pulse,ON,Everlight and Freescale. Main products comprise IC,Modules,Potentiometer,IC Socket,Relay,Connector.Our parts cover such applications as commercial,industrial, and automotives areas.

We are looking forward to setting up business relationship with you and hope to provide you with the best service and solution. Let us make a better world for our industry!



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ON Semiconductor®

<http://onsemi.com>

EMH2418R

N-Channel Power MOSFET 24V, 9A, 15mΩ, Dual EMH8

Features

- Low On-resistance
- 2.5V drive
- Common-Drain Type
- Protection diode in
- Built-in gate protection resistor
- Best suited for LiB charging and discharging switch
- Halogen free compliance

Specifications

Absolute Maximum Ratings at Ta = 25°C

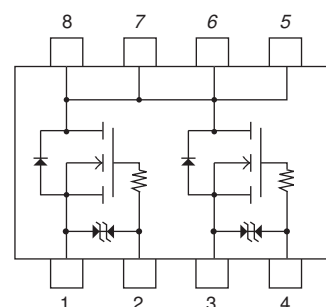
Parameter	Symbol	Value	Unit
Drain to Source Voltage	V _{DSS}	24	V
Gate to Source Voltage	V _{GSS}	±12	V
Drain Current (DC)	I _D	9	A
Drain Current (Pulse)	I _{DP}	40	A
PW≤10μs, duty cycle≤1%			
Power Dissipation	P _D	1.3	W
When mounted on ceramic substrate(900mm ² ×0.8mm) 1unit			
Total Dissipation	P _T	1.4	W
When mounted on ceramic substrate(900mm ² ×0.8mm)			
Junction Temperature	T _j	150	°C
Storage Temperature	T _{stg}	- 55 to +150	°C

Thermal Resistance Ratings

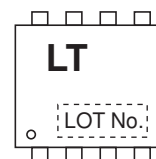
Parameter	Symbol	Value	Unit
Junction to Ambient	R _{θJA}	96	°C/W
When mounted on ceramic substrate(900mm ² ×0.8mm)			

Electrical Connection

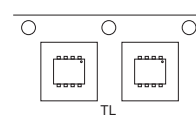
N-channel



Marking



Packing Type: TL



Ordering & Package Information

Device	Package	Shipping
EMH2418R-TL-H	EMH8	3,000 pcs. / reel
Pb-free and Halogen Free		

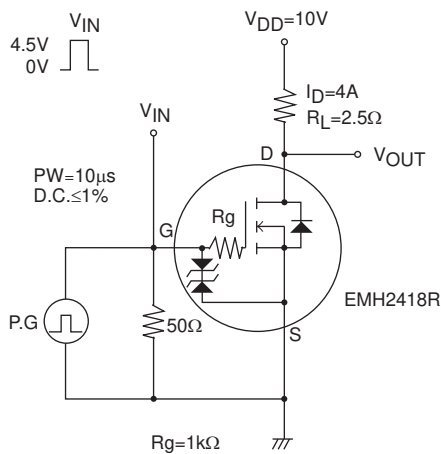
Stresses exceeding Maximum Ratings may damage the device. Maximum Ratings are stress ratings only. Functional operation above the Recommended Operating Conditions is not implied. Extended exposure to stresses above the Recommended Operating Conditions may affect device reliability.

EMH2418R

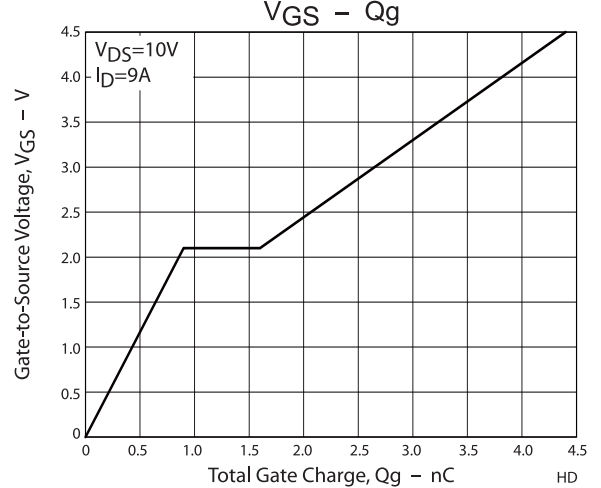
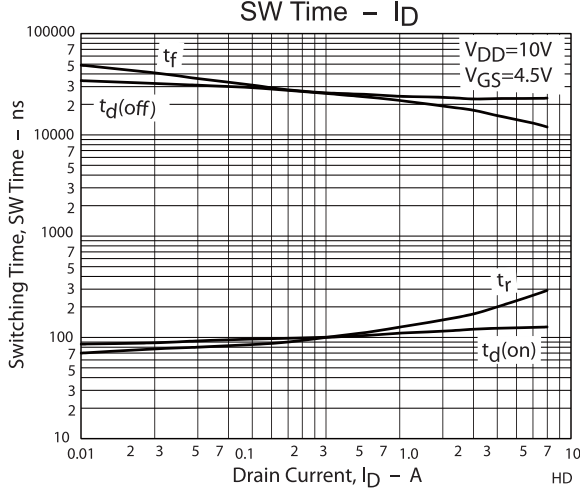
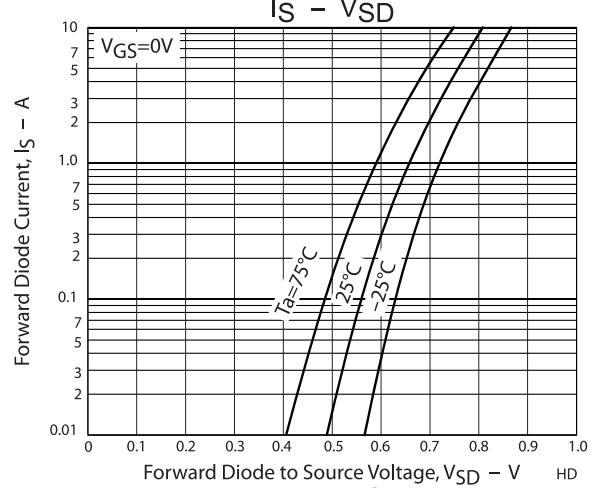
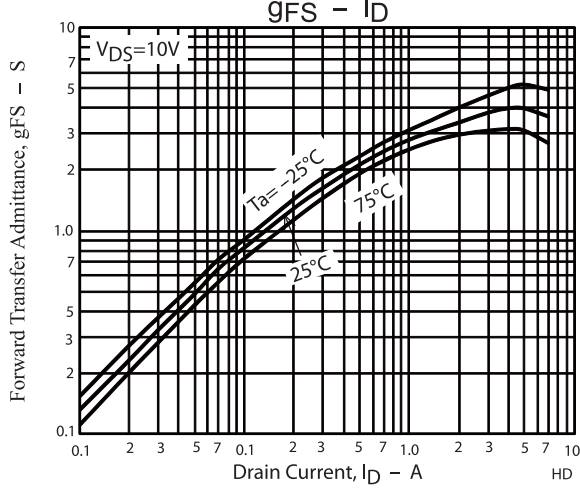
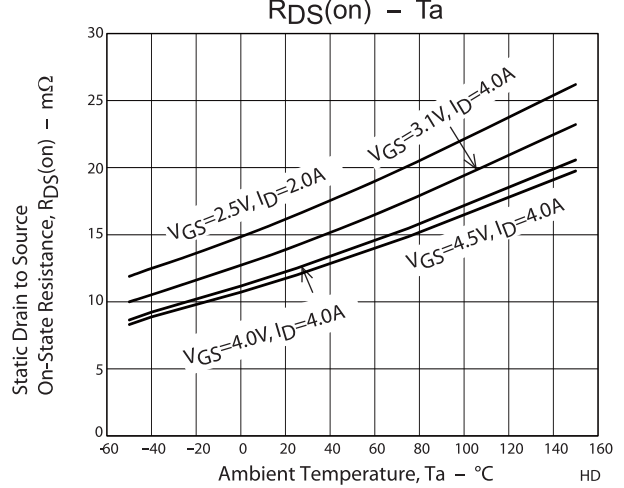
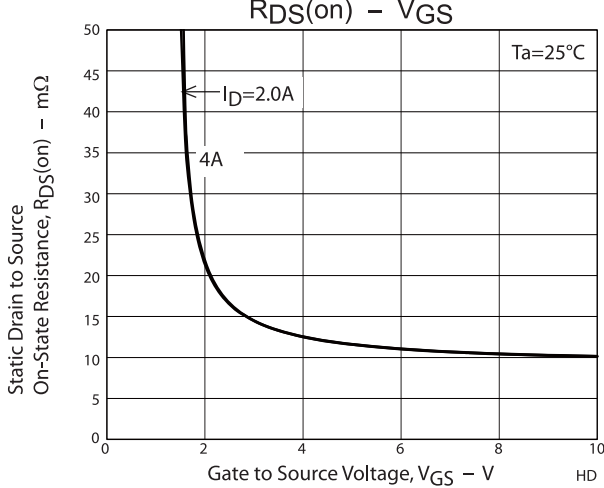
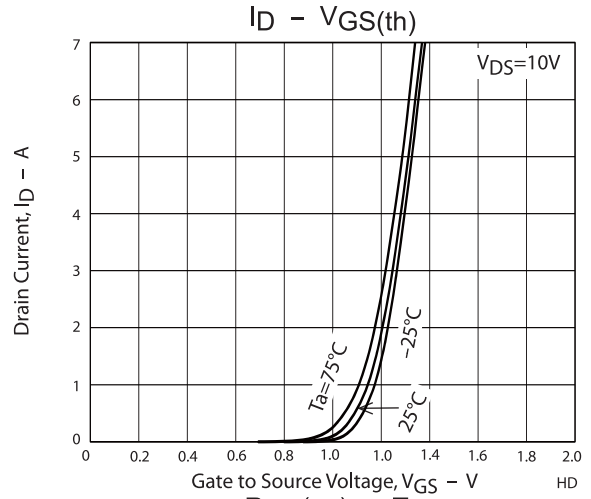
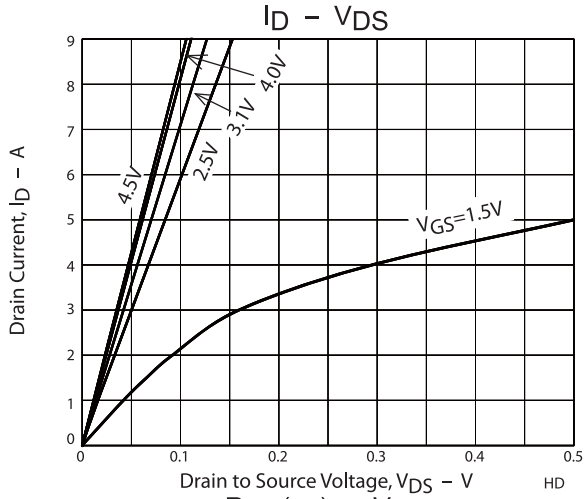
Electrical Characteristics at $T_a = 25^\circ\text{C}$

Parameter	Symbol	Conditions	Value			Unit
			min	typ	max	
Drain to Source Breakdown Voltage	$V_{(BR)DSS}$	$I_D=1\text{mA}, V_{GS}=0\text{V}$	24			V
Zero-Gate Voltage Drain Current	I_{DSS}	$V_{DS}=20\text{V}, V_{GS}=0\text{V}$			1	μA
Gate to Source Leakage Current	I_{GSS}	$V_{GS}=\pm 8\text{V}, V_{DS}=0\text{V}$			± 1	μA
Gate Threshold Voltage	$V_{GS(th)}$	$V_{DS}=10\text{V}, I_D=1\text{mA}$	0.5		1.3	V
Forward Transconductance	g_{FS}	$V_{DS}=10\text{V}, I_D=4\text{A}$		4		S
Static Drain to Source On-State Resistance	$R_{DS(on)1}$	$I_D=4\text{A}, V_{GS}=4.5\text{V}$	9.6	12	15	$\text{m}\Omega$
	$R_{DS(on)2}$	$I_D=4\text{A}, V_{GS}=4.0\text{V}$	10.0	12.5	16.3	$\text{m}\Omega$
	$R_{DS(on)3}$	$I_D=4\text{A}, V_{GS}=3.1\text{V}$	11.3	14.2	20	$\text{m}\Omega$
	$R_{DS(on)4}$	$I_D=2\text{A}, V_{GS}=2.5\text{V}$	13.2	16.5	23.1	$\text{m}\Omega$
Turn-ON Delay Time	$t_d(on)$	See specified Test Circuit.		120		ns
Rise Time	t_r			170		ns
Turn-OFF Delay Time	$t_d(off)$			17500		ns
Fall Time	t_f			22600		ns
Total Gate Charge	Q_g	$V_{DS}=10\text{V}, V_{GS}=4.5\text{V}, I_D=9\text{A}$		4.4		nC
Gate to Source Charge	Q_{gs}			0.9		nC
Gate to Drain "Miller" Charge	Q_{gd}			0.7		nC
Forward Diode Voltage	V_{SD}	$I_S=9\text{A}, V_{GS}=0\text{V}$		0.8	1.2	V

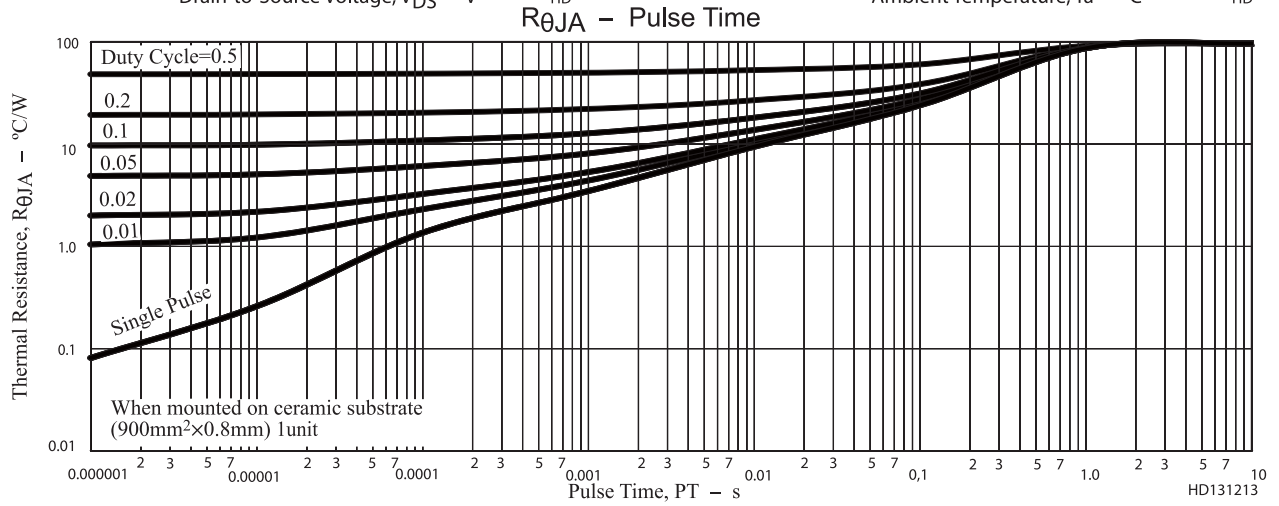
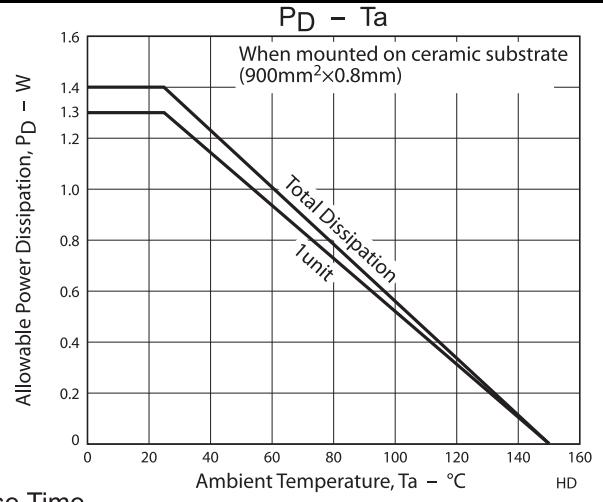
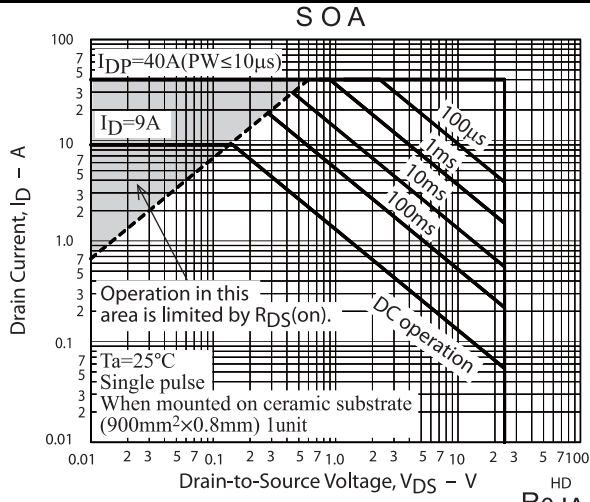
Switching Time Test Circuit



EMH2418R



EMH2418R



Note on usage : Since the EMH2418R is a MOSFET product, please avoid using this device in the vicinity of highly charged objects.

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