

EMH2308-VB Datasheet

Dual P-Channel 20-V (D-S) MOSFET

Features

- The EMH2308-VB incorporates a P-channel MOSFET that feature low ON-resistance and ultrahigh-speed switching, thereby enabling high-density mounting
- 1.8V drive
- Halogen free compliance
- Protection diode in

Specifications

Absolute Maximum Ratings at Ta=25°C

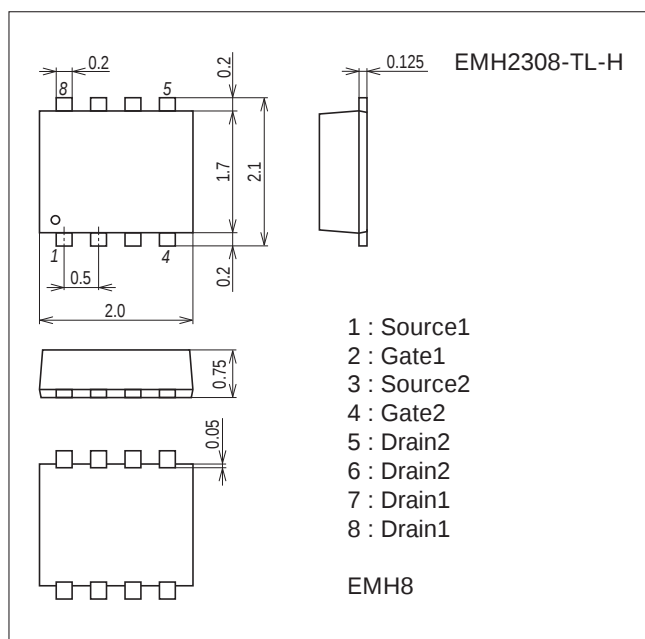
Parameter	Symbol	Conditions	Ratings	Unit
Drain-to-Source Voltage	V_{DS}		-20	V
Gate-to-Source Voltage	V_{GS}		±12	V
Drain Current (DC)	I_D		-3.5	A
Drain Current (Pulse)	I_{DP}	$PW \leq 10\mu s$, duty cycle $\leq 1\%$	-25	A
Allowable Power Dissipation	P_D	When mounted on ceramic substrate (900mm ² ×0.8mm) 1unit	1.0	W
Total Dissipation	P_T	When mounted on ceramic substrate (900mm ² ×0.8mm)	1.2	W
Channel Temperature	Tch		150	°C
Storage Temperature	Tstg		-55 to +150	°C

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.

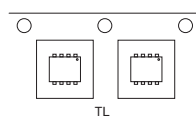
Package Dimensions

unit : mm (typ)

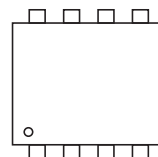
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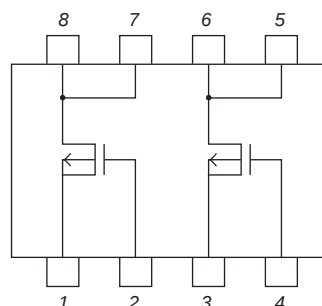
Packing Type : TL



Marking



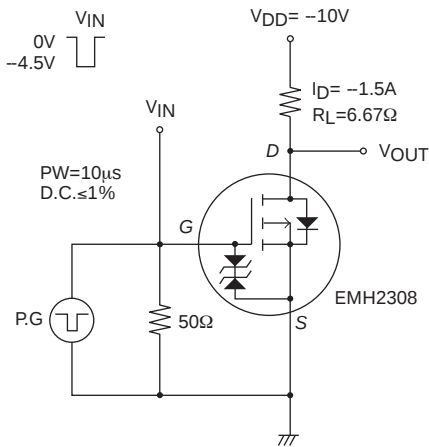
Electrical Connection



Electrical Characteristics at Ta=25°C

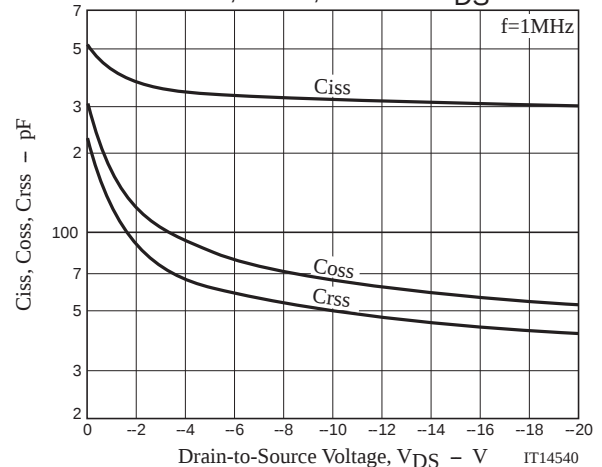
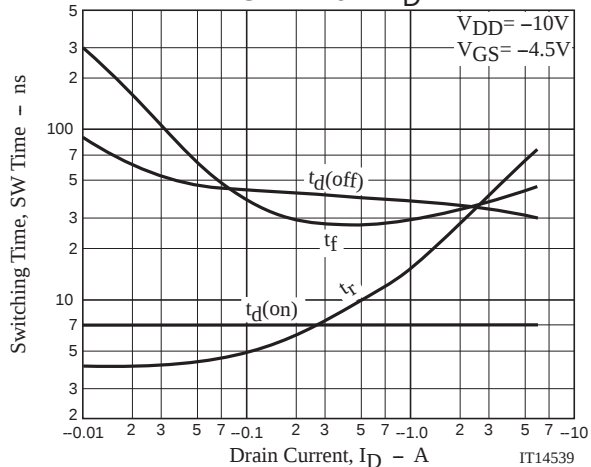
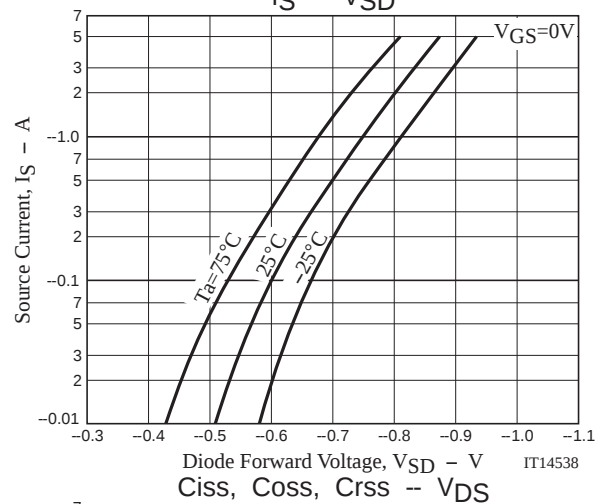
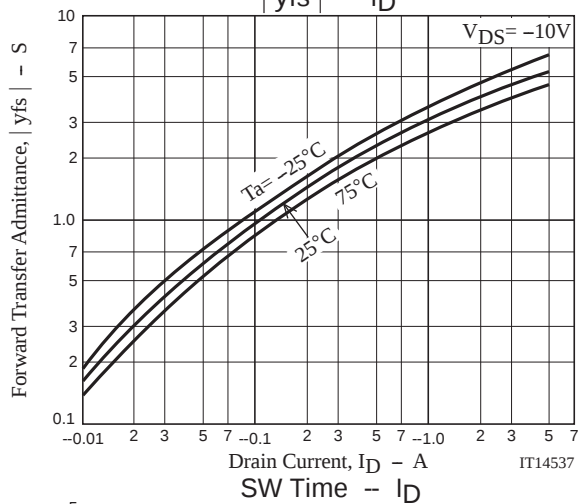
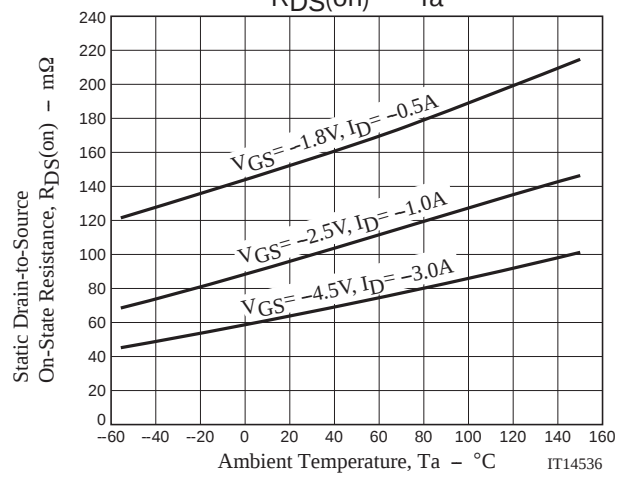
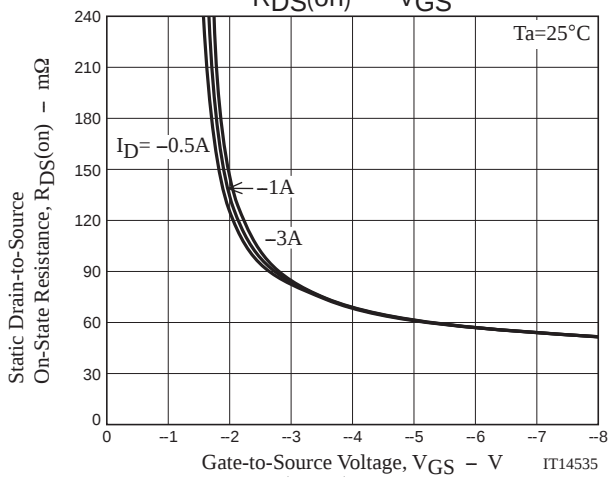
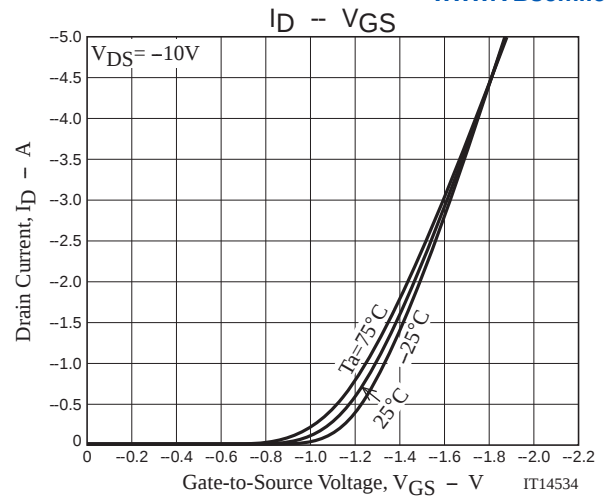
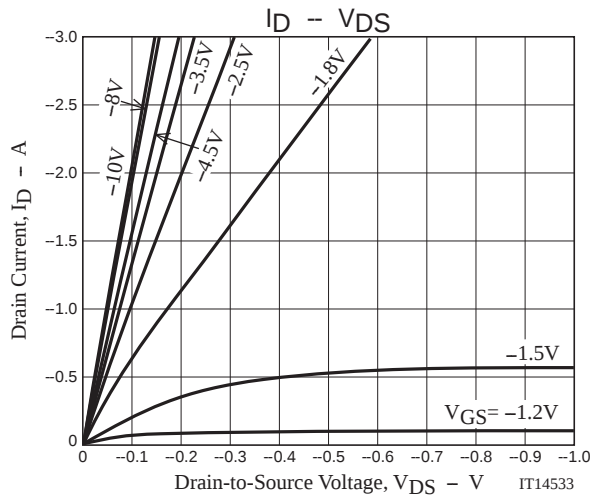
Parameter	Symbol	Conditions	Ratings			Unit
			min	typ	max	
Drain-to-Source Breakdown Voltage	$V_{(BR)DSS}$	$I_D = -1mA, V_{GS} = 0V$	-20			V
Zero-Gate Voltage Drain Current	I_{DSS}	$V_{DS} = -20V, V_{GS} = 0V$			-1	μA
Gate-to-Source Leakage Current	I_{GSS}	$V_{GS} = \pm 8V, V_{DS} = 0V$			± 10	μA
Cutoff Voltage	$V_{GS(off)}$	$V_{DS} = -10V, I_D = -1mA$	-0.4		-1.3	V
Forward Transfer Admittance	$ y_{fs} $	$V_{DS} = -10V, I_D = -1.5A$	2.1	3.6		S
Static Drain-to-Source On-State Resistance	$R_{DS(on)1}$	$I_D = -3A, V_{GS} = -4.5V$		65	85	m Ω
	$R_{DS(on)2}$	$I_D = -1.0A, V_{GS} = -2.5V$		98	137	m Ω
	$R_{DS(on)3}$	$I_D = -0.5A, V_{GS} = -1.8V$		155	235	m Ω
Input Capacitance	C_{iss}	$V_{DS} = -10V, f = 1MHz$		320		pF
Output Capacitance	C_{oss}			66		pF
Reverse Transfer Capacitance	C_{rss}			50		pF
Turn-ON Delay Time	$t_{d(on)}$	See specified Test Circuit.		7.1		ns
Rise Time	t_r			21		ns
Turn-OFF Delay Time	$t_{d(off)}$			37		ns
Fall Time	t_f			32		ns
Total Gate Charge	Q_g	$V_{DS} = -10V, V_{GS} = -4.5V, I_D = -3A$		4.0		nC
Gate-to-Source Charge	Q_{gs}			0.6		nC
Gate-to-Drain "Miller" Charge	Q_{gd}			1.1		nC
Diode Forward Voltage	V_{SD}	$I_S = -3A, V_{GS} = 0V$		-0.83	-1.2	V

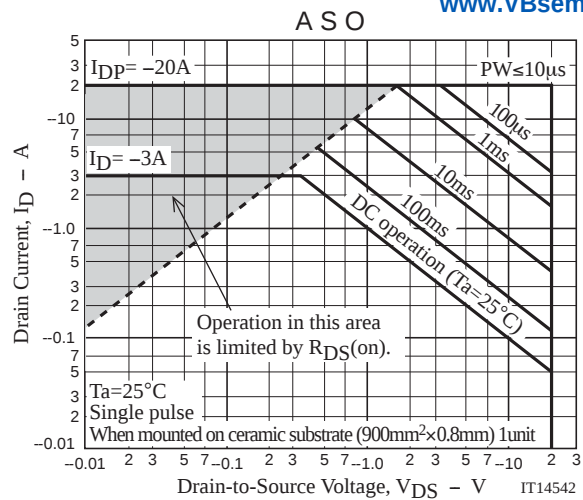
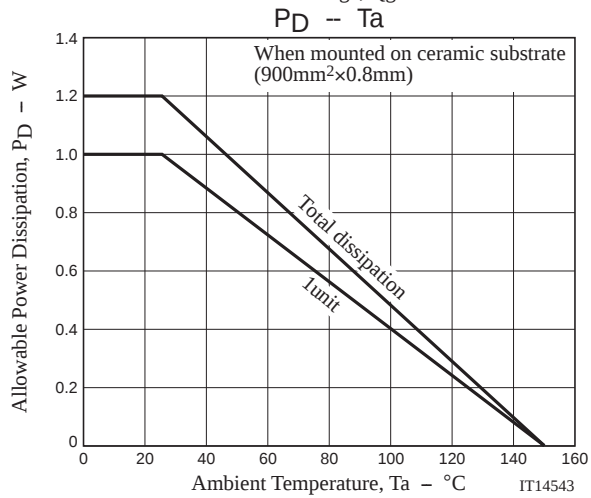
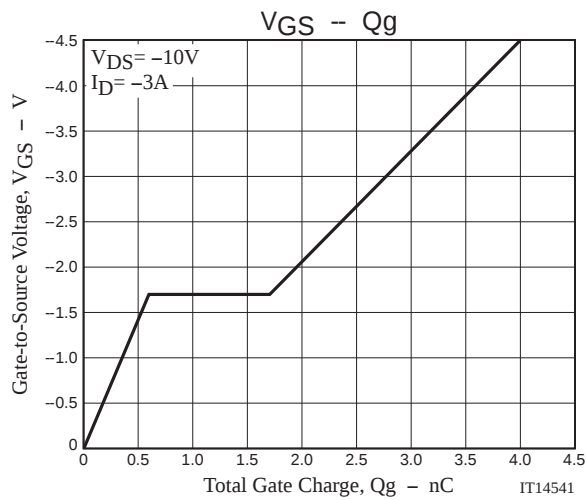
Switching Time Test Circuit



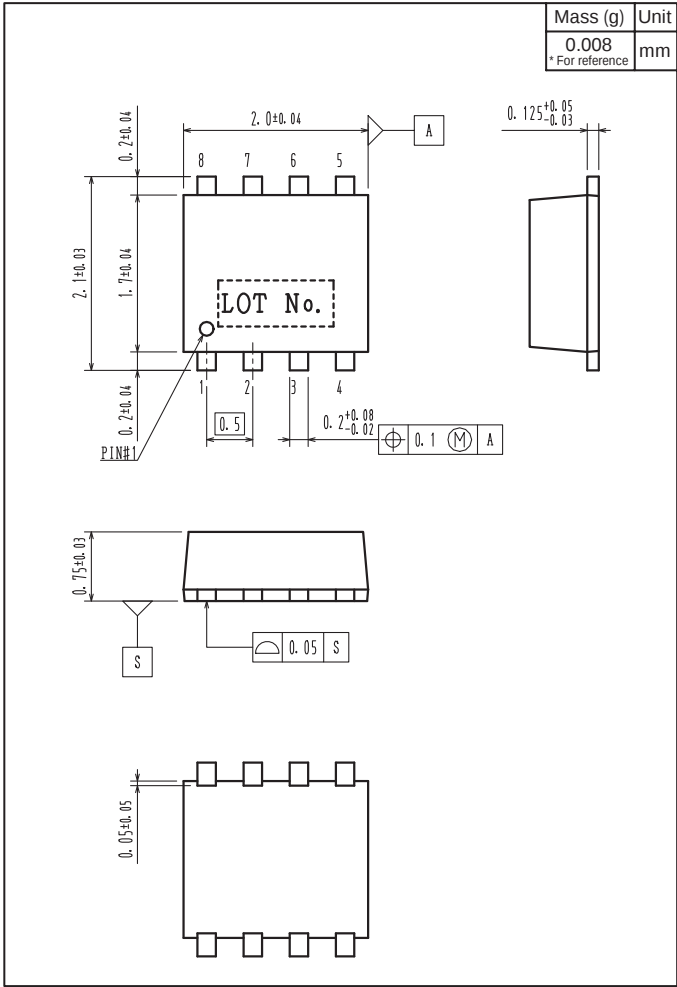
Ordering Information

Device	Package	Shipping	memo
EMH2308-TL-H	EMH8	3,000pcs./reel	Pb Free and Halogen Free

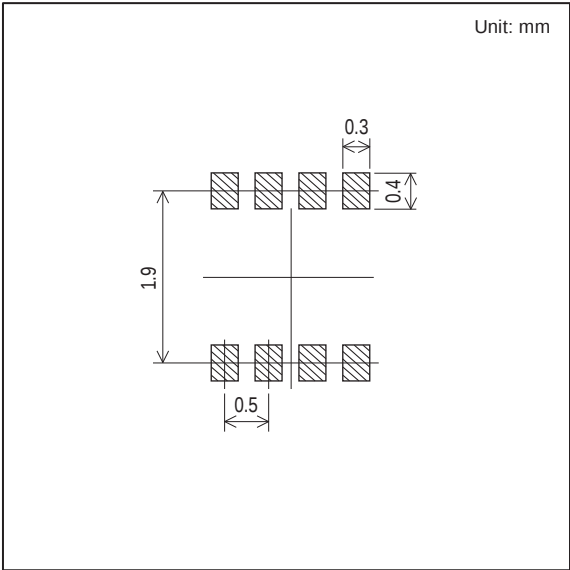




Outline Drawing
EMH2308-TL-H



Land Pattern Example



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