

APM2103SGC-TRL-VB Datasheet

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

Features

- The APM2103SGC-TRL-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

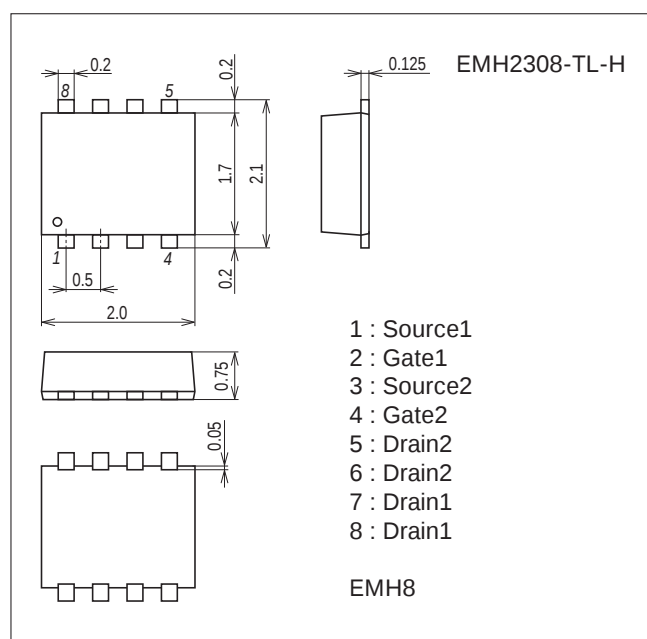
Parameter	Symbol	Conditions	Ratings	Unit
Drain-to-Source Voltage	V_{DS}		-20	V
Gate-to-Source Voltage	V_{GS}		± 12	V
Drain Current (DC)	I_D		-3.5	A
Drain Current (Pulse)	I_{DP}	$PW \leq 10\mu s$, duty cycle $\leq 1\%$	-25	A
Allowable Power Dissipation	P_D	When mounted on ceramic substrate (900mm ² ×0.8mm)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

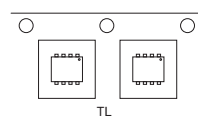
Package Dimensions

unit : mm (typ)

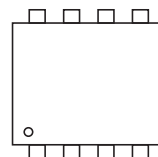
7045-002



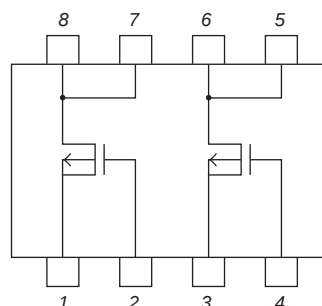
Packing Type : TL



Marking

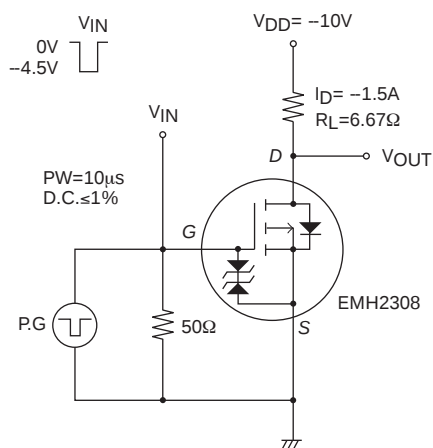


Electrical Connection

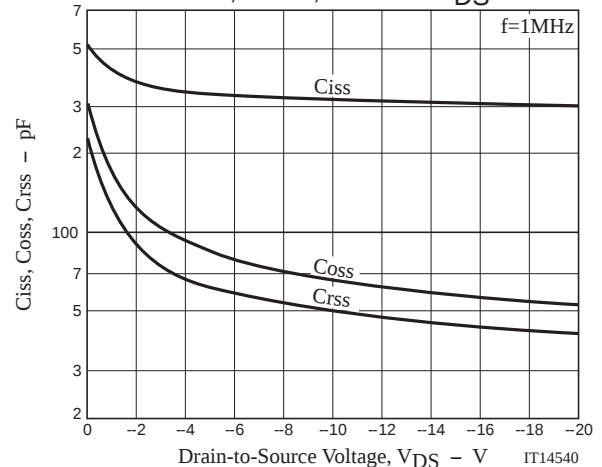
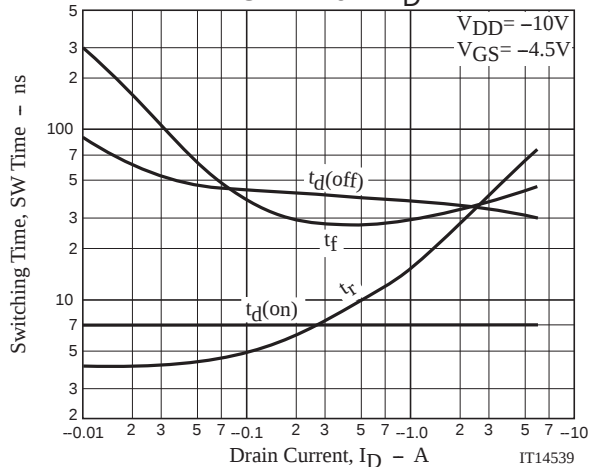
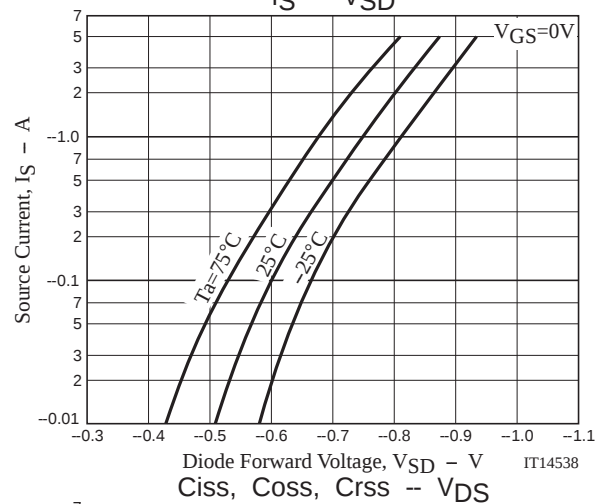
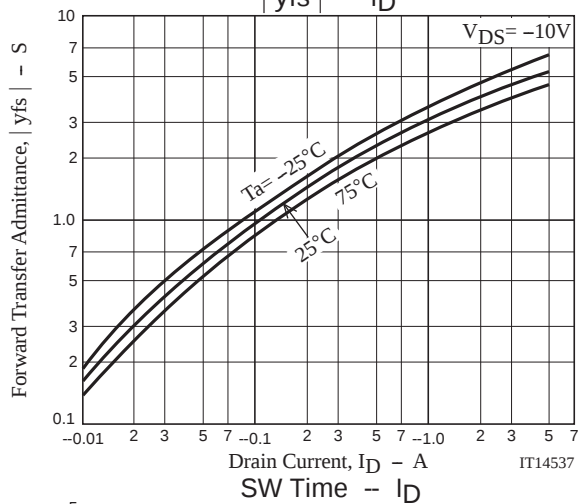
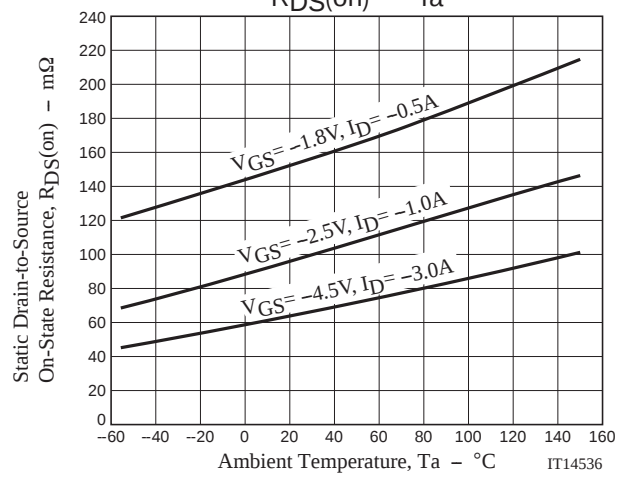
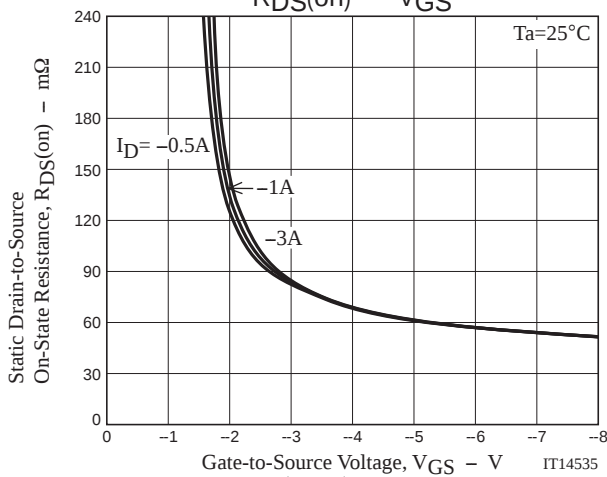
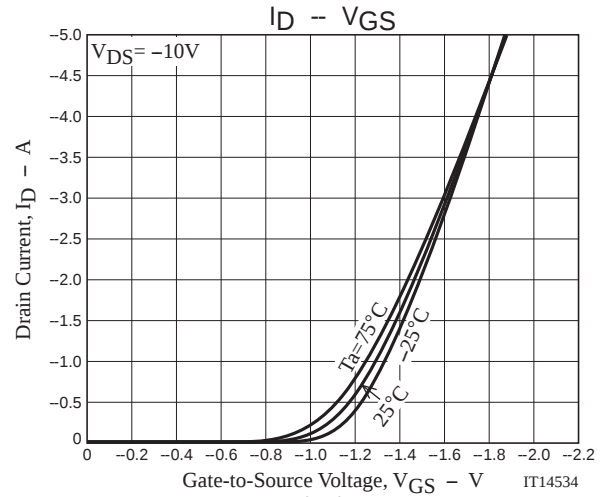
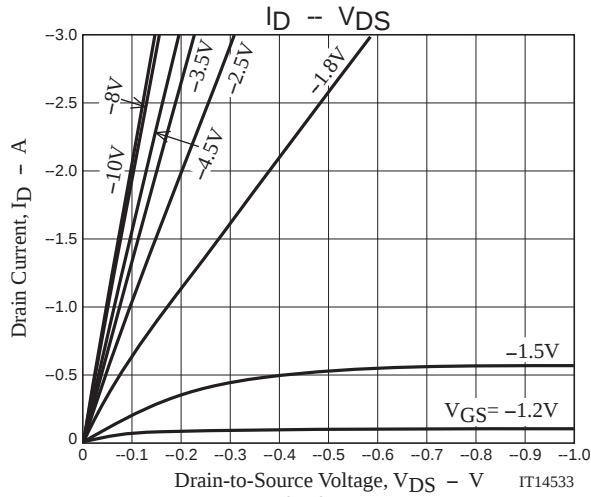


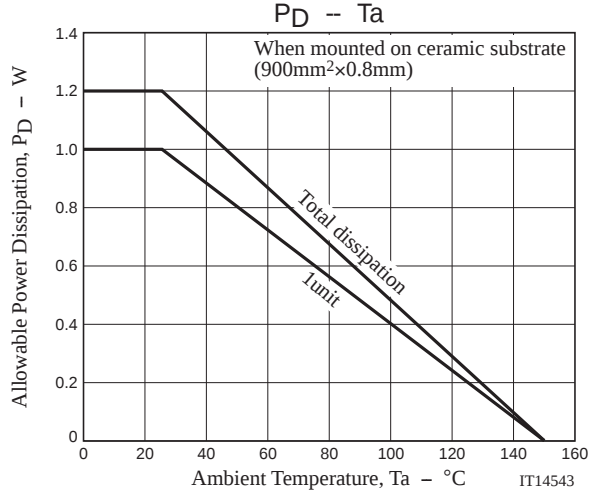
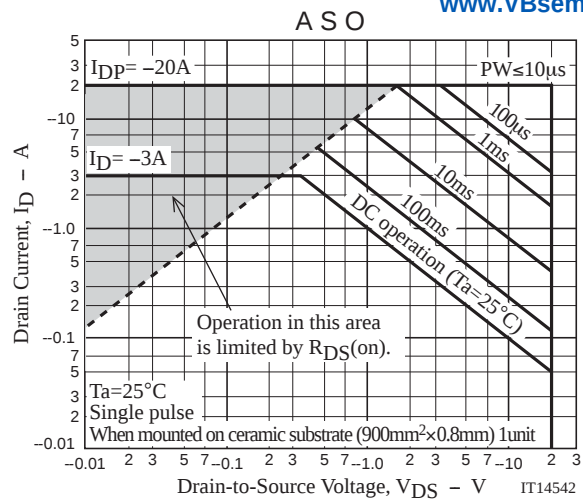
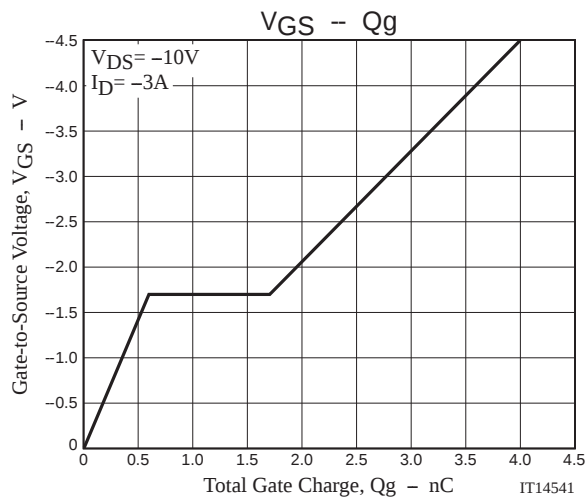
Electrical Characteristics at Ta=25°C

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

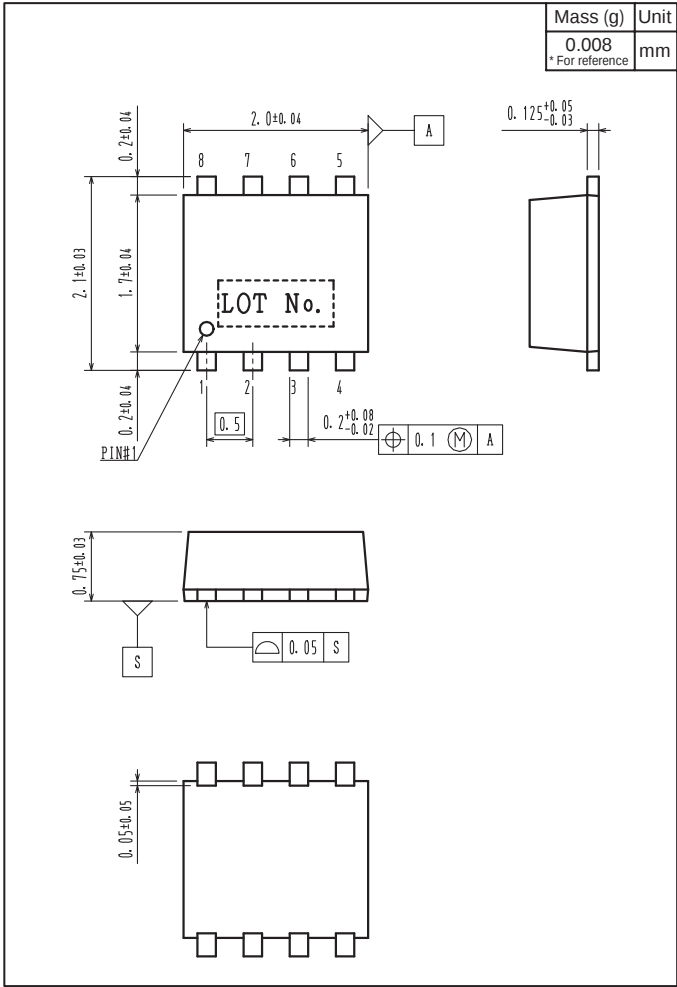
Switching Time Test Circuit**Ordering Information**

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

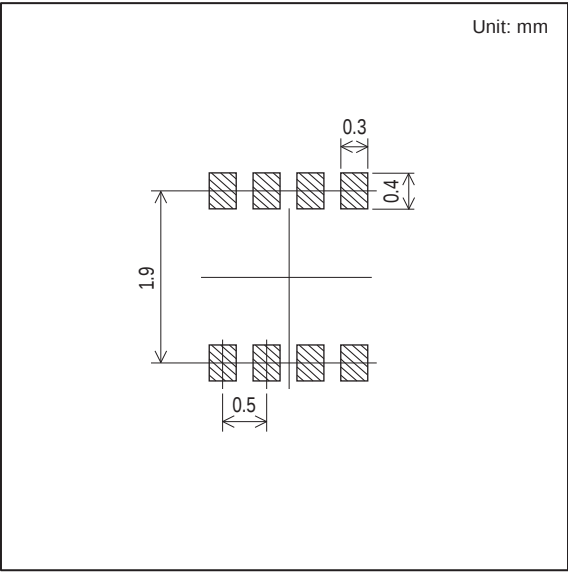




Outline Drawing
EMH2308-TL-H



Land Pattern Example



Disclaimer

All products due to improve reliability, function or design or for other reasons, product specifications and data are subject to change without notice.

Taiwan VBsemi Electronics Co., Ltd., branches, agents, employees, and all persons acting on its or their representatives (collectively, the "Taiwan VBsemi"), assumes no responsibility for any errors, inaccuracies or incomplete data contained in the table or any other any disclosure of any information related to the product.(www.VBsemi.com)

Taiwan VBsemi makes no guarantee, representation or warranty on the product for any particular purpose of any goods or continuous production. To the maximum extent permitted by applicable law on Taiwan VBsemi relinquished: (1) any application and all liability arising out of or use of any products; (2) any and all liability, including but not limited to special, consequential damages or incidental ; (3) any and all implied warranties, including a particular purpose, non-infringement and merchantability guarantee.

Statement on certain types of applications are based on knowledge of the product is often used in a typical application of the general product VBsemi Taiwan demand that the Taiwan VBsemi of. Statement on whether the product is suitable for a particular application is non-binding. It is the customer's responsibility to verify specific product features in the products described in the specification is appropriate for use in a particular application. Parameter data sheets and technical specifications can be provided may vary depending on the application and performance over time. All operating parameters, including typical parameters must be made by customer's technical experts validated for each customer application. Product specifications do not expand or modify Taiwan VBsemi purchasing terms and conditions, including but not limited to warranty herein.

Unless expressly stated in writing, Taiwan VBsemi products are not intended for use in medical, life saving, or life sustaining applications or any other application. Wherein VBsemi product failure could lead to personal injury or death, use or sale of products used in Taiwan VBsemi such applications using client did not express their own risk. Contact your authorized Taiwan VBsemi people who are related to product design applications and other terms and conditions in writing.

The information provided in this document and the company's products without a license, express or implied, by estoppel or otherwise, to any intellectual property rights granted to the VBsemi act or document. Product names and trademarks referred to herein are trademarks of their respective representatives will be all.

Material Category Policy

Taiwan VBsemi Electronics Co., Ltd., hereby certify that all of the products are determined to be oHS compliant and meets the definition of restrictions under Directive of the European Parliament 2011/65 / EU, 2011 Nian. 6. 8 Ri Yue restrict the use of certain hazardous substances in electrical and electronic equipment (EEE) - modification, unless otherwise specified as inconsistent.(www.VBsemi.com)

Please note that some documents may still refer to Taiwan VBsemi RoHS Directive 2002/95 / EC. We confirm that all products identified as consistent with the Directive 2002/95 / EC European Directive 2011/65 /.

Taiwan VBsemi Electronics Co., Ltd. hereby certify that all of its products comply identified as halogen-free halogen-free standards required by the JEDEC JS709A. Please note that some Taiwanese VBsemi documents still refer to the definition of IEC 61249-2-21, and we are sure that all products conform to confirm compliance with IEC 61249-2-21 standard level JS709A.