

EMH2314 — P-Channel Silicon MOSFET

General-Purpose Switching Device Applications

Features

- ON-resistance $R_{DS(on)1}=28m\Omega$ (typ.)
- 1.8V drive
- Halogen free compliance
- Protection Diode in

Specifications

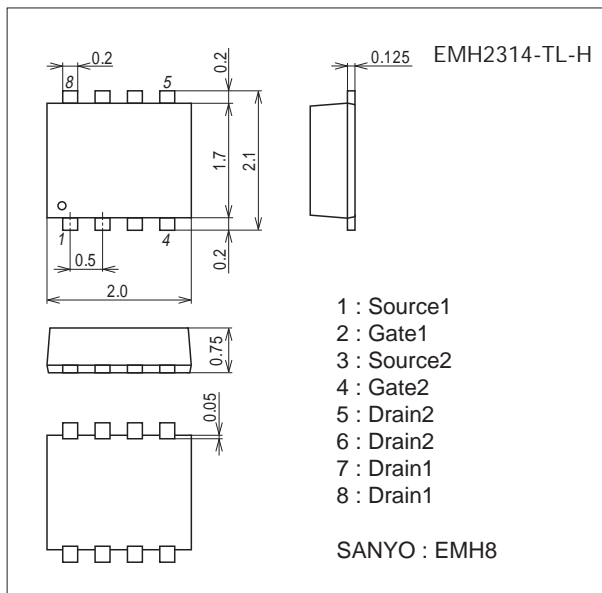
Absolute Maximum Ratings at $T_a=25^\circ\text{C}$

Parameter	Symbol	Conditions	Ratings	Unit
Drain-to-Source Voltage	V_{DSS}		-12	V
Gate-to-Source Voltage	V_{GSS}		± 10	V
Drain Current (DC)	I_D		-5	A
Drain Current (Pulse)	I_{DP}	$PW \leq 10\mu\text{s}$, duty cycle $\leq 1\%$	-20	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	$^\circ\text{C}$
Storage Temperature	T_{stg}		-55 to +150	$^\circ\text{C}$

Package Dimensions

unit : mm (typ.)

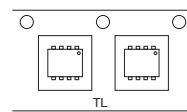
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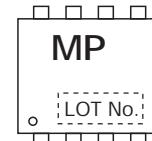
Product & Package Information

- Package : EMH8
- JEITA, JEDEC : -
- Minimum Packing Quantity : 3,000 pcs./reel

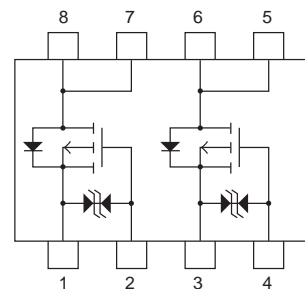
Taping Type : TL



Marking



Electrical Connection

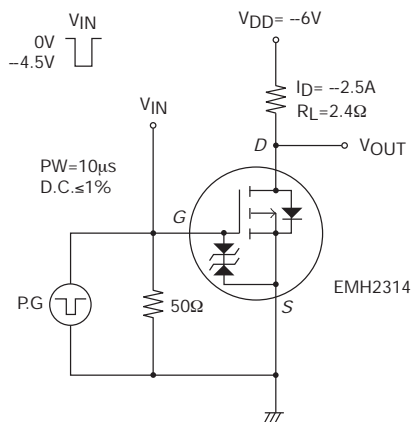


EMH2314

Electrical Characteristics at Ta=25°C

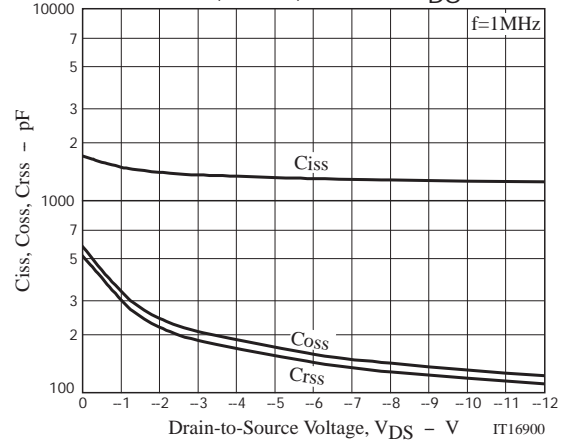
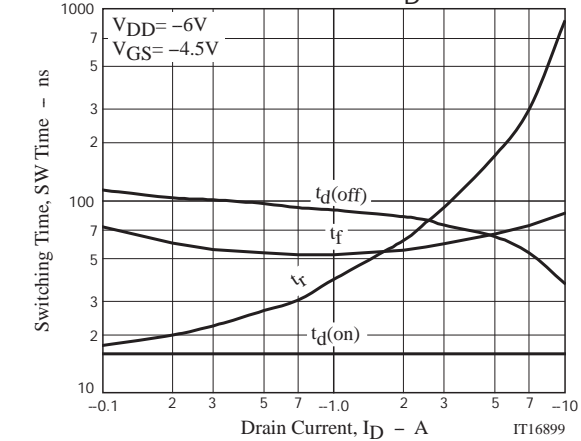
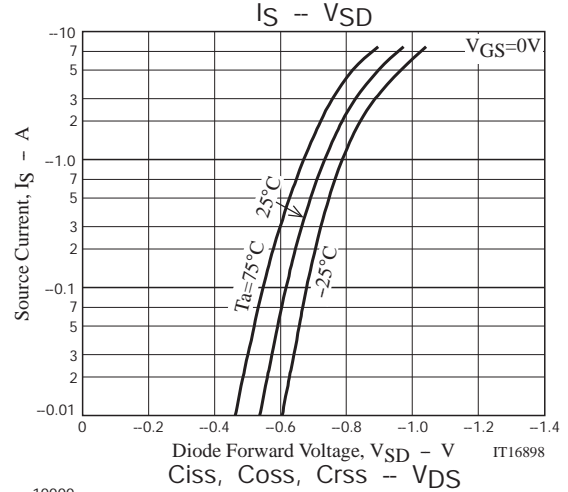
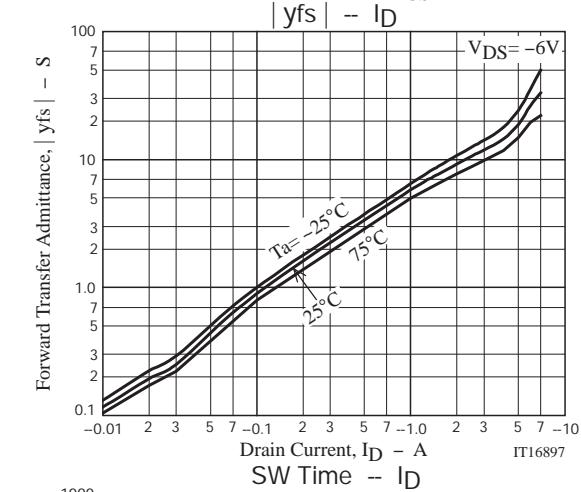
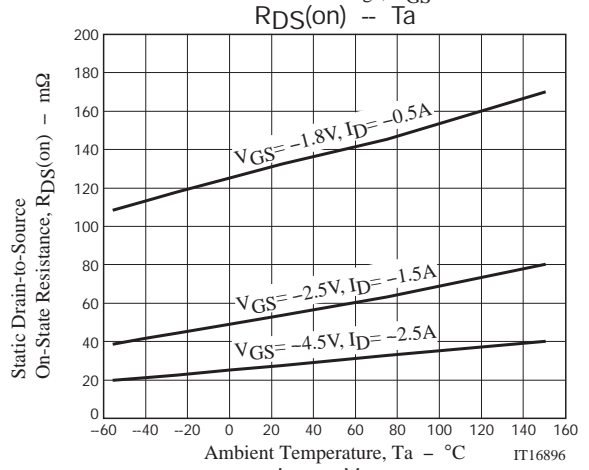
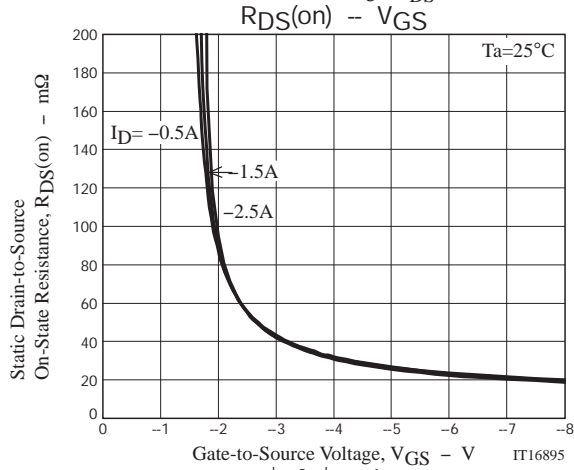
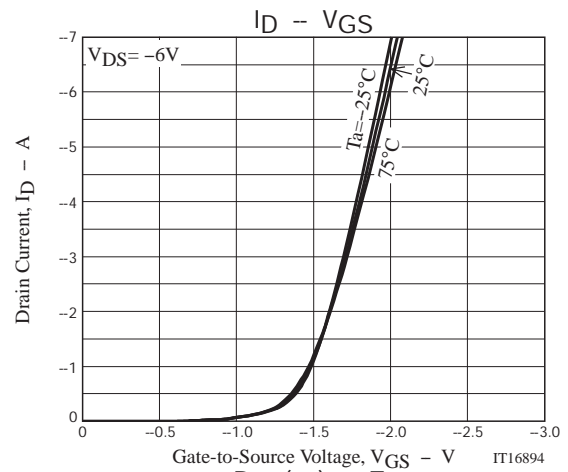
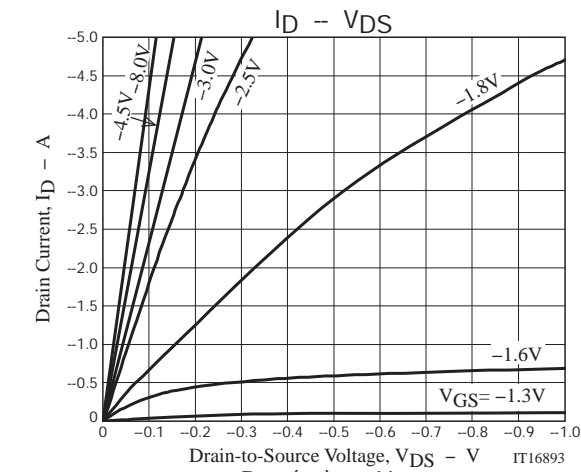
Parameter	Symbol	Conditions	Ratings			Unit
			min.	typ.	max.	
Drain-to-Source Breakdown Voltage	V(BR)DSS	I _D = -1mA, V _{GS} = 0V	-12			V
Zero-Gate Voltage Drain Current	I _{DSS}	V _{DS} = -12V, V _{GS} = 0V			-10	μA
Gate-to-Source Leakage Current	I _{GSS}	V _{GS} = ±8V, V _{DS} = 0V			±10	μA
Cutoff Voltage	V _{GS(off)}	V _{DS} = -6V, I _D = -1mA	-0.4		-1.3	V
Forward Transfer Admittance	y _{fs}	V _{DS} = -6V, I _D = -2.5A		11		S
Static Drain-to-Source On-State Resistance	R _{DS(on)1}	I _D = -2.5A, V _{GS} = -4.5V		28	37	mΩ
	R _{DS(on)2}	I _D = -1.5A, V _{GS} = -2.5V		53	75	mΩ
	R _{DS(on)3}	I _D = -0.5A, V _{GS} = -1.8V		133	200	mΩ
Input Capacitance	C _{iss}	V _{DS} = -6V, f = 1MHz		1300		pF
Output Capacitance	C _{oss}			158		pF
Reverse Transfer Capacitance	C _{rss}			143		pF
Turn-ON Delay Time	t _{d(on)}		See specified Test Circuit.		16	
Rise Time	t _r			77		ns
Turn-OFF Delay Time	t _{d(off)}			79		ns
Fall Time	t _f			58		ns
Total Gate Charge	Q _g	V _{DS} = -6V, V _{GS} = -4.5V, I _D = -5A			12	
Gate-to-Source Charge	Q _{gs}			3		nC
Gate-to-Drain "Miller" Charge	Q _{gd}			2		nC
Diode Forward Voltage	V _{SD}	I _S = -5A, V _{GS} = 0V		-0.9	-1.2	V

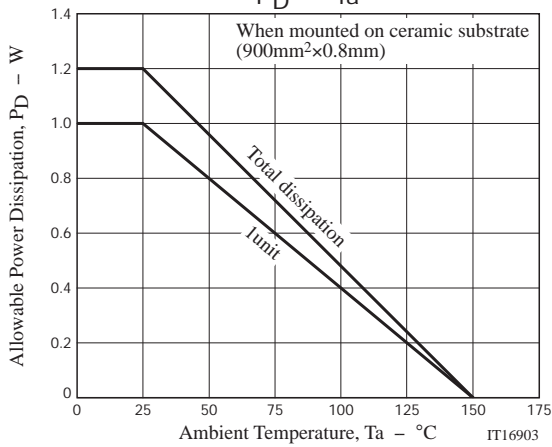
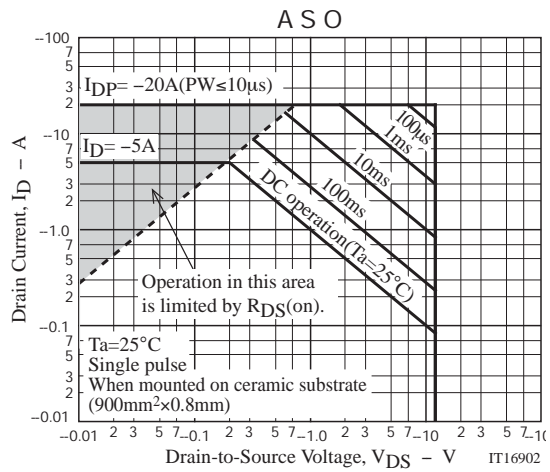
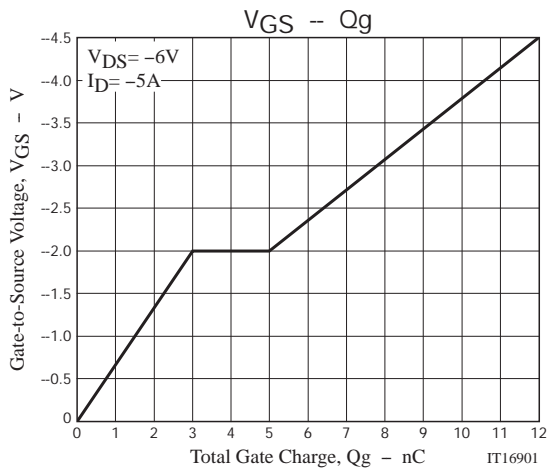
Switching Time Test Circuit



Ordering Information

Device	Package	Shipping	memo
EMH2314-TL-H	EMH8	3,000pcs./reel	Pb Free and Halogen Free



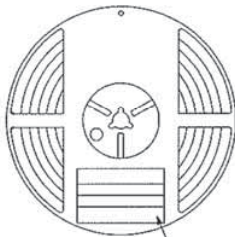


Embossed Taping Specification
EMH2314-TL-H

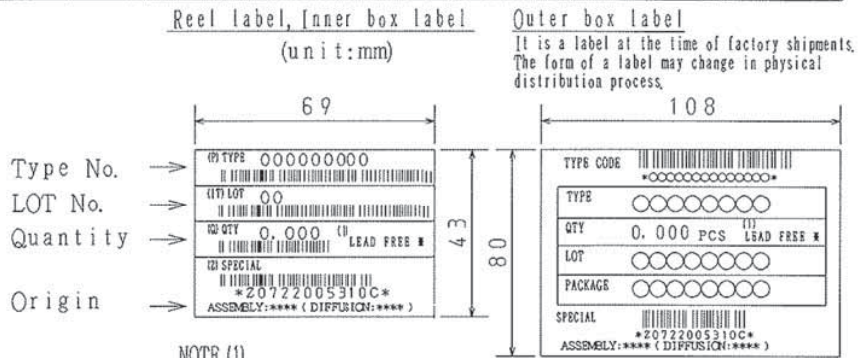
1. Packing Format

Package Name	Carrier Tape Type	Maximum Number of devices contained (pcs)			Packing format	
		Reel	Inner box	Outer box	Inner BOX (C-1)	Outer BOX (A-7)
EMH8	MCP4	3,000	15,000	90,000	5 reels contained Dimensions:mm (external) 183×72×185	6 inner boxes contained Dimensions:mm (external) 440×195×210

Packing method



Reel label

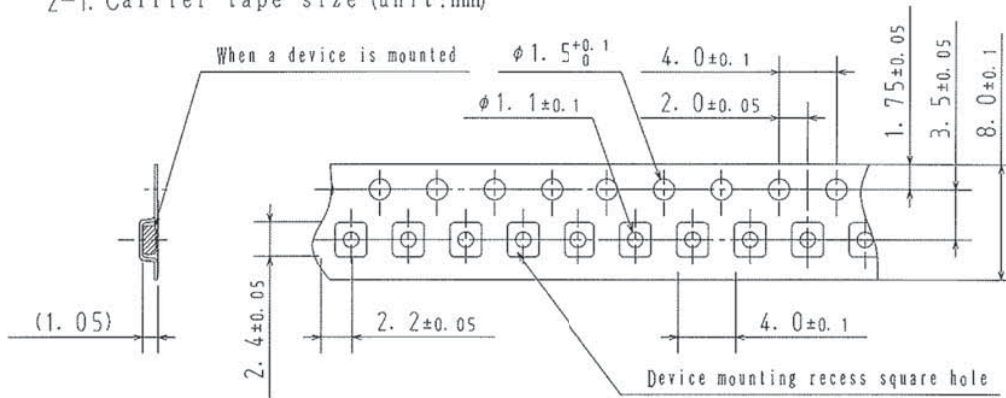


NOTE (1)
The LEAD FREE description shows that the surface treatment of the terminal is lead free.

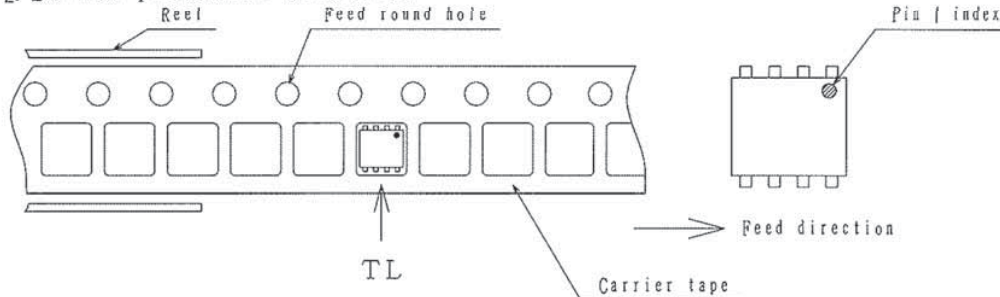
Label	JEITA Phase
LEAD FREE 3	JEITA Phase 3A
LEAD FREE 4	JEITA Phase 3

2. Taping configuration

2-1. Carrier tape size (unit:mm)



2-2. Device placement direction

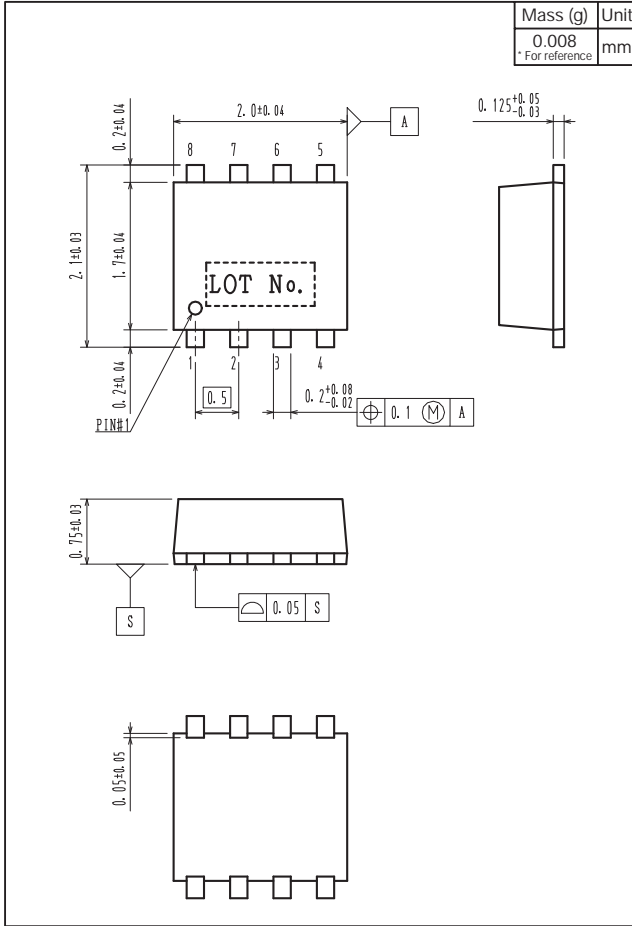


Those with pin | index on the feed hole side.....TL

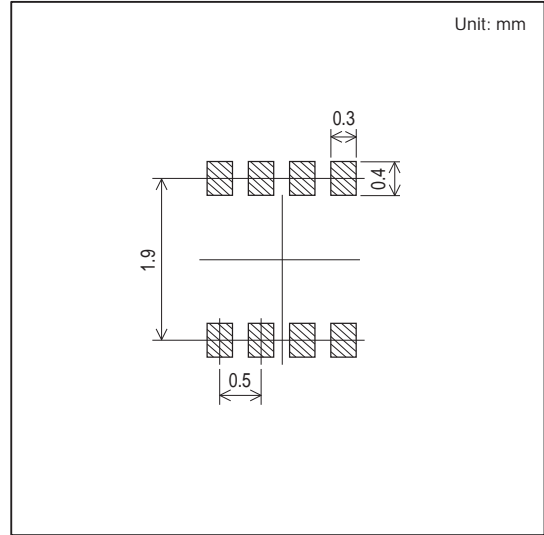
EMH2314

Outline Drawing

EMH2314-TL-H



Land Pattern Example



Note on usage : Since the EMH2314 is a MOSFET product, please avoid using this device in the vicinity of highly charged objects.

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