



EMH1303 — P-Channel Silicon MOSFET

General-Purpose Switching Device

Applications

Features

- Low ON-resistance
- 1.8V drive
- Protection diode in

Specifications

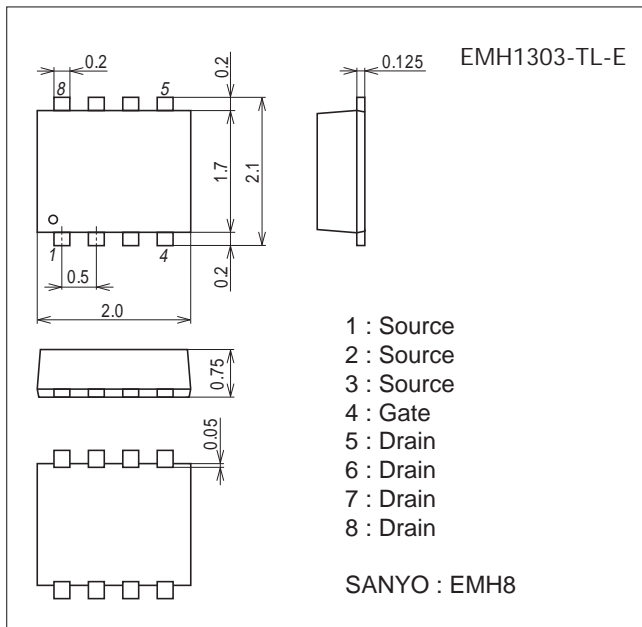
Absolute Maximum Ratings at Ta=25°C

Parameter	Symbol	Conditions	Ratings	Unit
Drain-to-Source Voltage	VDSS		-12	V
Gate-to-Source Voltage	VGSS		±10	V
Drain Current (DC)	ID		-7	A
Drain Current (Pulse)	IDP	PW≤10μs, duty cycle≤1%	-28	A
Allowable Power Dissipation	PD	Mounted on a ceramic board (1200mm ² ×0.8mm)	1.5	W
Channel Temperature	Tch		150	°C
Storage Temperature	Tstg		-55 to +150	°C

Package Dimensions

unit : mm (typ)

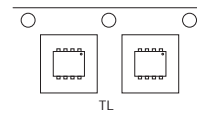
7045-001



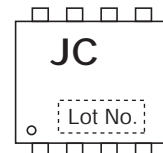
Product & Package Information

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

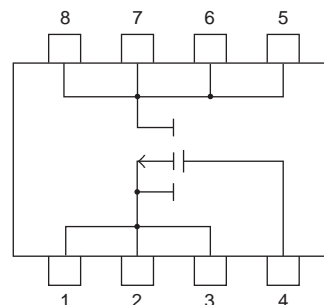
Taping Type : TL



Marking



Electrical Connection

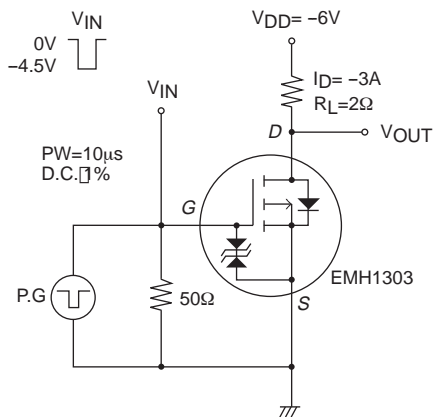


EMH1303

Electrical Characteristics at Ta=25°C

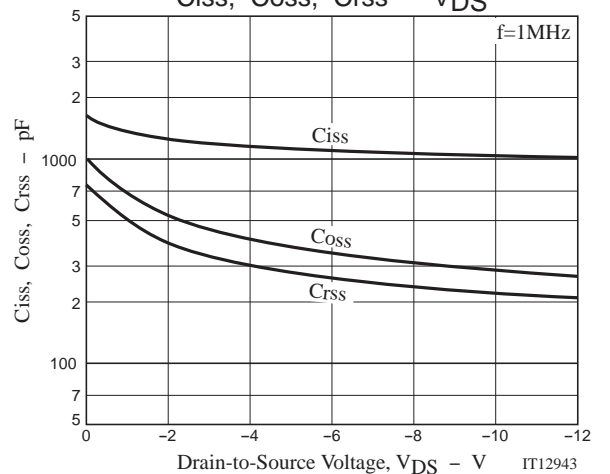
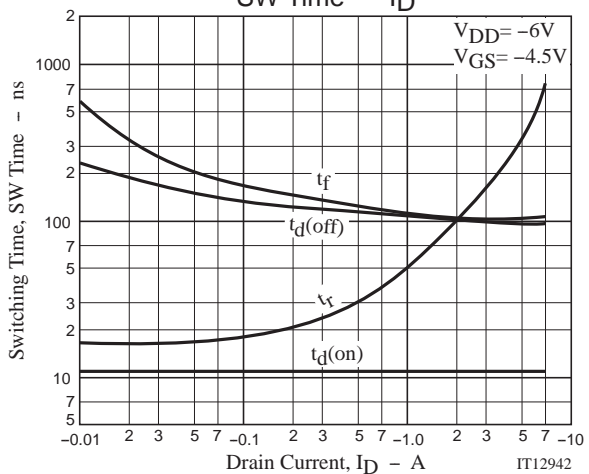
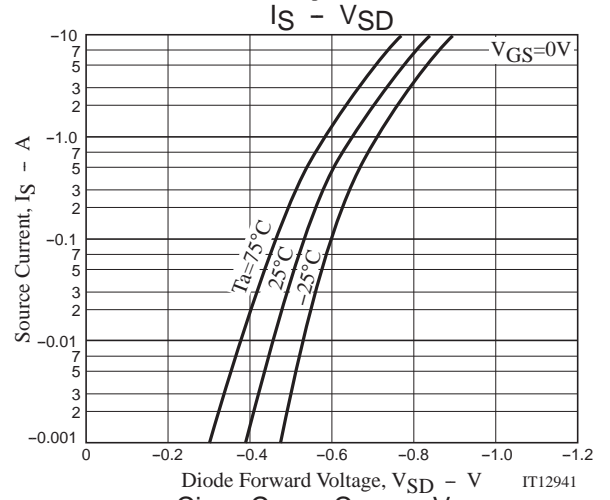
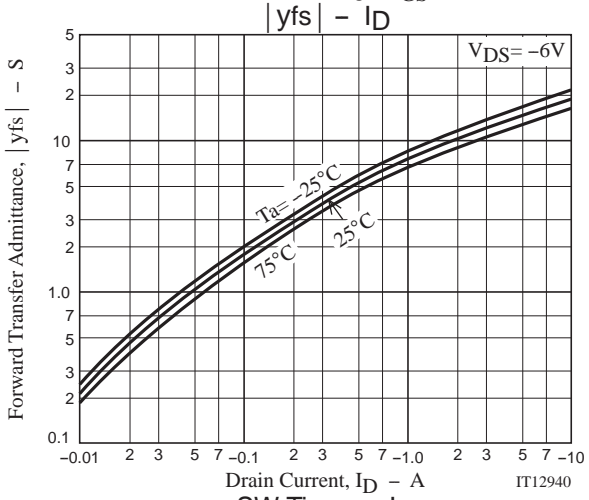
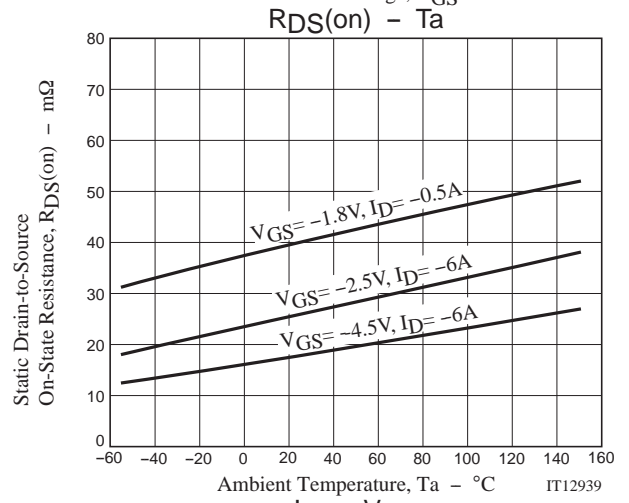
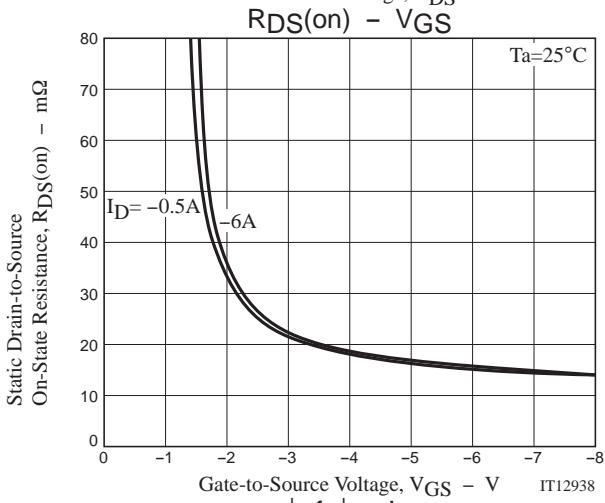
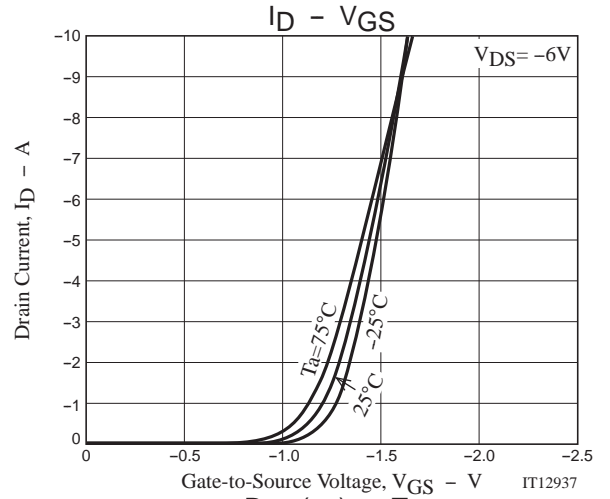
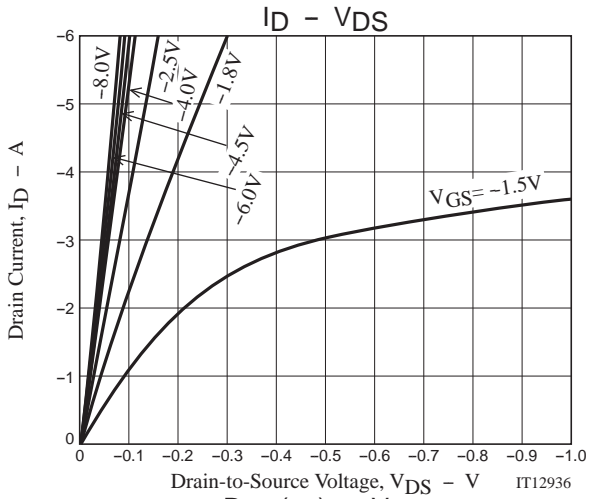
Parameter	Symbol	Conditions	Ratings			Unit
			min	typ	max	
Drain-to-Source Breakdown Voltage	V(BR)DSS	ID=-1mA, VGS=0V	-12			V
Zero-Gate Voltage Drain Current	IDSS1	VDS=-8V, VGS=0V			-1	μA
	IDSS2	VDS=-12V, VGS=0V			-10	μA
Gate-to-Source Leakage Current	IGSS	VGS=±8V, VDS=0V			±10	μA
Cutoff Voltage	VGS(off)	VDS=-6V, ID=-1mA	-0.4		-1.2	V
Forward Transfer Admittance	yfs	VDS=-6V, ID=-3A	7.2	12		S
Static Drain-to-Source On-State Resistance	RDS(on)1	ID=-6A, VGS=-4.5V		18	23	mΩ
	RDS(on)2	ID=-6A, VGS=-2.5V		27	36	mΩ
	RDS(on)3	ID=-0.5A, VGS=-1.8V		40	65	mΩ
Input Capacitance	Ciss	VDS=-6V, f=1MHz		1100		pF
Output Capacitance	Coss			350		pF
Reverse Transfer Capacitance	Crss			265		pF
Turn-ON Delay Time	t _{d(on)}			11		ns
Rise Time	t _r	See specified Test Circuit.		165		ns
Turn-OFF Delay Time	t _{d(off)}			100		ns
Fall Time	t _f			105		ns
Total Gate Charge	Qg			12.0		nC
Gate-to-Source Charge	Qgs	VDS=-6V, VGS=-4.5V, ID=-7A		1.9		nC
Gate-to-Drain "Miller" Charge	Qgd			2.9		nC
Diode Forward Voltage	VSD		IS=-7A, VGS=0V	-0.8		-1.2

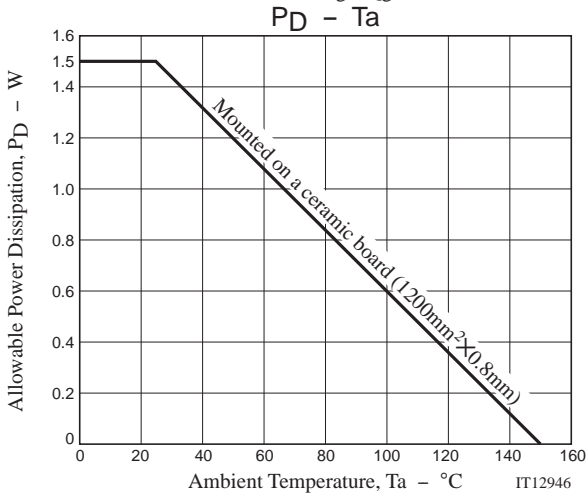
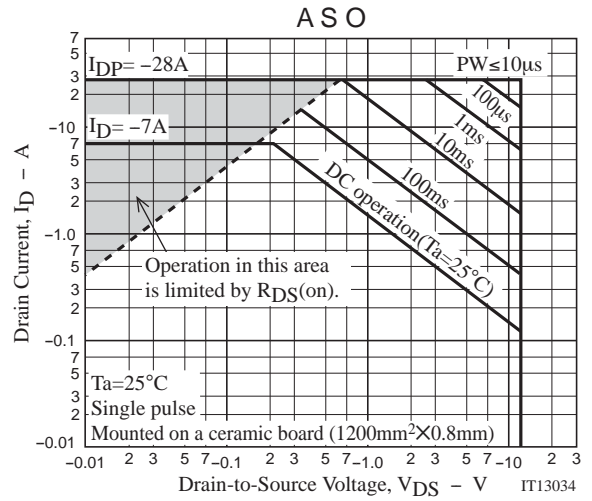
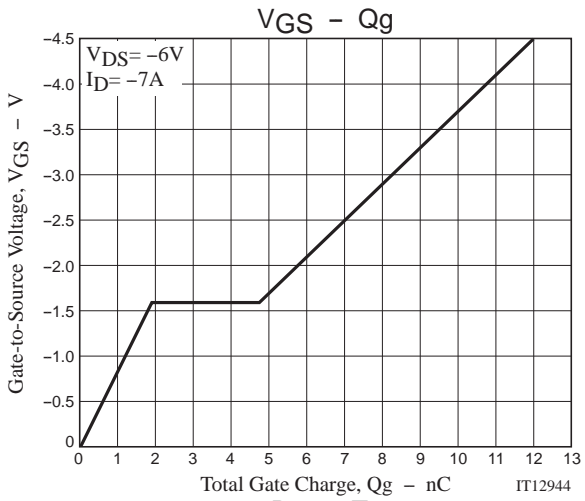
Switching Time Test Circuit



Ordering Information

Device	Package	Shipping	memo
EMH1303-TL-E	EMH8	3,000pcs./reel	Pb Free





EMH1303

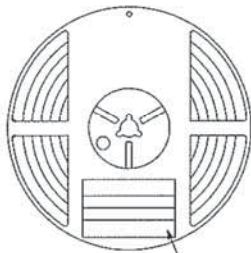
Embossed Taping Specification

EMH1303-TL-E

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

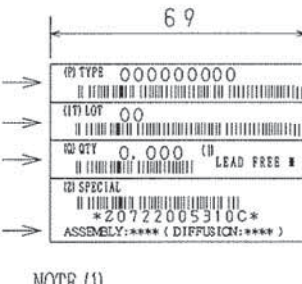
Packing method



Reel label

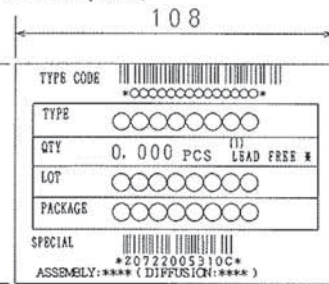
Type No. →
LOT No. →
Quantity →
Origin →

Reel label, Inner box label
(unit:mm)



Outer box label

It is a label at the time of factory shipments. The form of a label may change in physical distribution process.



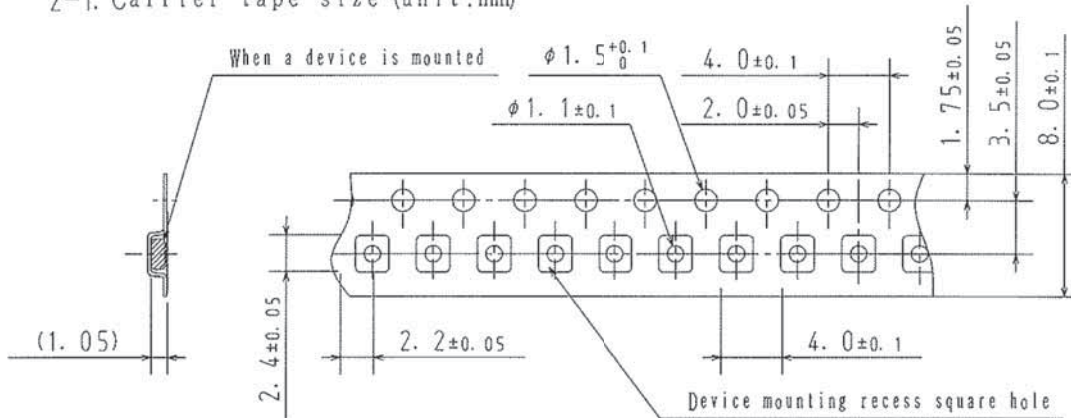
NOTE (1)

The LEAD FREE * description shows that the surface treatment of the terminal is lead free.

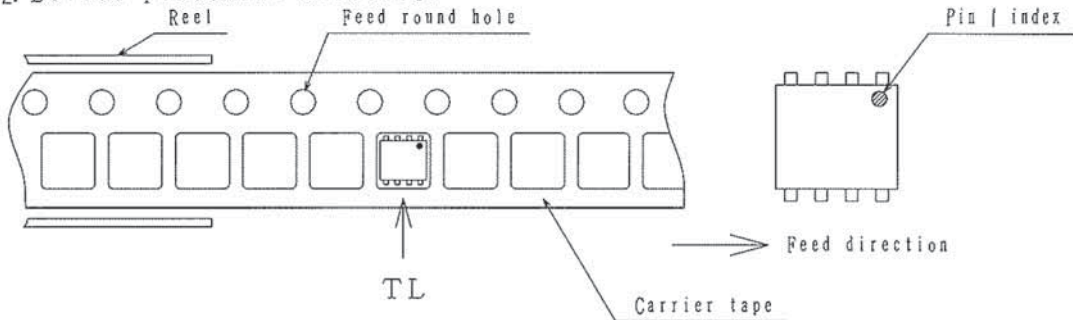
Label	JEITA Phase
LEAD FREE 3	JEITA Phase 3A
LEAD FREE 4	JEITA Phase 3

2. Taping configuration

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



2-2. Device placement direction



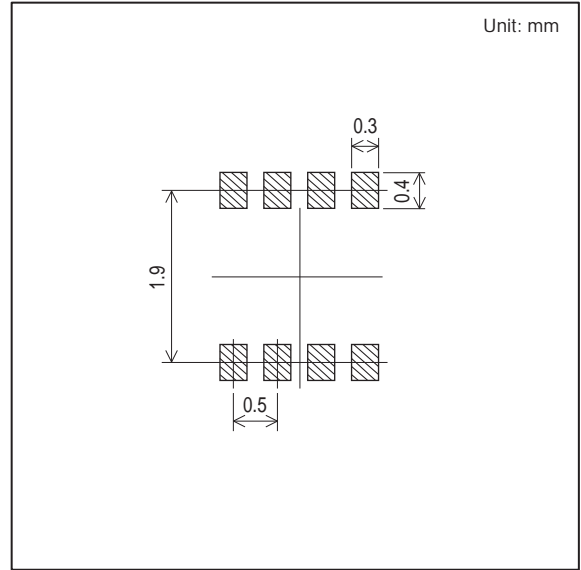
Those with pin | index on the feed hole side.....TL

EMH1303

Outline Drawing EMH1303-TL-E



Land Pattern Example



Note on usage : Since the EMH1303 is a MOSFET product, please avoid using this device in the vicinity of highly charged objects.

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