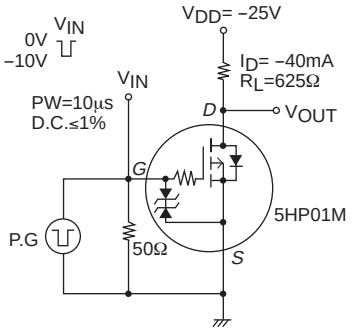
Electrical Characteristics at Ta=25°C

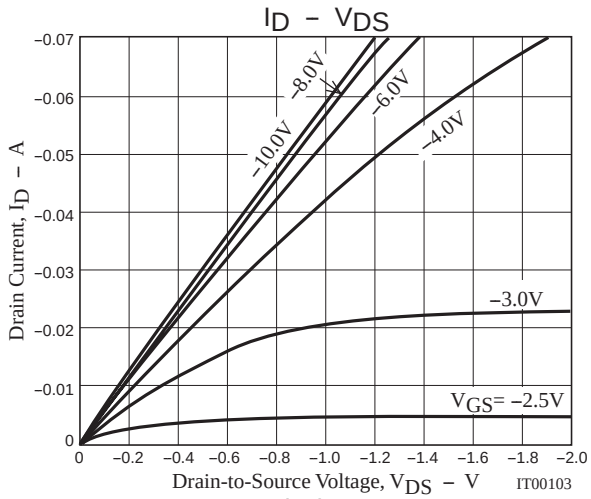
Parameter	Symbol	Conditions	Ratings			Unit
			min	typ	max	
Drain-to-Source Breakdown Voltage	$V_{(BR)DSS}$	I_D= −1mA, V_{GS}=0V	−50			V
Zero-Gate Voltage Drain Current	I_{DSS}	V_{DS}= −50V, V_{GS}=0V			−1	μA
Gate-to-Source Leakage Current	I_{GSS}	V_{GS}=±16V, V_{DS}=0V			±10	μA
Cutoff Voltage	V_{GS}(off)	V_{DS}= −10V, I_D= −100μA	−1		−2.5	V
Forward Transfer Admittance	| yfs |	V_{DS}= −10V, I_D= −40mA	50	70		mS
Static Drain-to-Source On-State Resistance	R_{DS}(on)1	I_D= −40mA, V_{GS}= −10V		17	22	Ω
	R_{DS}(on)2	I_D= −20mA, V_{GS}= −4V		23	32	Ω
Input Capacitance	Ciss	V_{DS}= −10V, f=1MHz		6.2		pF
Output Capacitance	Coss			4.0		pF
Reverse Transfer Capacitance	Crss			1.3		pF
Turn-ON Delay Time	t_d(on)	See specified Test Circuit.		13		ns
Rise Time	t_r			10		ns
Turn-OFF Delay Time	t_d(off)			100		ns
Fall Time	t_f			150		ns
Total Gate Charge	Qg	V_{DS}= −10V, V_{GS}= −10V, I_D= −70mA		1.32		nC
Gate-to-Source Charge	Qgs			0.17		nC
Gate-to-Drain “Miller” Charge	Qgd			0.34		nC
Diode Forward Voltage	V_{SD}	I_S= −70mA, V_{GS}=0V		−0.85	−1.2	V

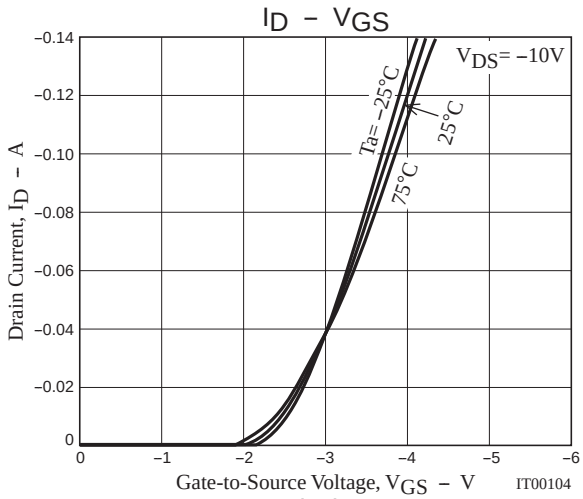
Switching Time Test Circuit

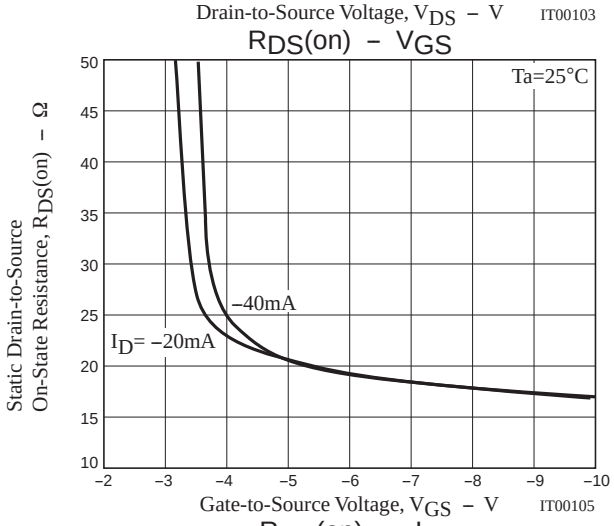


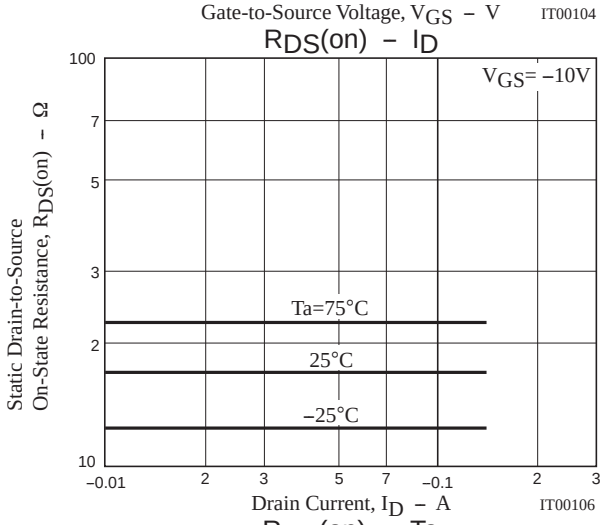
Ordering Information

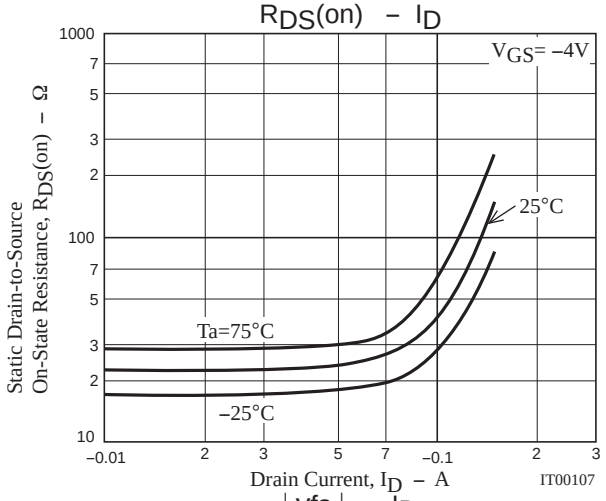
Device	Package	Shipping	memo
5HP01M-TL-E	MCP	3,000pcs./reel	Pb Free
5HP01M-TL-H	MCP	3,000pcs./reel	Pb Free and Halogen Free

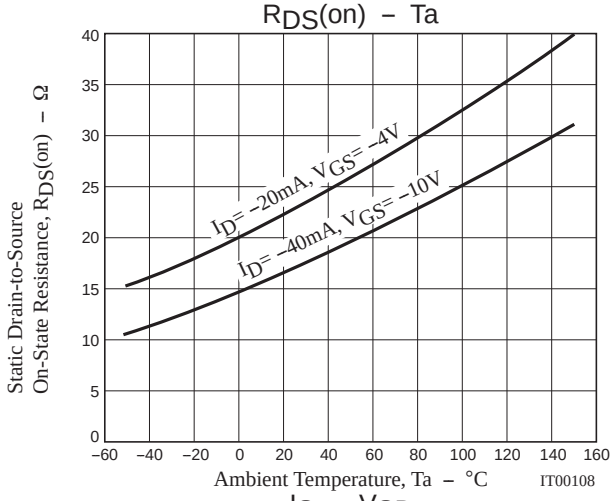


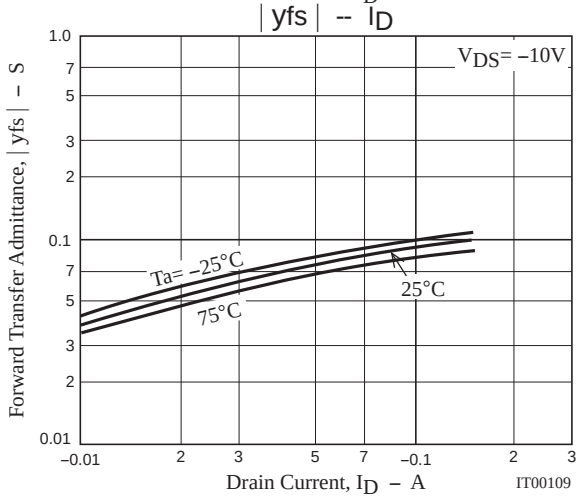


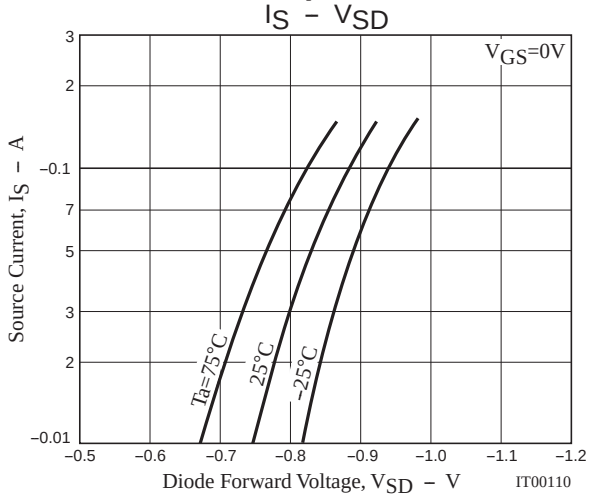


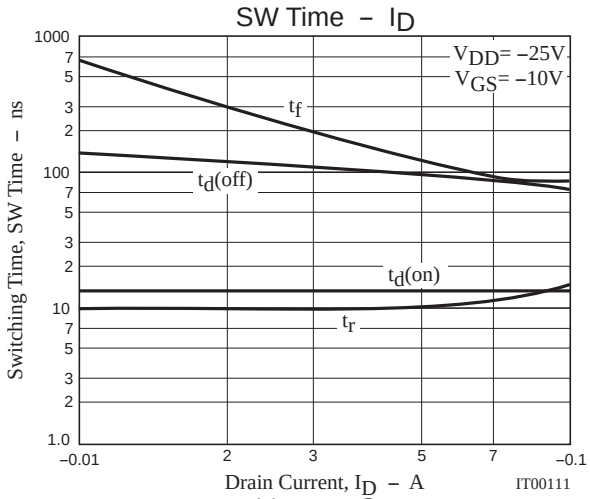


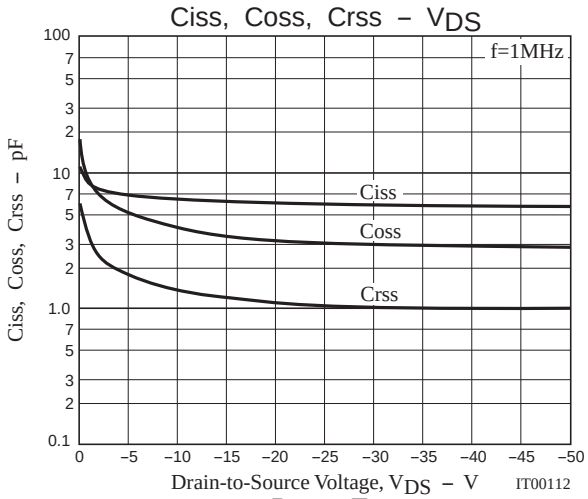


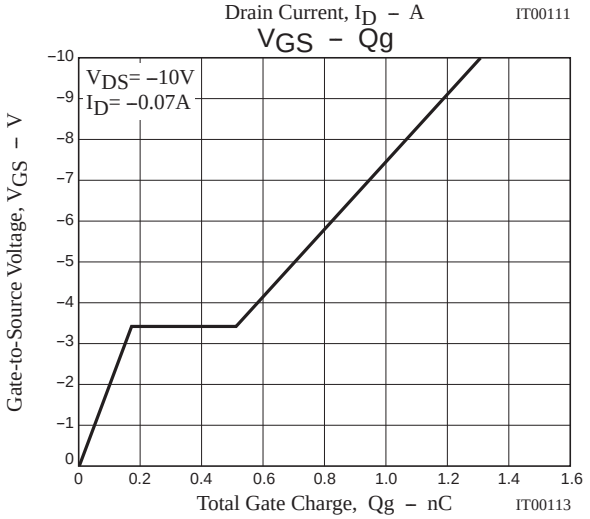


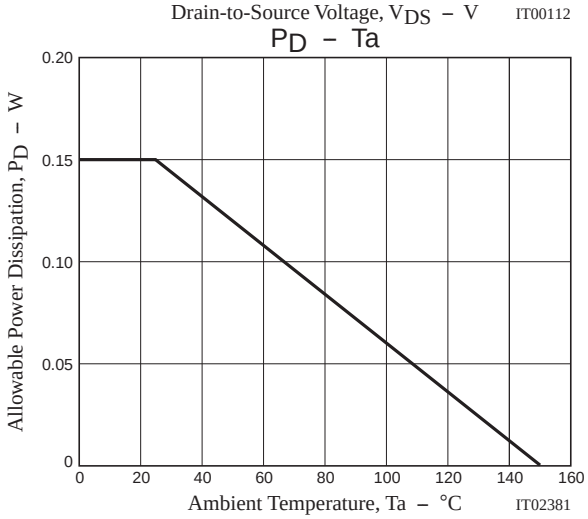












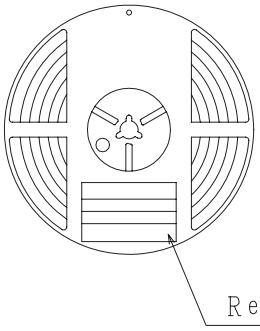
Embossed Taping Specification

5HP01M-TL-E, 5HP01M-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)
MCP	MCP	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

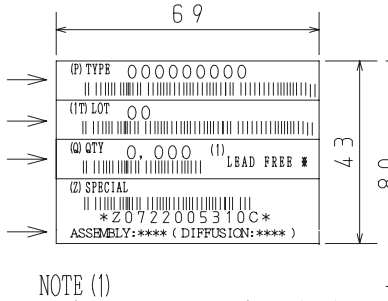
Packing method



Reel label

Reel label, Inner box label

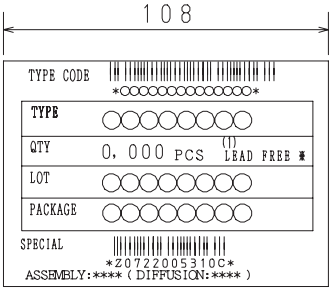
(unit:mm)



Type No.
LOT No.
Quantity
Origin

Outer box label

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

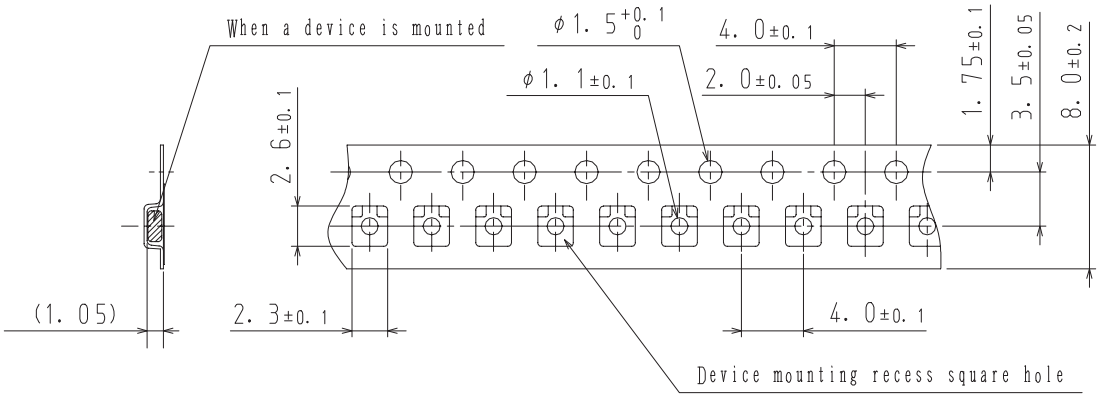


NOTE (1)
The LEAD FREE ※ description shows that the surface treatment of the terminal is lead free.

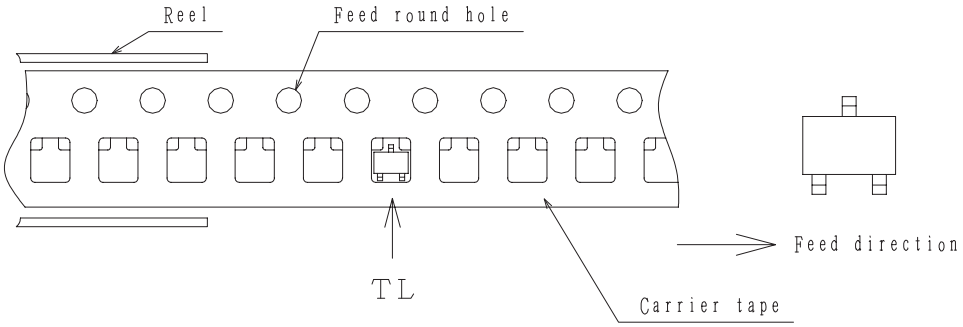
Label	JEITA Phase
LEAD FREE 3	JEITA Phase 3A
LEAD FREE 4	JEITA Phase 3

2. Taping configuration

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



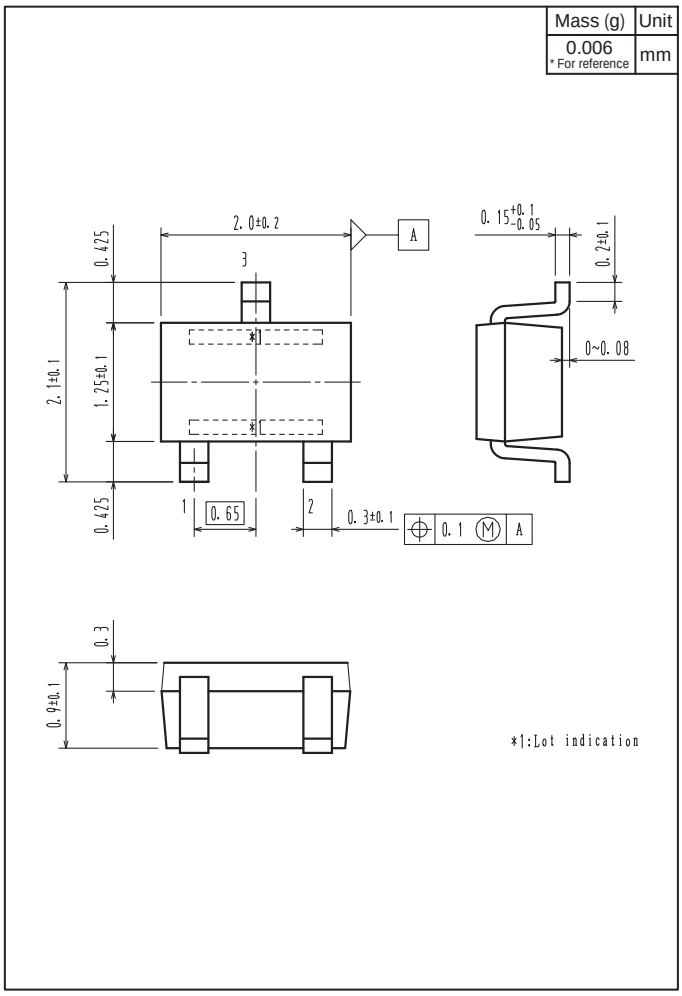
2-2. Device placement direction



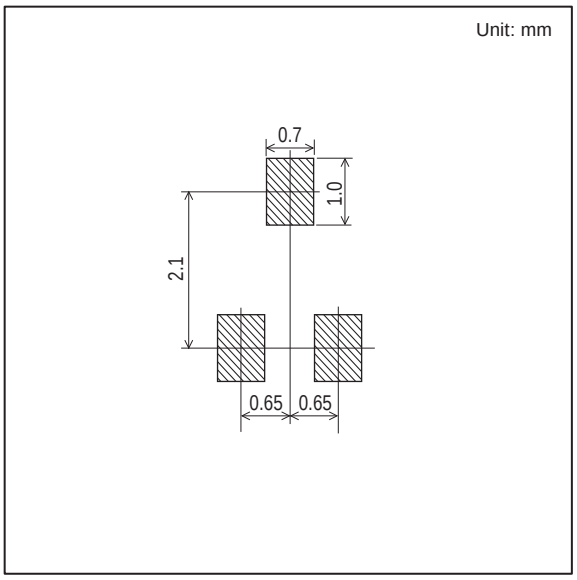
Those with oen electrode terminal on the feed hole side·····TL

Outline Drawing

5HP01M-TL-E, 5HP01M-TL-H



Land Pattern Example



Note on usage : Since the 5HP01M is a MOSFET product, please avoid using this device in the vicinity of highly charged objects.

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