

5HP01M — P-Channel Silicon MOSFET

General-Purpose Switching Device Applications

Features

- Low ON-resistance
- Ultrahigh-speed switching
- 4V drive

Specifications

Absolute Maximum Ratings at Ta=25°C

Parameter	Symbol	Conditions	Ratings	Unit
Drain-to-Source Voltage	V _{DSS}		-50	V
Gate-to-Source Voltage	V _{GSS}		±20	V
Drain Current (DC)	I _D		-0.07	A
Drain Current (Pulse)	I _{DP}	PW≤10μs, duty cycle≤1%	-0.28	A
Allowable Power Dissipation	P _D		0.15	W
Channel Temperature	T _{ch}		150	°C
Storage Temperature	T _{stg}		-55 to +150	°C

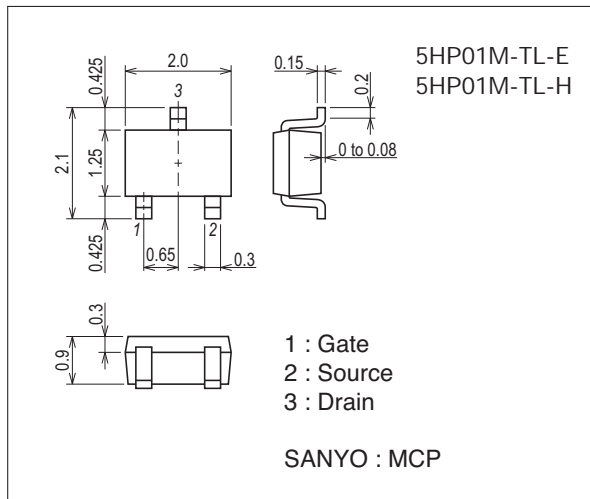
This product is designed to "ESD immunity < 200V**", so please take care when handling.

* Machine Model

Package Dimensions

unit : mm (typ)

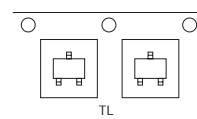
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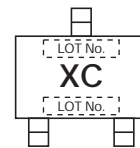
Product & Package Information

- Package : MCP
- JEITA, JEDEC : SC-70, SOT-323
- Minimum Packing Quantity : 3,000 pcs./reel

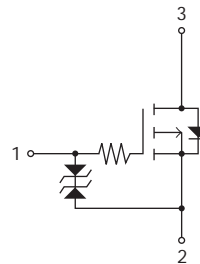
Packing Type: TL



Marking



Electrical Connection

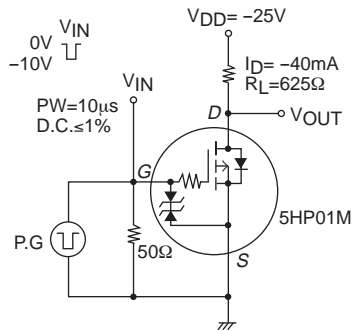


5HP01M

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	y _{fs}	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	C _{iss}	V _{DS} = -10V, f = 1MHz		6.2		pF
Output Capacitance	C _{oss}			4.0		pF
Reverse Transfer Capacitance	C _{rss}			1.3		pF
Turn-ON Delay Time	t _{d(on)}			13		ns
Rise Time	t _r	See specified Test Circuit.		10		ns
Turn-OFF Delay Time	t _{d(off)}			100		ns
Fall Time	t _f			150		ns
Total Gate Charge	Q _g			1.32		nC
Gate-to-Source Charge	Q _{gs}	V _{DS} = -10V, V _{GS} = -10V, I _D = -70mA		0.17		nC
Gate-to-Drain "Miller" Charge	Q _{gd}			0.34		nC
Diode Forward Voltage	V _{SD}		I _S = -70mA, V _{GS} = 0V	-0.85	-1.2	

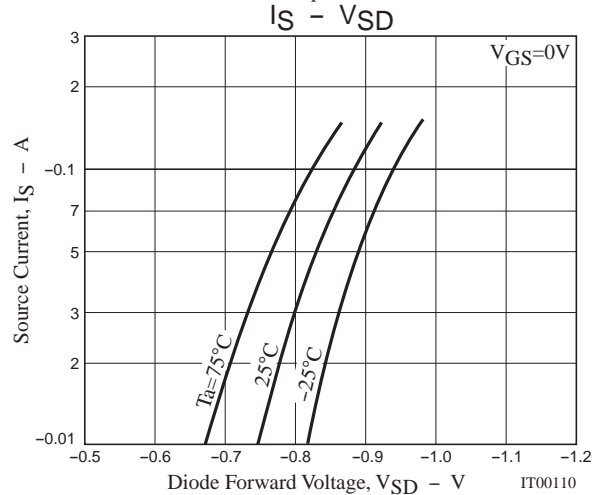
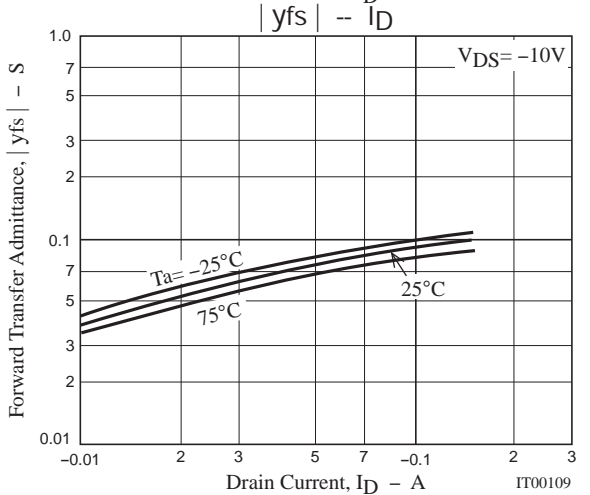
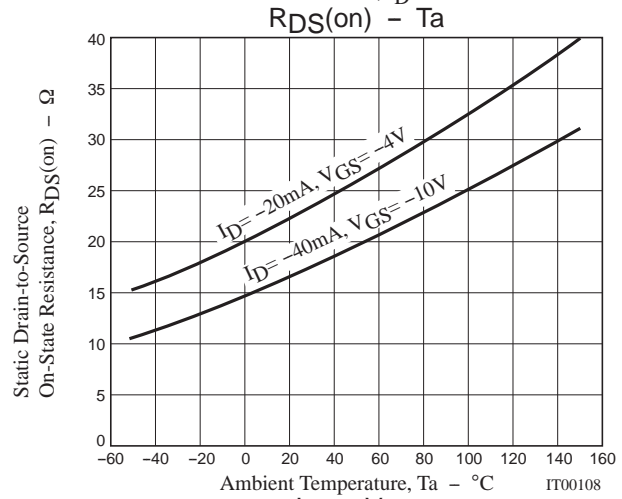
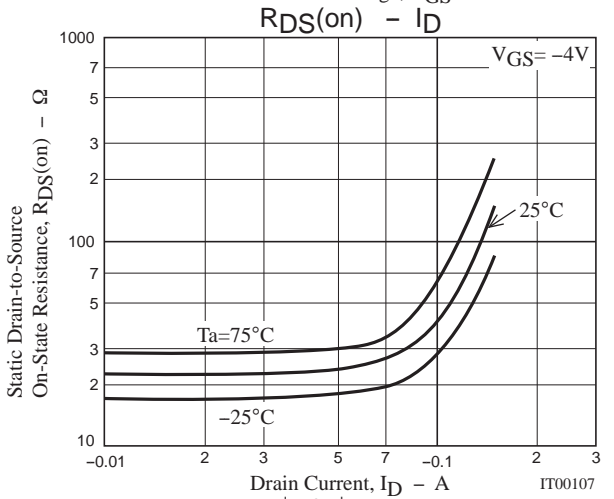
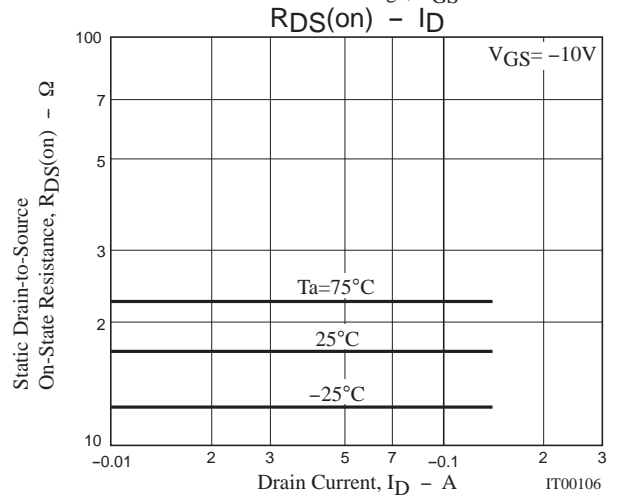
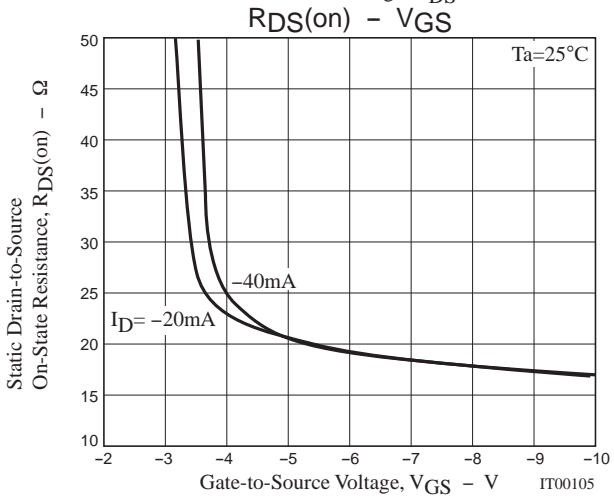
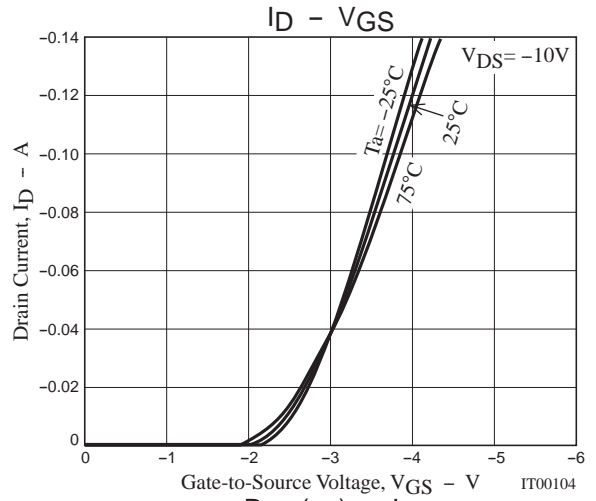
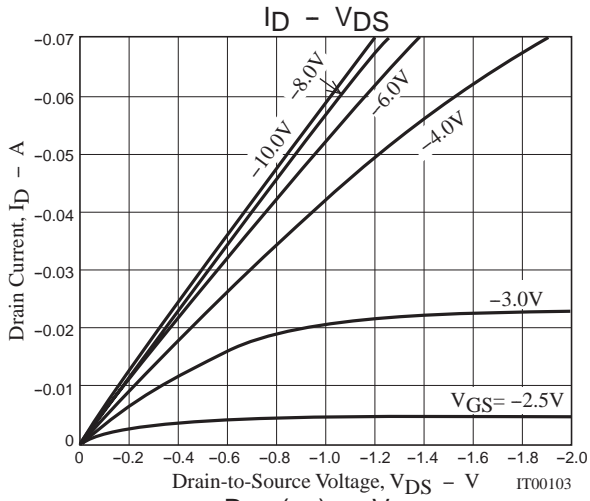
Switching Time Test Circuit



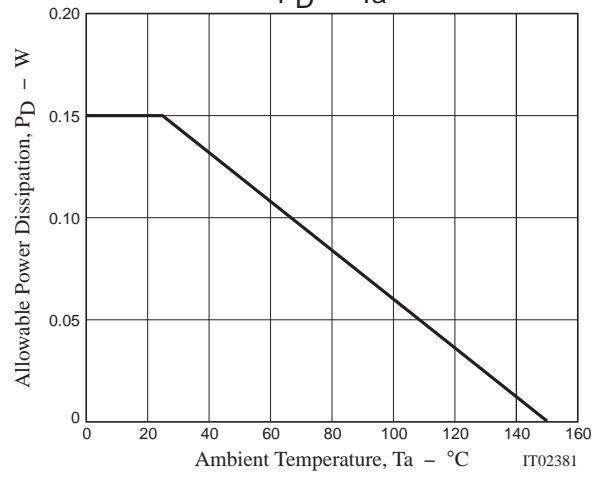
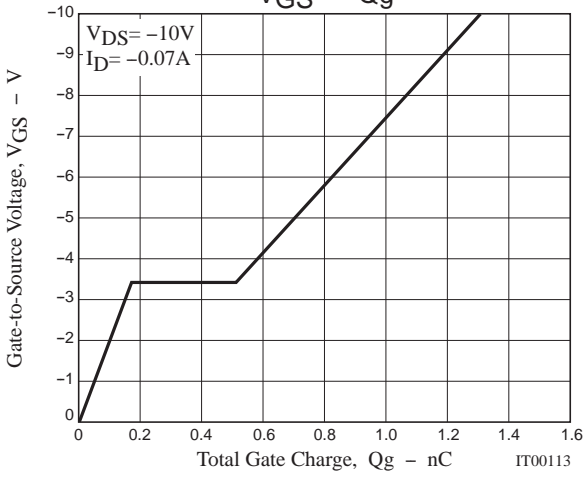
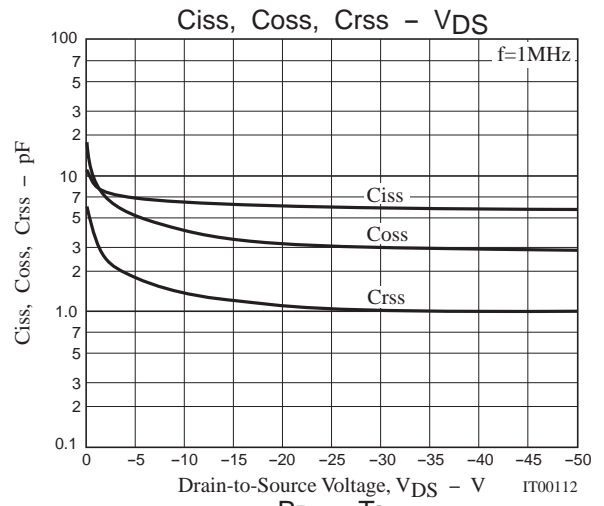
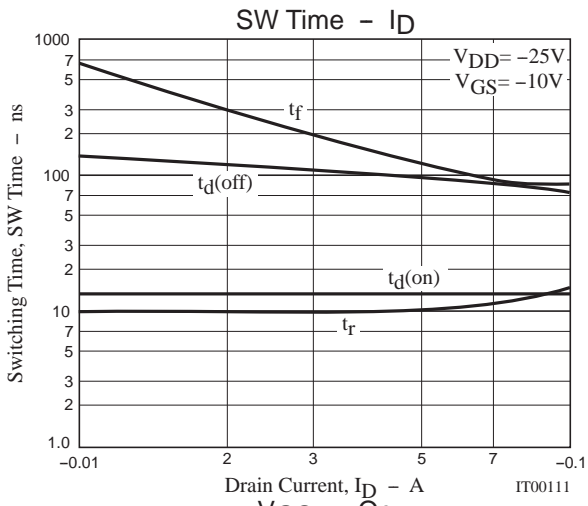
Ordering Information

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

5HP01M



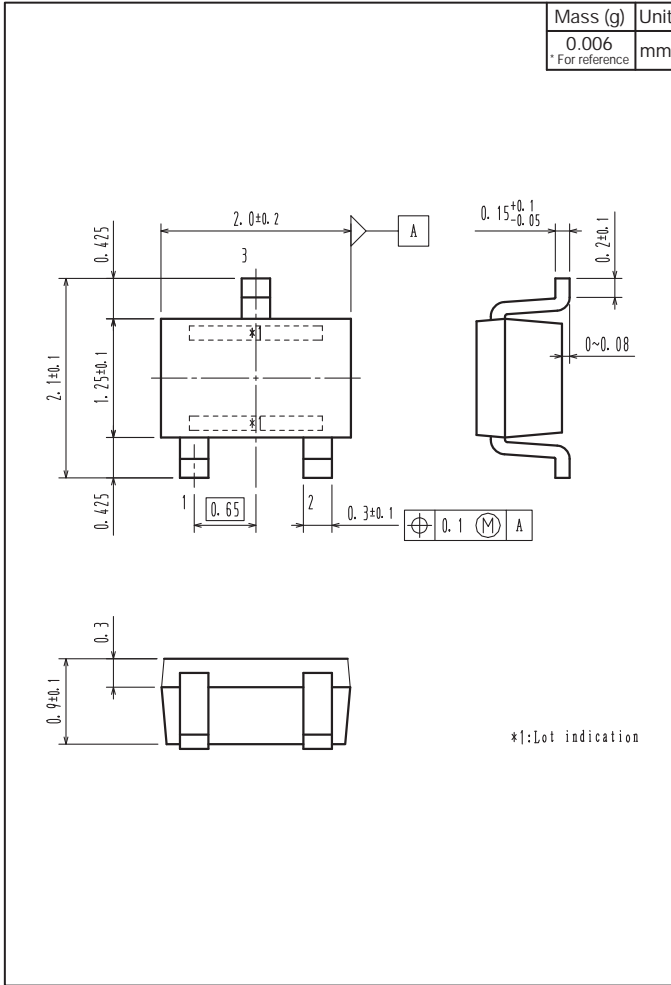
5HP01M



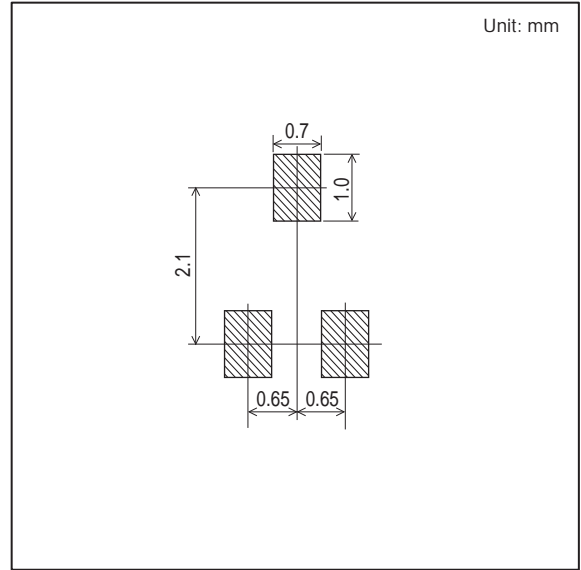
5HP01M

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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