



SANYO Semiconductors

DATA SHEET

An ON Semiconductor Company

P-Channel Silicon MOSFET

ECH8671 — General-Purpose Switching Device Applications

Features

- 1.8V drive
- Composite type, facilitating high-density mounting
- Halogen free compliance

Specifications

Absolute Maximum Ratings at Ta=25°C

Parameter	Symbol	Conditions	Ratings	Unit
Drain-to-Source Voltage	V_{DS}		-12	V
Gate-to-Source Voltage	V_{GS}		±10	V
Drain Current (DC)	I_D		-3.5	A
Drain Current (Pulse)	I_{DP}	$PW \leq 10\mu s$, duty cycle $\leq 1\%$	-30	A
Allowable Power Dissipation	P_D	When mounted on ceramic substrate (1200mm ² ×0.8mm) 1unit	1.3	W
Total Power Dissipation	P_T	When mounted on ceramic substrate (1200mm ² ×0.8mm)	1.5	W
Channel Temperature	T_{ch}		150	°C
Storage Temperature	T_{stg}		-55 to +150	°C

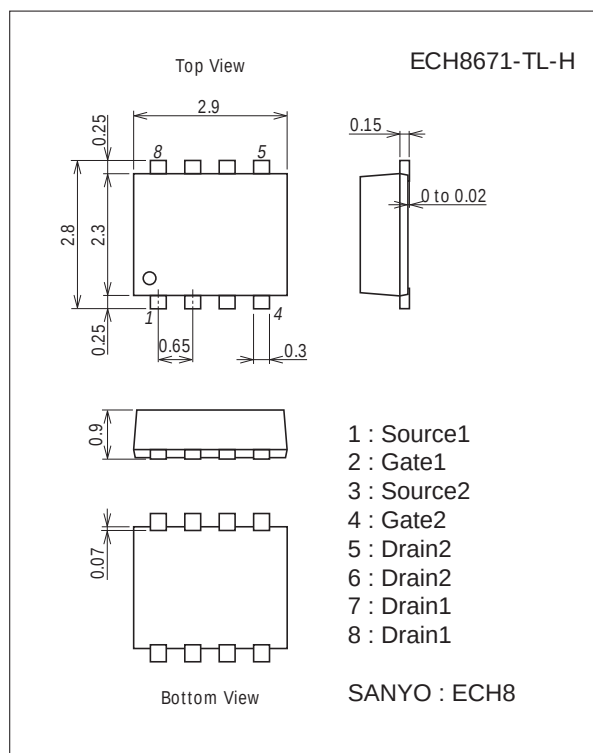
This product is designed to "ESD immunity < 200V*", so please take care when handling.

* Machine Model

Package Dimensions

unit : mm (typ)

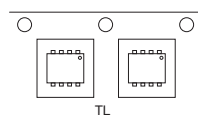
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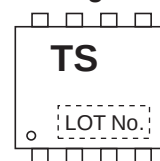
Product & Package Information

- Package : ECH8
- JEITA, JEDEC : -
- Minimum Packing Quantity : 3,000 pcs./reel

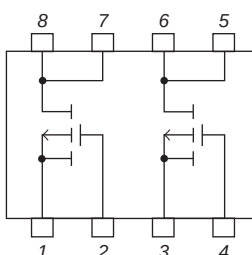
Packing Type : TL



Marking



Electrical Connection

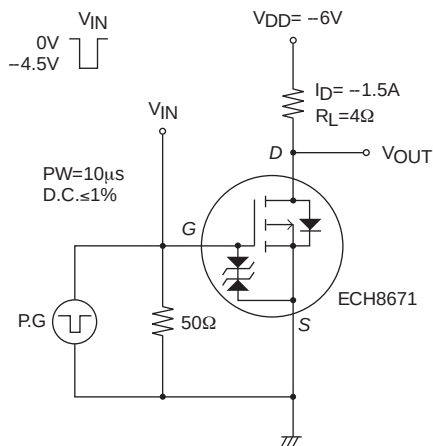


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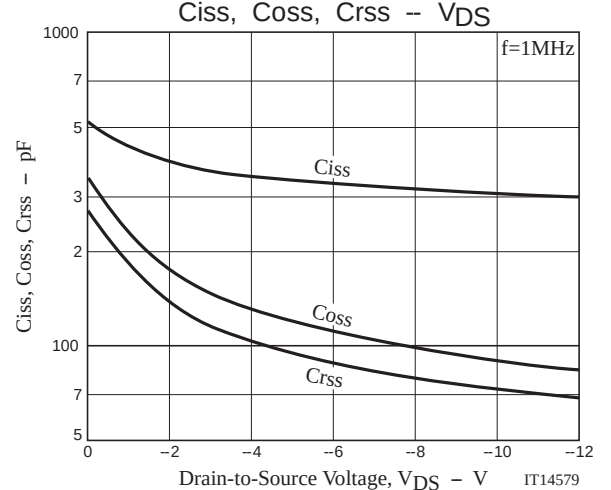
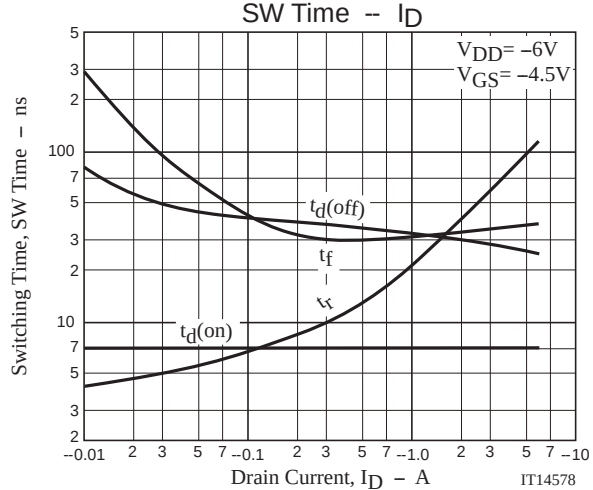
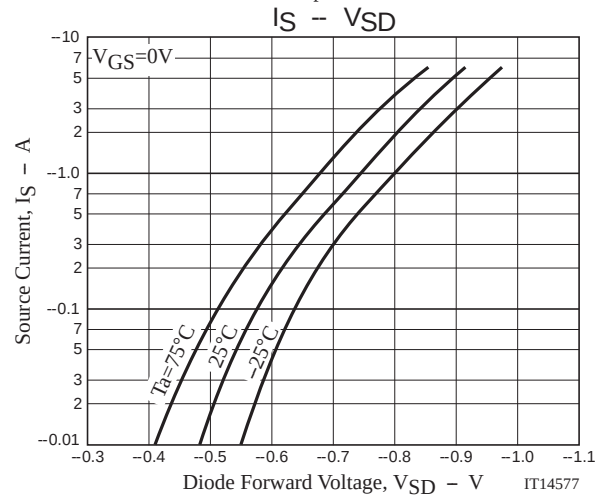
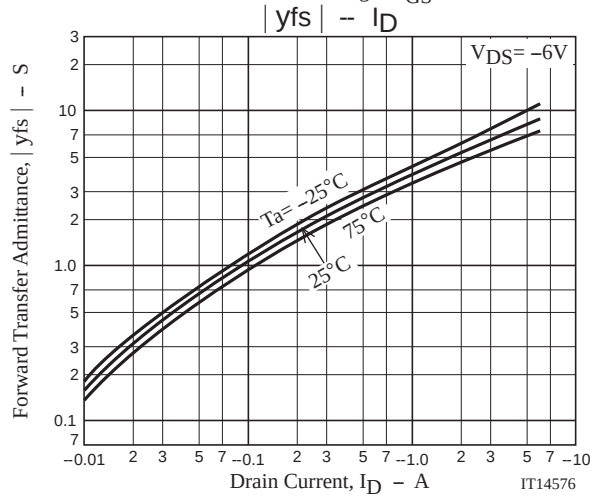
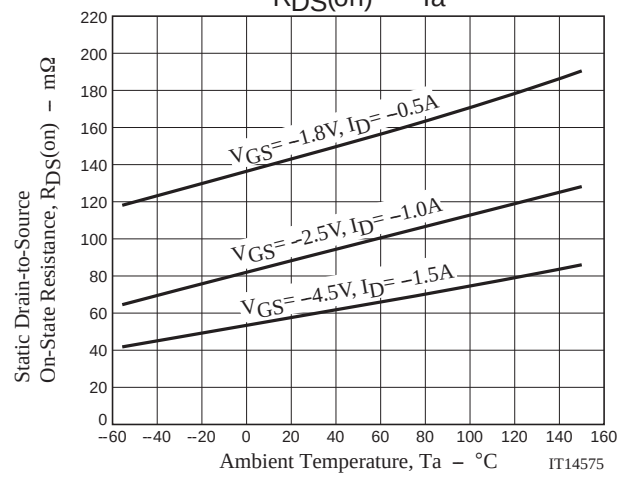
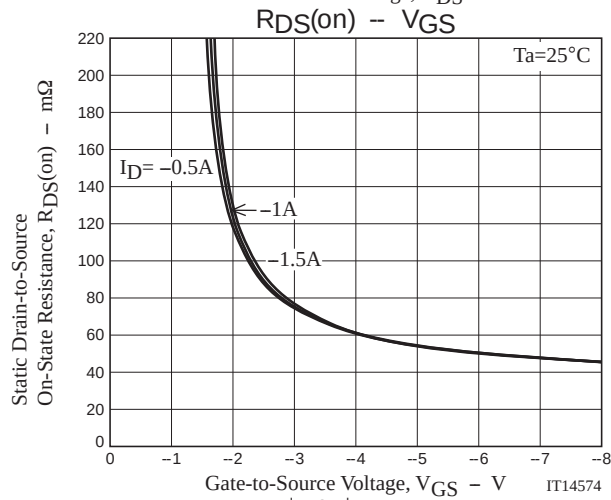
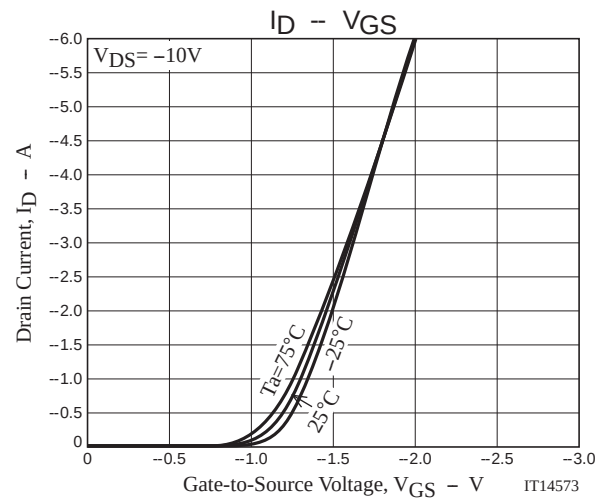
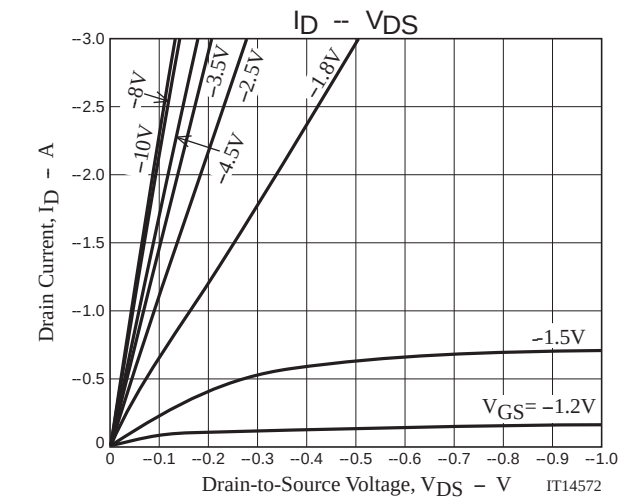
<http://semicon.sanyo.com/en/network>

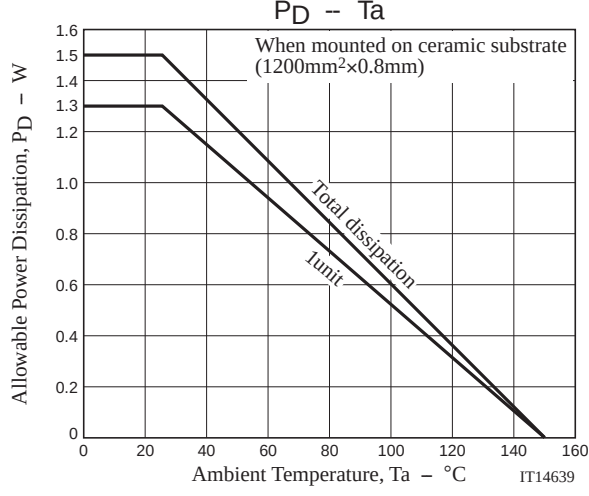
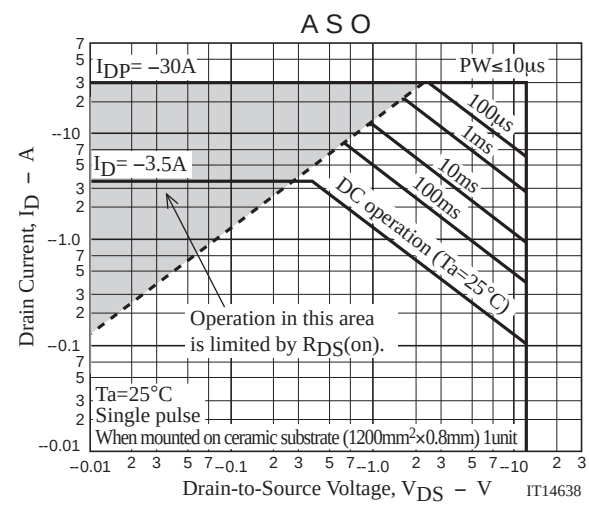
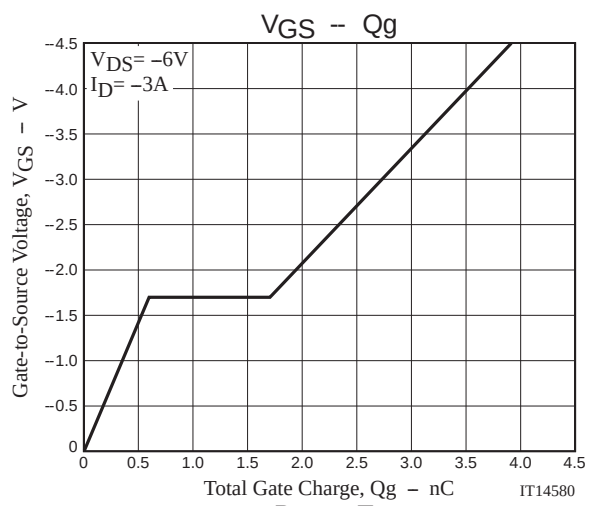
Electrical Characteristics at $T_a=25^{\circ}\text{C}$

Parameter	Symbol	Conditions	Ratings			Unit
			min	typ	max	
Drain-to-Source Breakdown Voltage	$V_{(BR)DSS}$	$I_D=-1\text{mA}$, $V_{GS}=0\text{V}$	-12			V
Zero-Gate Voltage Drain Current	I_{DSS}	$V_{DS}=-12\text{V}$, $V_{GS}=0\text{V}$			-10	μA
Gate-to-Source Leakage Current	I_{GSS}	$V_{GS}=\pm 8\text{V}$, $V_{DS}=0\text{V}$			± 10	μA
Cutoff Voltage	$V_{GS(off)}$	$V_{DS}=-6\text{V}$, $I_D=-1\text{mA}$	-0.4		-1.3	V
Forward Transfer Admittance	$ y_{fs} $	$V_{DS}=-6\text{V}$, $I_D=-1.5\text{A}$	2.7	4.6		S
Static Drain-to-Source On-State Resistance	$R_{DS(on)1}$	$I_D=-1.5\text{A}$, $V_{GS}=-4.5\text{V}$		59	77	$\text{m}\Omega$
	$R_{DS(on)2}$	$I_D=-1\text{A}$, $V_{GS}=-2.5\text{V}$		90	126	$\text{m}\Omega$
	$R_{DS(on)3}$	$I_D=-0.5\text{A}$, $V_{GS}=-1.8\text{V}$		145	215	$\text{m}\Omega$
Input Capacitance	C_{iss}	$V_{DS}=-6\text{V}$, $f=1\text{MHz}$		330		pF
Output Capacitance	C_{oss}			110		pF
Reverse Transfer Capacitance	C_{rss}			88		pF
Turn-ON Delay Time	$t_d(on)$			7.1		ns
Rise Time	t_r	See specified Test Circuit.		30		ns
Turn-OFF Delay Time	$t_d(off)$			31		ns
Fall Time	t_f			32		ns
Total Gate Charge	Q_g	$V_{DS}=-6\text{V}$, $V_{GS}=-4.5\text{V}$, $I_D=-3.5\text{A}$		3.9		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}	$I_S=-3.5\text{A}$, $V_{GS}=0\text{V}$		-0.85	-1.2	V

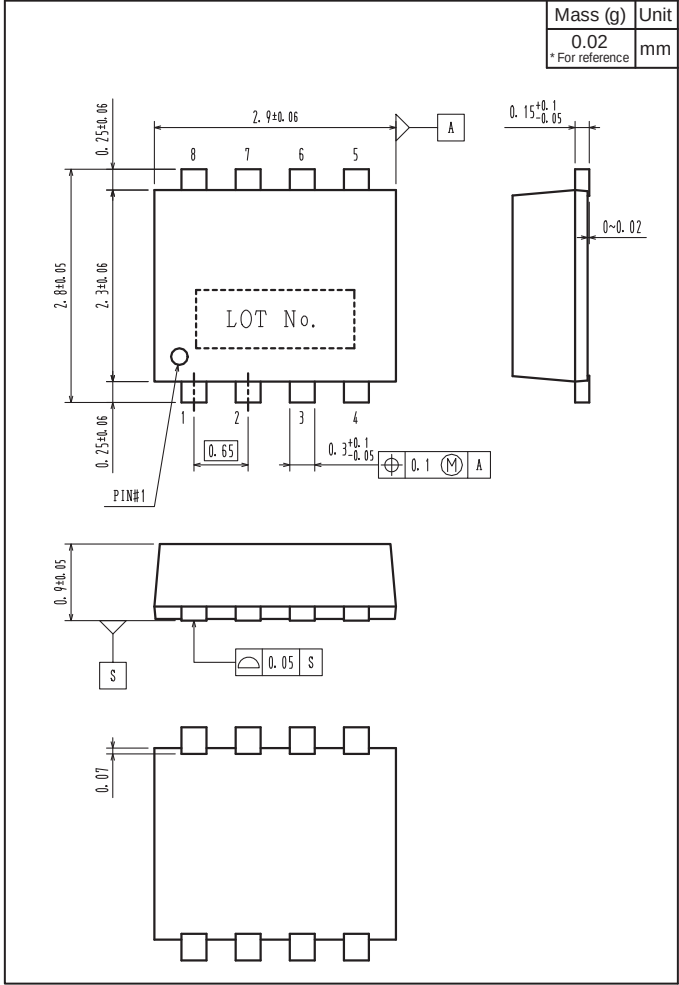
Switching Time Test Circuit**Ordering Information**

Device	Package	Shipping	memo
ECH8671-TL-H	ECH8	3,000pcs./reel	Pb Free and Halogen Free

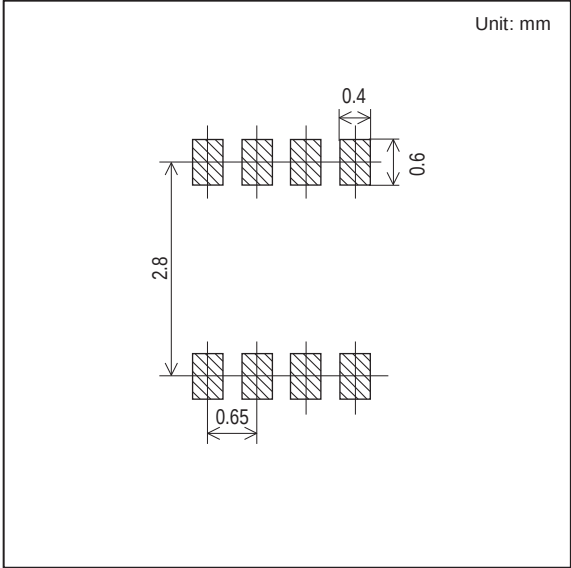




Outline Drawing
ECH8671-TL-H



Land Pattern Example



Note on usage : Since the ECH8671 is a MOSFET product, please avoid using this device in the vicinity of highly charged objects.

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