



ECH8674 — P-Channel Silicon MOSFET

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 _{DSS}		-12	V
Gate-to-Source Voltage	V _{GSS}		±10	V
Drain Current (DC)	I _D		-5	A
Drain Current (Pulse)	I _{DP}	PW≤10μs, duty cycle≤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

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 _{DSS1}	V _{DS} =-8V, V _{GS} =0V			-1	μA
	I _{DSS2}	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 =-3A	4.8	8.1		S

Marking : TV

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ECH8674

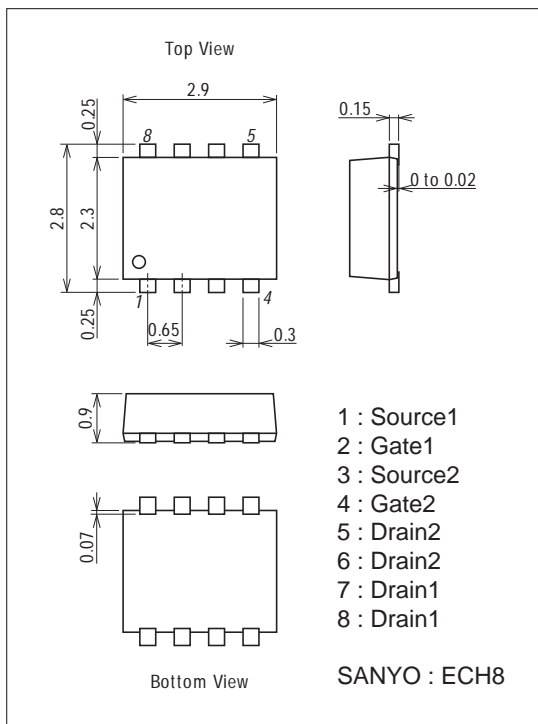
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Parameter	Symbol	Conditions	Ratings			Unit
			min	typ	max	
Static Drain-to-Source On-State Resistance	$R_{DS(on)1}$	$I_D = -3A, V_{GS} = -4.5V$		31	41	$m\Omega$
	$R_{DS(on)2}$	$I_D = -1.5A, V_{GS} = -2.5V$		45	63	$m\Omega$
	$R_{DS(on)3}$	$I_D = -0.5A, V_{GS} = -1.8V$		66	95	$m\Omega$
Input Capacitance	C_{iss}	$V_{DS} = -6V, f = 1MHz$		660		μF
Output Capacitance	C_{oss}	$V_{DS} = -6V, f = 1MHz$		210		μF
Reverse Transfer Capacitance	C_{rss}	$V_{DS} = -6V, f = 1MHz$		155		μF
Turn-ON Delay Time	$t_{d(on)}$	See specified Test Circuit.		7.4		ns
Rise Time	t_r	See specified Test Circuit.		57		ns
Turn-OFF Delay Time	$t_{d(off)}$	See specified Test Circuit.		72		ns
Fall Time	t_f	See specified Test Circuit.		69		ns
Total Gate Charge	Q_g	$V_{DS} = -6V, V_{GS} = -4.5V, I_D = -5A$		6.9		nC
Gate-to-Source Charge	Q_{gs}	$V_{DS} = -6V, V_{GS} = -4.5V, I_D = -5A$		1.2		nC
Gate-to-Drain "Miller" Charge	Q_{gd}	$V_{DS} = -6V, V_{GS} = -4.5V, I_D = -5A$		1.8		nC
Diode Forward Voltage	V_{SD}	$I_S = -5A, V_{GS} = 0V$		-0.83	-1.2	V

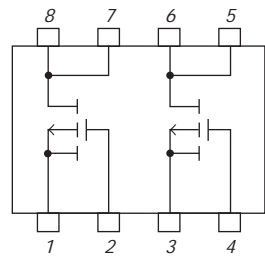
Package Dimensions

unit : mm (typ)

7011A-001



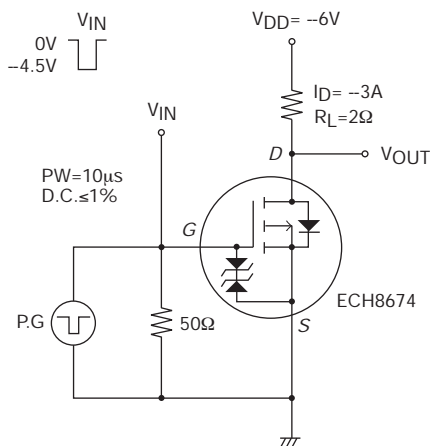
Electrical Connection

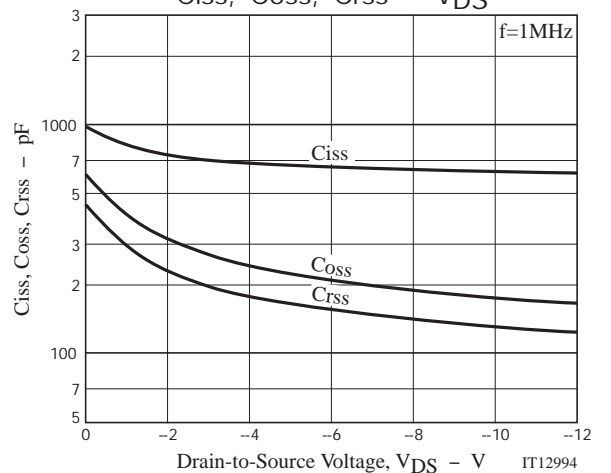
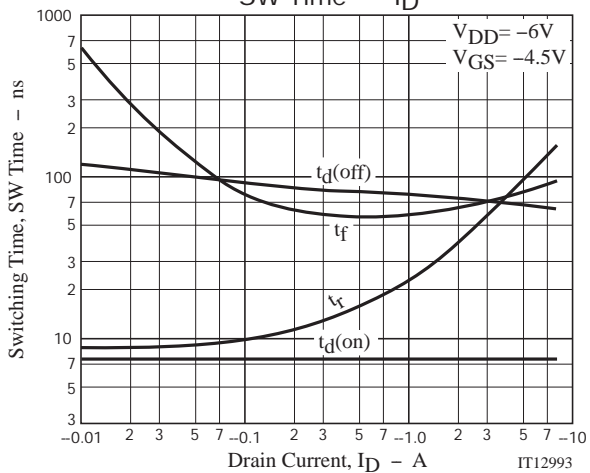
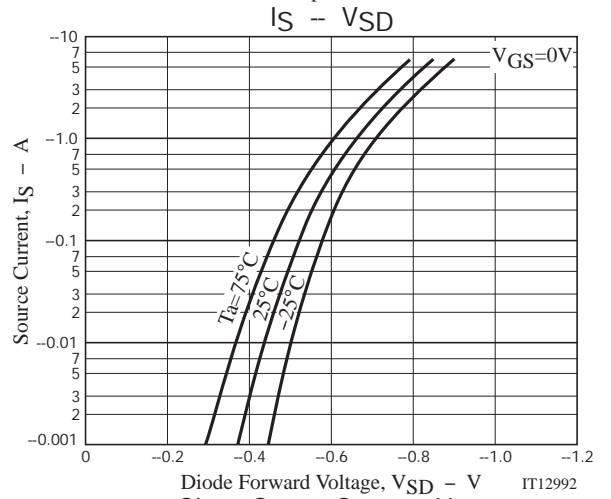
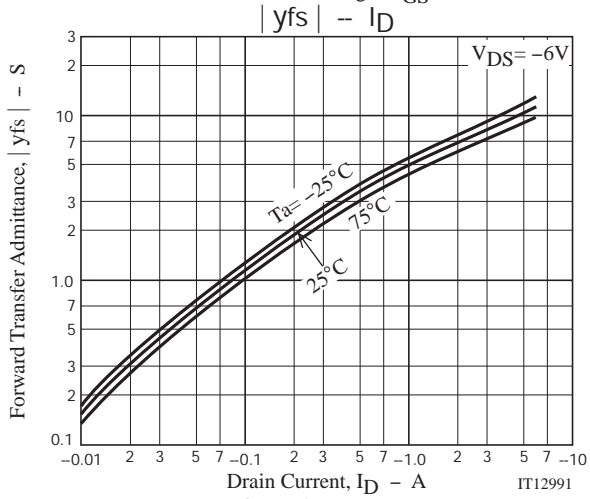
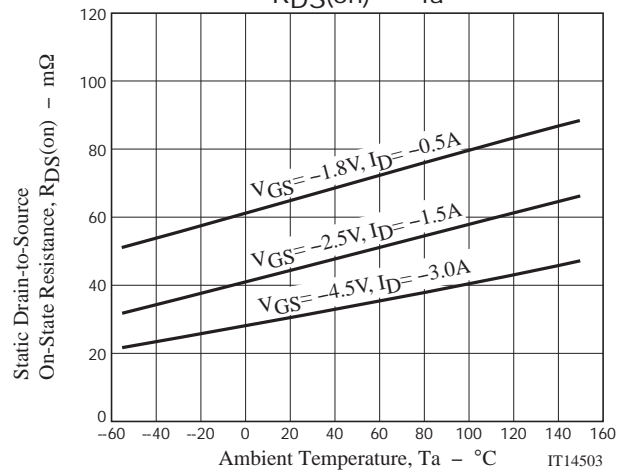
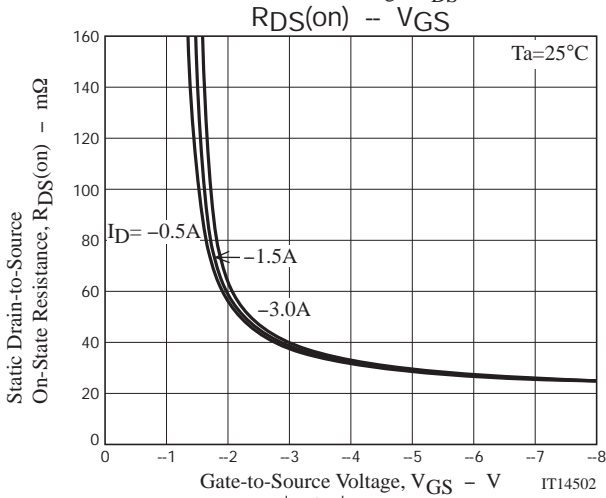
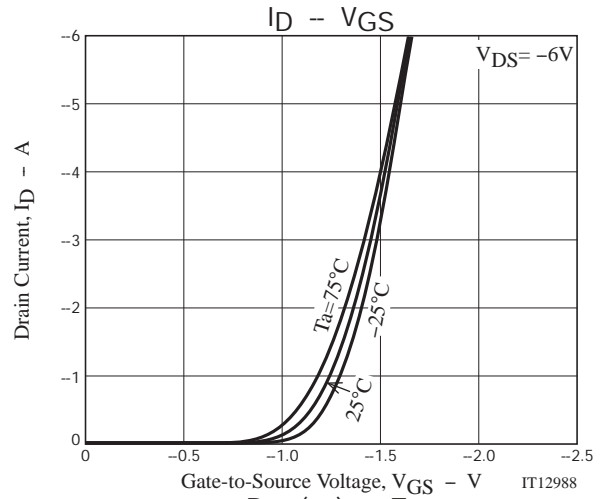
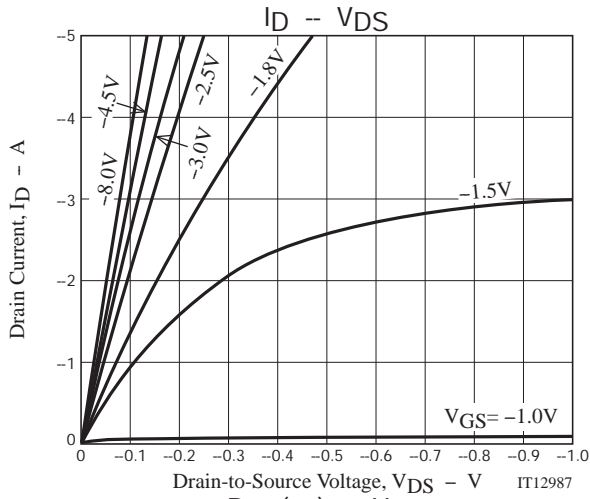


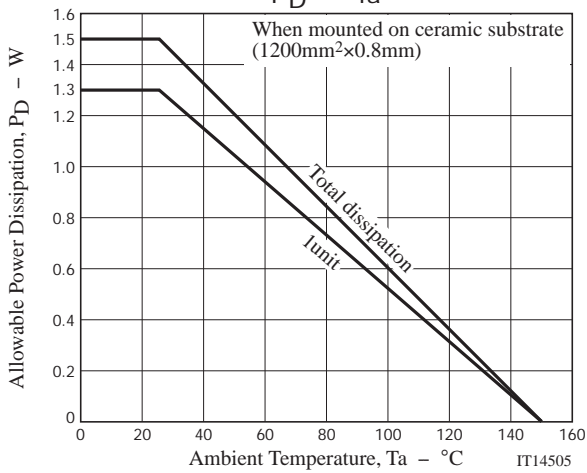
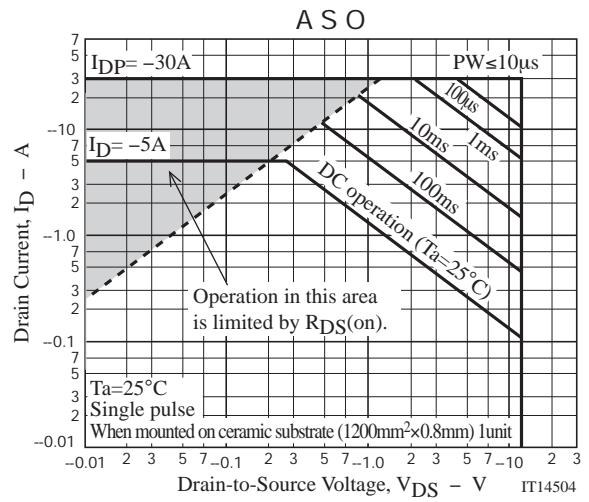
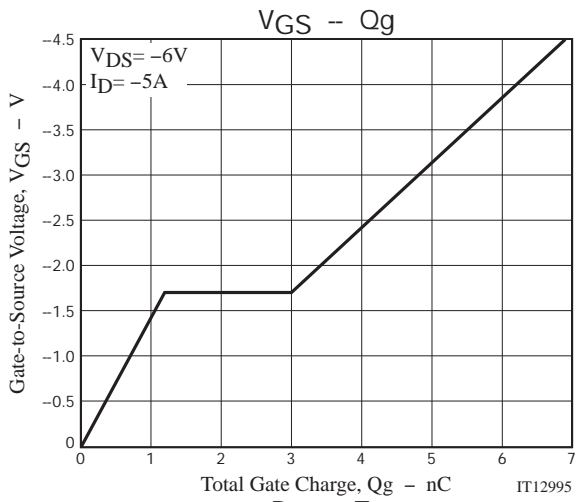
- 1 : Source1
- 2 : Gate1
- 3 : Source2
- 4 : Gate2
- 5 : Drain2
- 6 : Drain2
- 7 : Drain1
- 8 : Drain1

Top view

Switching Time Test Circuit







Note on usage : Since the ECH8674 is a MOSFET product, please avoid using this device in the vicinity of highly charged objects.

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