



SANYO Semiconductors

DATA SHEET

N-Channel Silicon MOSFET

ECH8662—General-Purpose Switching Device Applications

Features

- Low ON-resistance.
- 2.5V drive.
- Halogen free compliance.

Specifications

Absolute Maximum Ratings at Ta=25°C

Parameter	Symbol	Conditions	Ratings		Unit
Drain-to-Source Voltage	V _{DSS}			40	V
Gate-to-Source Voltage	V _{GSS}			±10	V
Drain Current (DC)	I _D			6.5	A
Drain Current (Pulse)	I _{DP}	PW≤10μs, duty cycle≤1%		40	A
Allowable Power Dissipation	P _D	When mounted on ceramic substrate (900mm ² ×0.8mm) 1 unit		1.3	W
Total Dissipation	P _T	When mounted on ceramic substrate (900mm 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	40			V
Zero-Gate Voltage Drain Current	I _{DSS}	V _{DS} =40V, V _{GS} =0V			1	μA
Gate-to-Source Leakage Current	I _{GSS}	V _{GS} =±8V, V _{DS} =0V			±10	μA
Cutoff Voltage	V _{GS(off)}	V _{DS} =10V, I _D =1mA	0.4		1.3	V
Forward Transfer Admittance	y _{fs}	V _{DS} =10V, I _D =3.5A	3.9	6.5		S

Marking : TH

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ECH8662

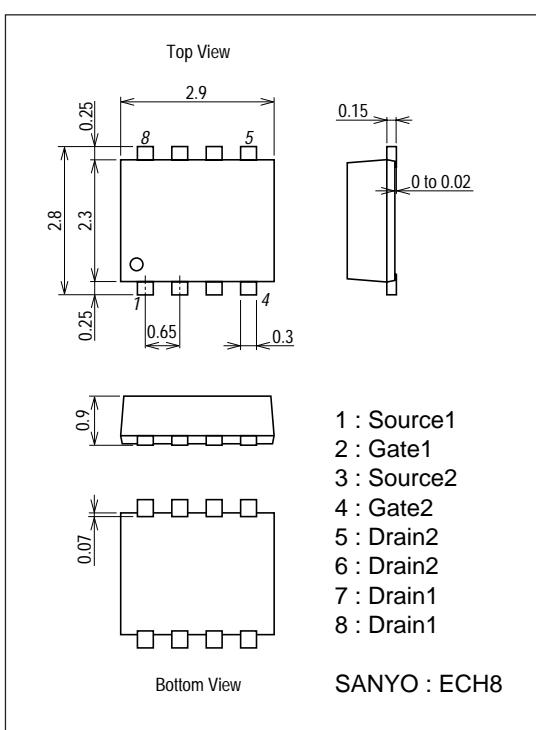
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Parameter	Symbol	Conditions	Ratings			Unit
			min	typ	max	
Static Drain-to-Source On-State Resistance	R _{DS(on)1}	I _D =3.5A, V _{GS} =4.5V		23	30	mΩ
	R _{DS(on)2}	I _D =3.5A, V _{GS} =4V		25	33	mΩ
	R _{DS(on)3}	I _D =1.5A, V _{GS} =2.5V		30	42	mΩ
Input Capacitance	C _{iss}	V _{DS} =20V, f=1MHz		1130		pF
Output Capacitance	C _{oss}	V _{DS} =20V, f=1MHz		77		pF
Reverse Transfer Capacitance	C _{rss}	V _{DS} =20V, f=1MHz		60		pF
Turn-ON Delay Time	t _{d(on)}	See specified Test Circuit.		14		ns
Rise Time	t _r	See specified Test Circuit.		34		ns
Turn-OFF Delay Time	t _{d(off)}	See specified Test Circuit.		93		ns
Fall Time	t _f	See specified Test Circuit.		55		ns
Total Gate Charge	Q _g	V _{DS} =20V, V _{GS} =4.5V, I _D =6.5A		12		nC
Gate-to-Source Charge	Q _{gs}	V _{DS} =20V, V _{GS} =4.5V, I _D =6.5A		2.2		nC
Gate-to-Drain "Miller" Charge	Q _{gd}	V _{DS} =20V, V _{GS} =4.5V, I _D =6.5A		3.4		nC
Diode Forward Voltage	V _{SD}	I _S =6.5A, V _{GS} =0V		0.85	1.2	V

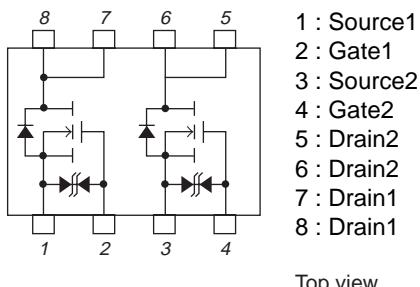
Package Dimensions

unit : mm (typ)

7011A-001

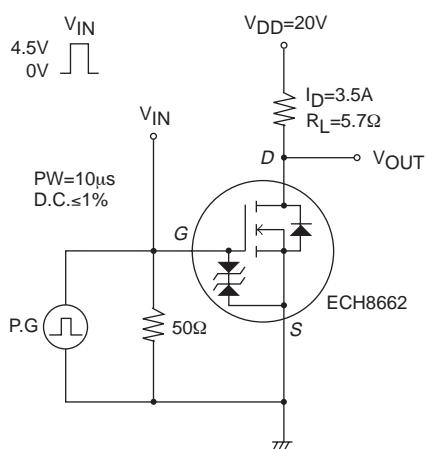


Electrical Connection

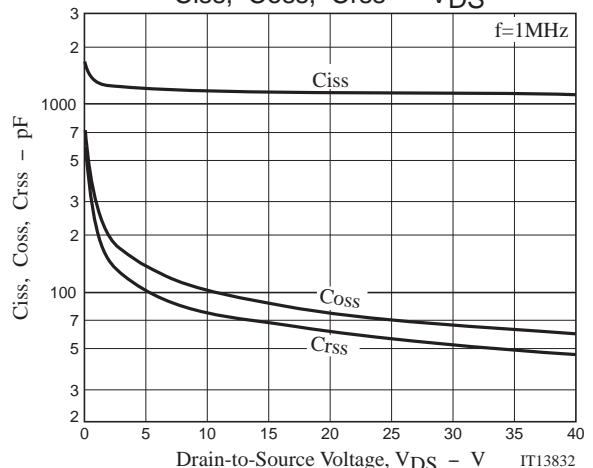
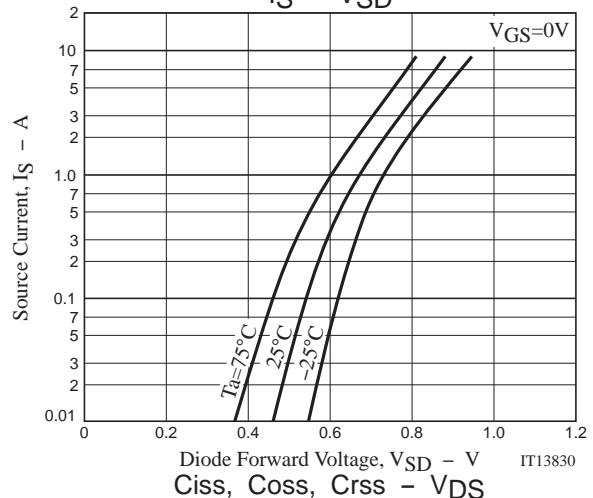
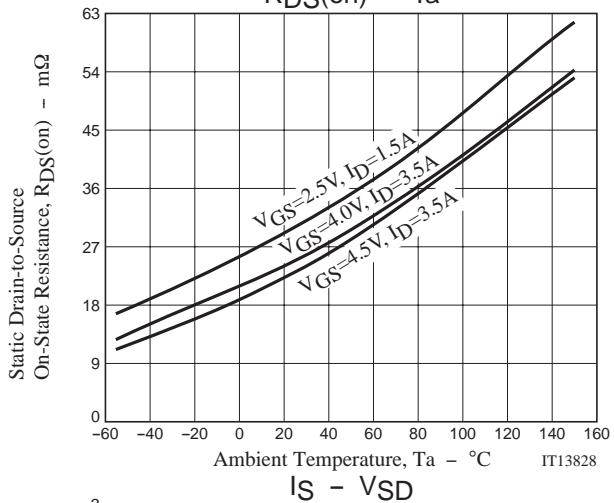
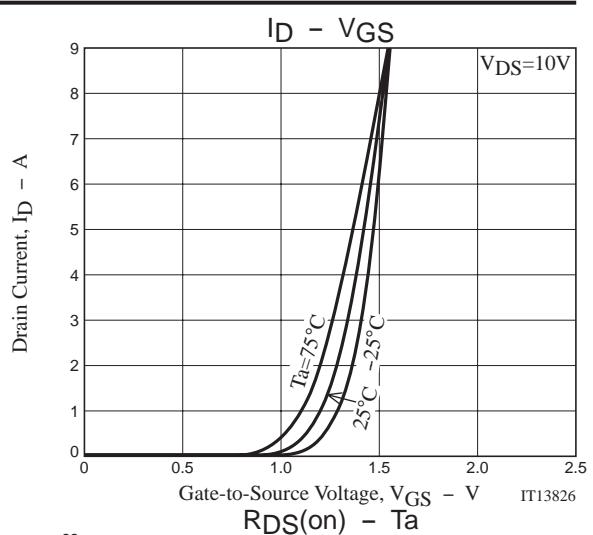
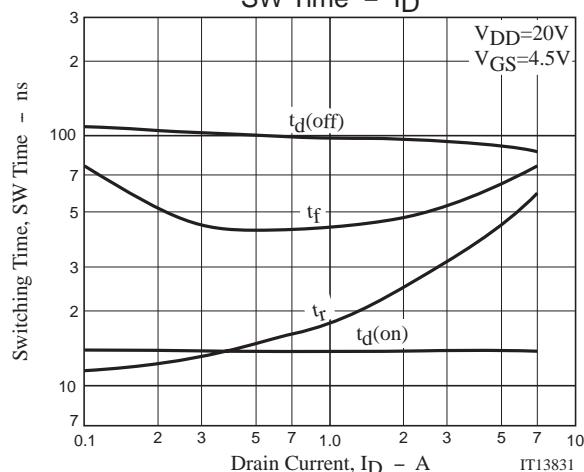
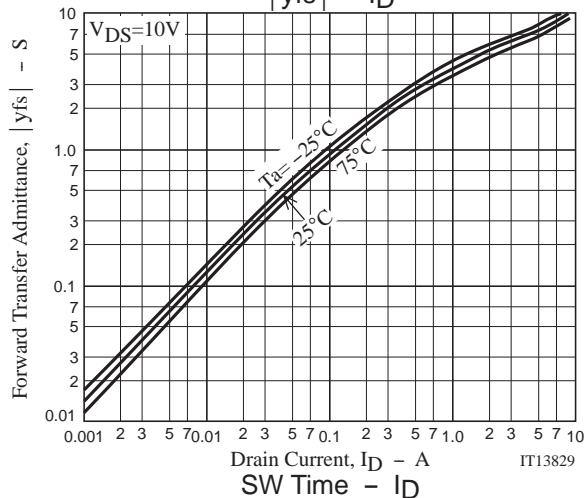
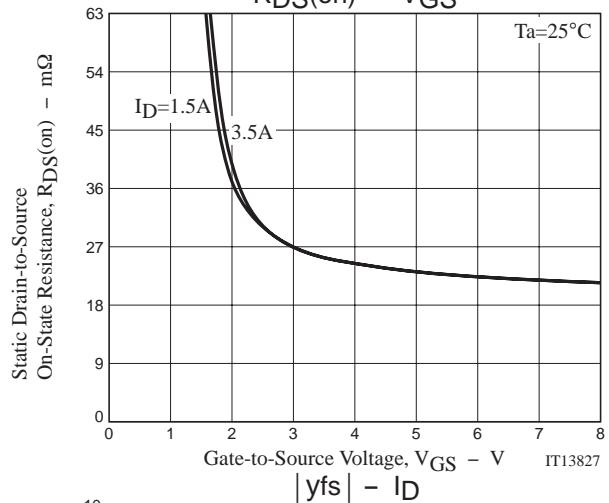
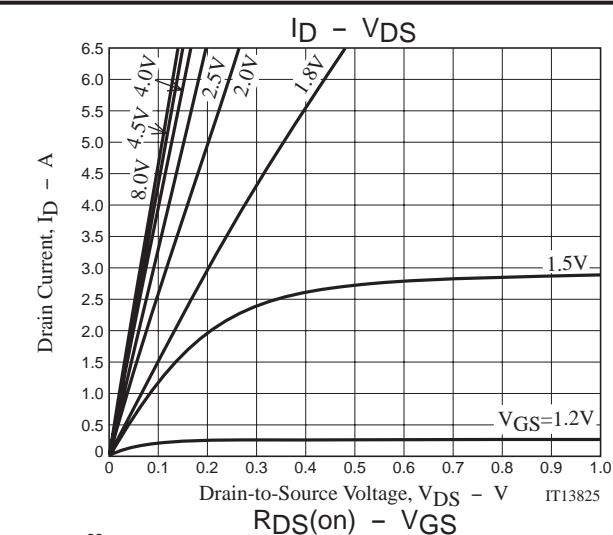


Top view

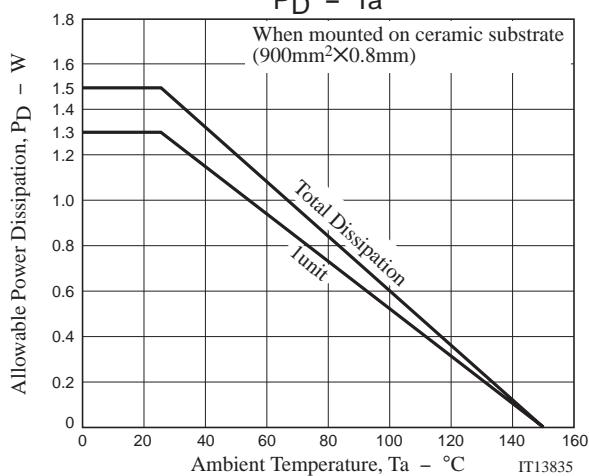
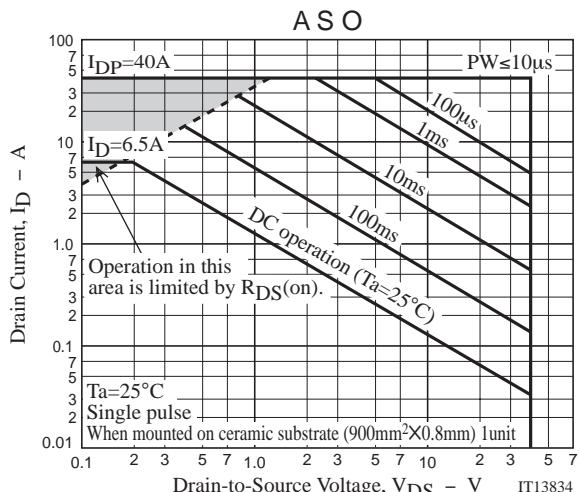
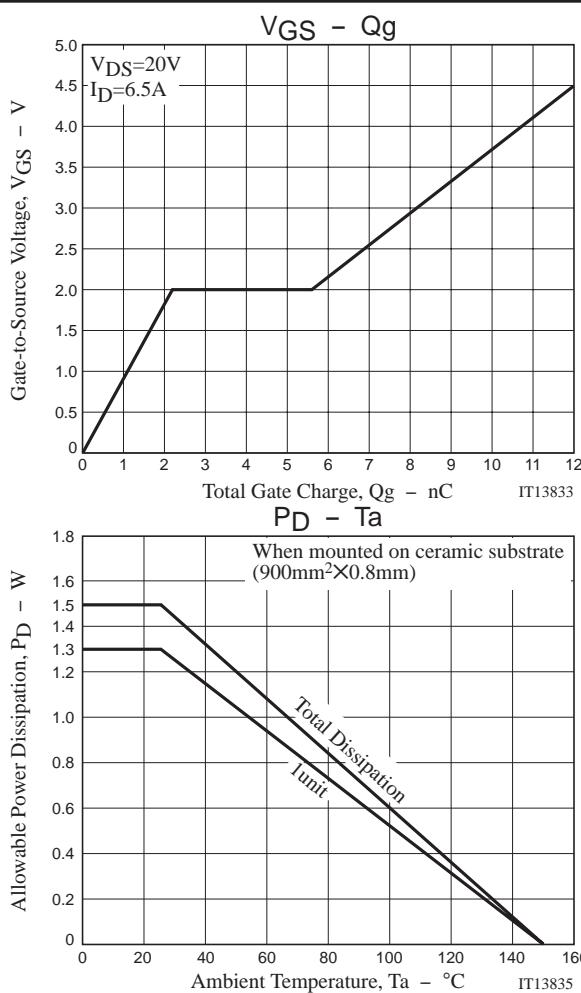
Switching Time Test Circuit



ECH8662



ECH8662



Note on usage : Since the ECH8662 is a MOSFET product, please avoid using this device in the vicinity of highly charged objects.

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