



ECH8302 — P-Channel Silicon MOSFET

General-Purpose Switching Device Applications

Features

- Low ON-resistance.
- 4V drive.

Specifications

Absolute Maximum Ratings at Ta=25°C

Parameter	Symbol	Conditions	Ratings	Unit
Drain-to-Source Voltage	V _{DSS}		-30	V
Gate-to-Source Voltage	V _{GSS}		±20	V
Drain Current (DC)	I _D		-7	A
Drain Current (Pulse)	I _{DP}	PW≤10μs, duty cycle≤1%	-40	A
Allowable Power Dissipation	P _D	Mounted on a ceramic board (900mm ² ×0.8mm)	1.6	W
Channel Temperature	T _{ch}		150	°C
Storage Temperature	T _{stg}		-55 to +150	°C

Electrical Characteristics at Ta=25°C

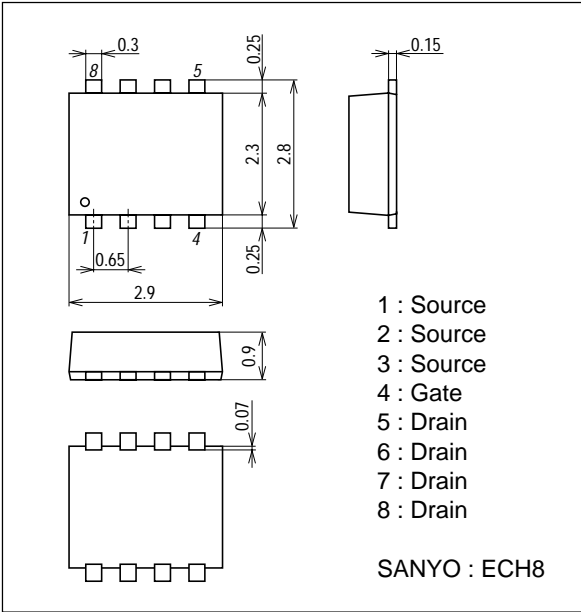
Parameter	Symbol	Conditions	Ratings			Unit
			min	typ	max	
Drain-to-Source Breakdown Voltage	V _{(BR)DSS}	I _D =-1mA, V _{GS} =0	-30			V
Zero-Gate Voltage Drain Current	I _{DSS}	V _{DS} =-30V, V _{GS} =0			-1	μA
Gate-to-Source Leakage Current	I _{GSS}	V _{GS} =±16V, V _{DS} =0			±10	μA
Cutoff Voltage	V _{GS(off)}	V _{DS} =-10V, I _D =-1mA	-1.0		-2.4	V
Forward Transfer Admittance	y _{fs}	V _{DS} =-10V, I _D =-3.5A	5.7	9.5		S
Static Drain-to-Source On-State Resistance	R _{DS(on)1}	I _D =-3.5A, V _{GS} =-10V		19	25	mΩ
	R _{DS(on)2}	I _D =-2A, V _{GS} =-4V		34	48	mΩ
Input Capacitance	C _{iss}	V _{DS} =-10V, f=1MHz		1400		pF
Output Capacitance	C _{oss}	V _{DS} =-10V, f=1MHz		310		pF
Reverse Transfer Capacitance	C _{rss}	V _{DS} =-10V, f=1MHz		230		pF
Turn-ON Delay Time	t _{d(on)}	See specified Test Circuit.		13		ns
Rise Time	t _r	See specified Test Circuit.		70		ns
Turn-OFF Delay Time	t _{d(off)}	See specified Test Circuit.		150		ns
Fall Time	t _f	See specified Test Circuit.		90		ns
Total Gate Charge	Q _g	V _{DS} =-10V, V _{GS} =-10V, I _D =-7A		28		nC
Gate-to-Source Charge	Q _{gs}	V _{DS} =-10V, V _{GS} =-10V, I _D =-7A		4.8		nC
Gate-to-Drain "Miller" Charge	Q _{gd}	V _{DS} =-10V, V _{GS} =-10V, I _D =-7A		8.1		nC
Diode Forward Voltage	V _{SD}	I _S =-7A, V _{GS} =0		-0.82	-1.2	V

Marking : JB

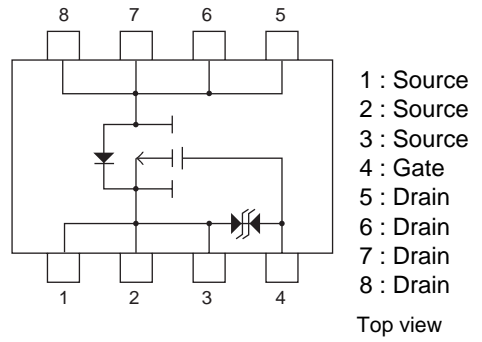
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Package Dimensions

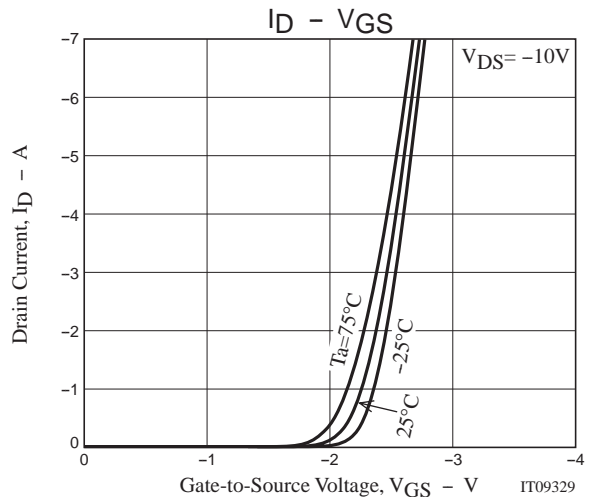
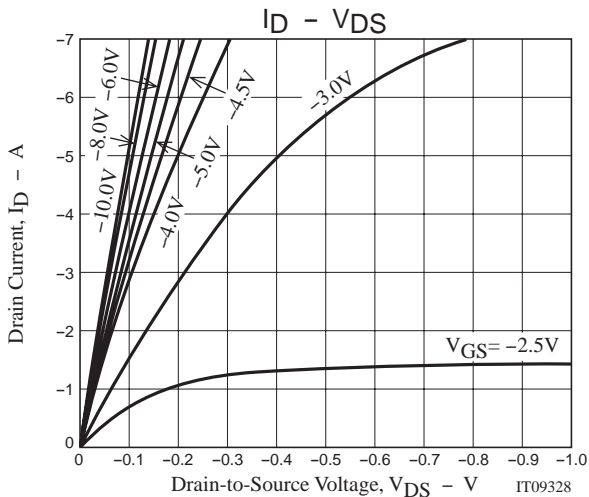
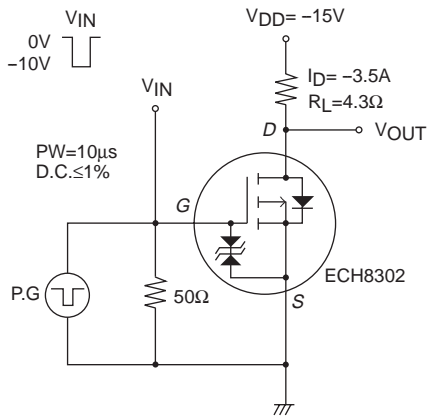
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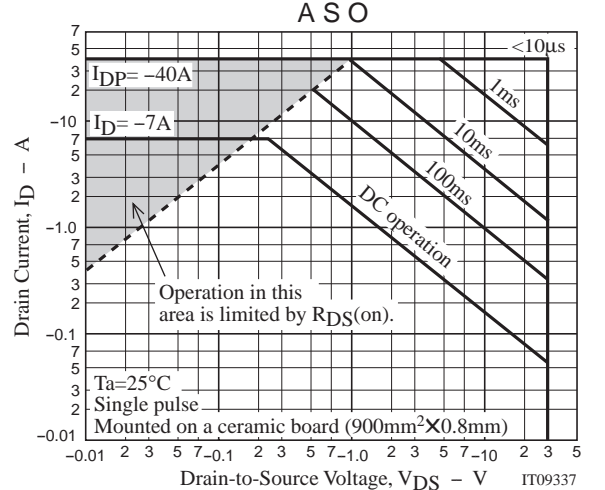
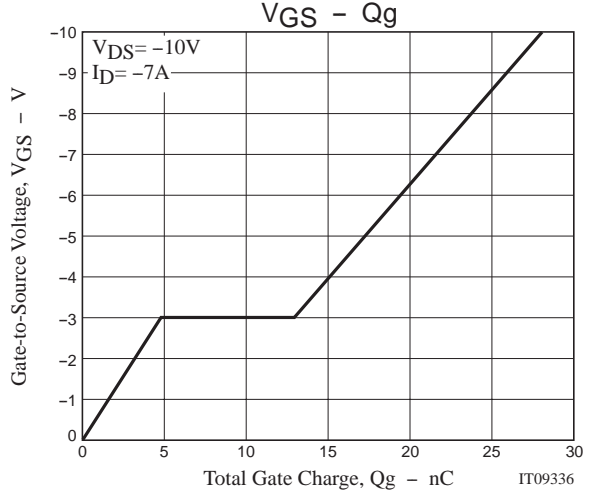
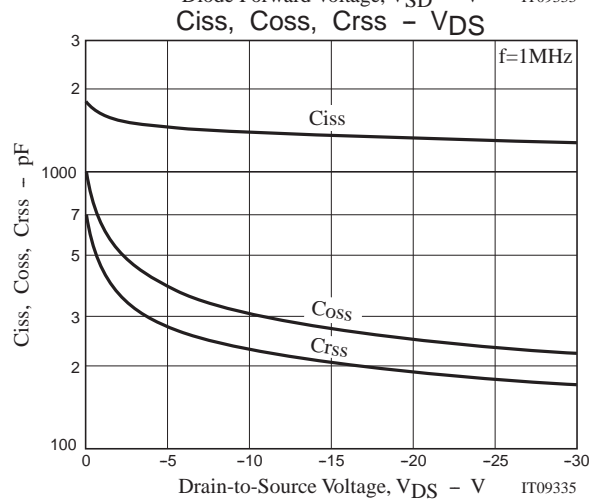
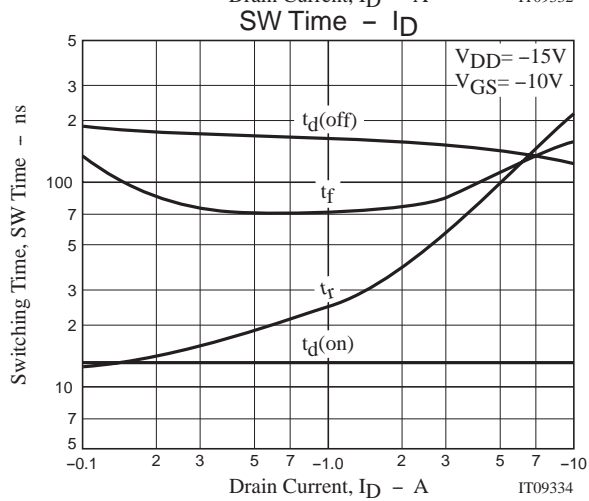
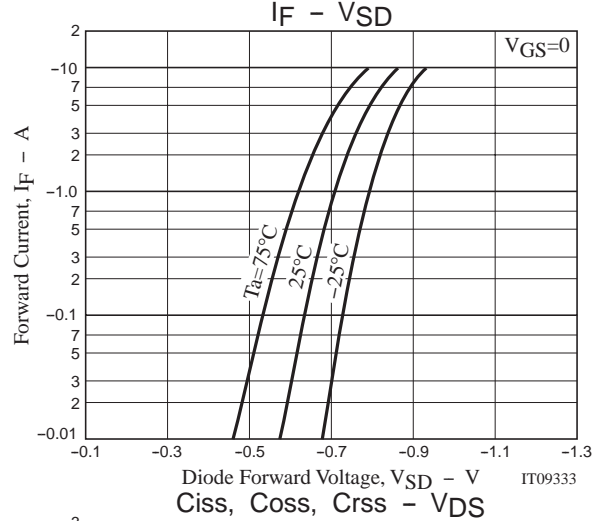
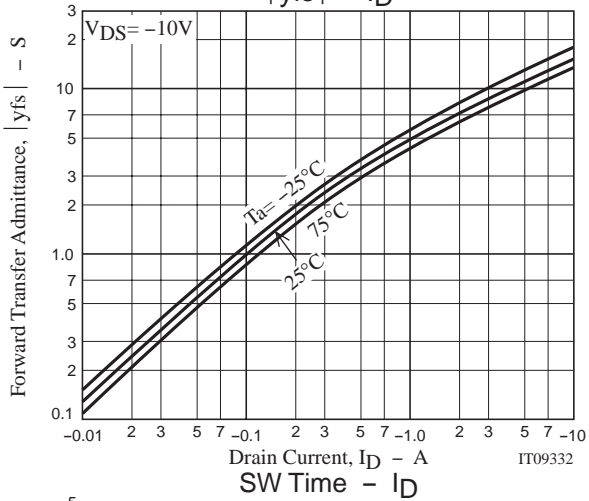
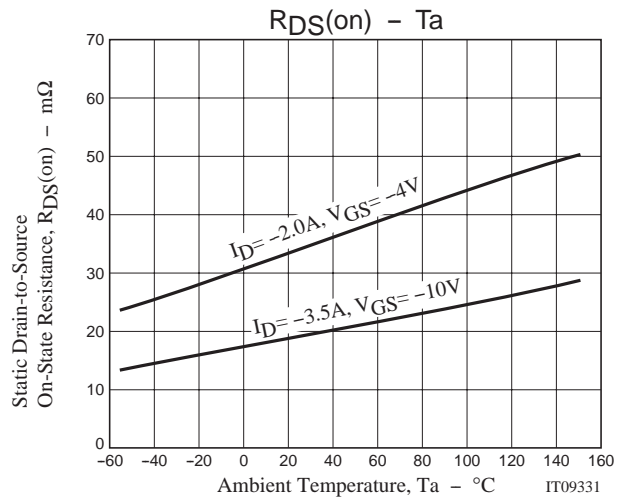
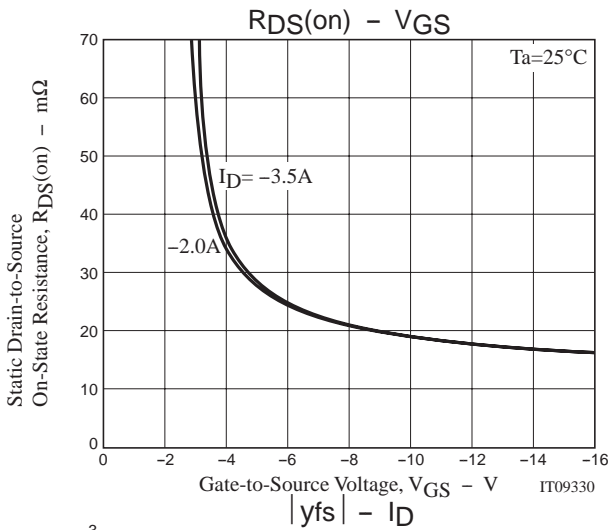
Electrical Connection

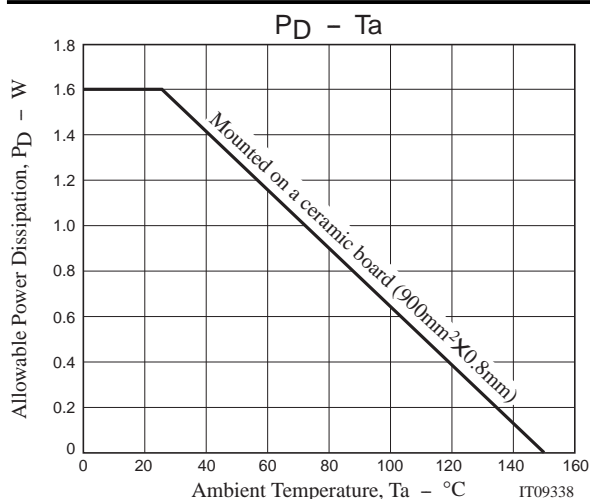


Switching Time Test Circuit



ECH8302





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