



MCH3321

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}		-100	V
Gate-to-Source Voltage	V _{GSS}		±20	V
Drain Current (DC)	I _D		-0.5	A
Drain Current (Pulse)	I _{DP}	PW≤10μs, duty cycle≤1%	-2	A
Allowable Power Dissipation	P _D	Mounted on a ceramic board (900mm ² ×0.8mm)	0.9	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	-100			V
Zero-Gate Voltage Drain Current	I _{DSS}	V _{DS} =-100V, 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	-1.2		-2.6	V
Forward Transfer Admittance	y _{fs}	V _{DS} =-10V, I _D =-250mA	0.4	0.8		S
Static Drain-to-Source On-State Resistance	R _{DS(on)1}	I _D =-250mA, V _{GS} =-10V		1.55	2.0	Ω
	R _{DS(on)2}	I _D =-250mA, V _{GS} =-4V		1.8	2.5	Ω
Input Capacitance	C _{iss}	V _{DS} =-20V, f=1MHz		165		pF
Output Capacitance	C _{oss}	V _{DS} =-20V, f=1MHz		11		pF
Reverse Transfer Capacitance	C _{rss}	V _{DS} =-20V, f=1MHz		9.0		pF
Turn-ON Delay Time	t _{d(on)}	See specified Test Circuit.		7.0		ns
Rise Time	t _r	See specified Test Circuit.		3.3		ns
Turn-OFF Delay Time	t _{d(off)}	See specified Test Circuit.		32		ns
Fall Time	t _f	See specified Test Circuit.		15		ns

Marking : JW

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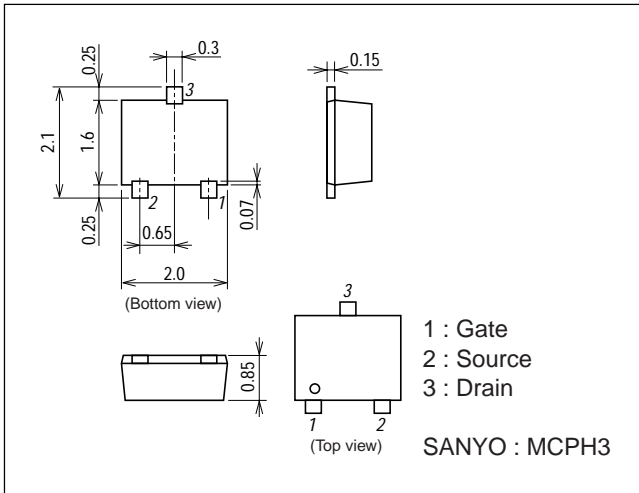
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Parameter	Symbol	Conditions	Ratings			Unit
			min	typ	max	
Total Gate Charge	Qg	$V_{DS}=-50V, V_{GS}=-10V, I_D=-0.5A$		4.8		nC
Gate-to-Source Charge	Qgs	$V_{DS}=-50V, V_{GS}=-10V, I_D=-0.5A$		0.8		nC
Gate-to-Drain "Miller" Charge	Qgd	$V_{DS}=-50V, V_{GS}=-10V, I_D=-0.5A$		0.8		nC
Diode Forward Voltage	VSD	$I_S=-0.5A, V_{GS}=0$		-0.87	-1.2	V

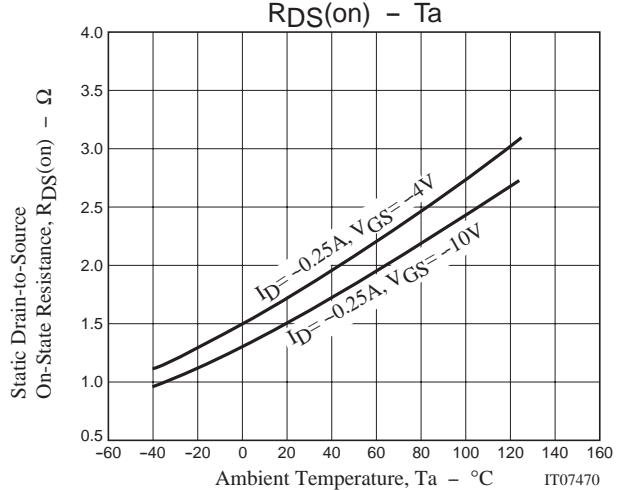
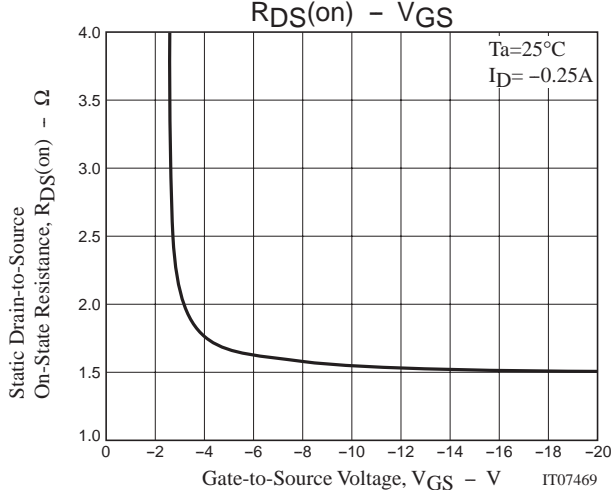
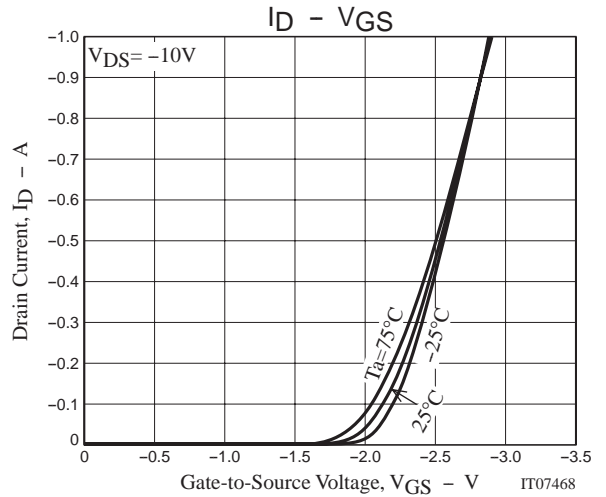
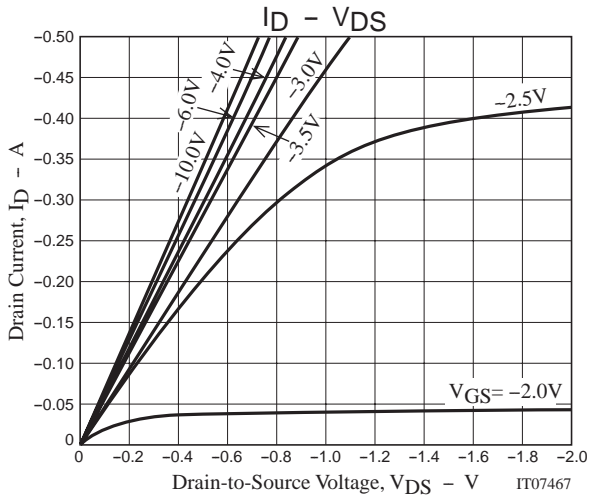
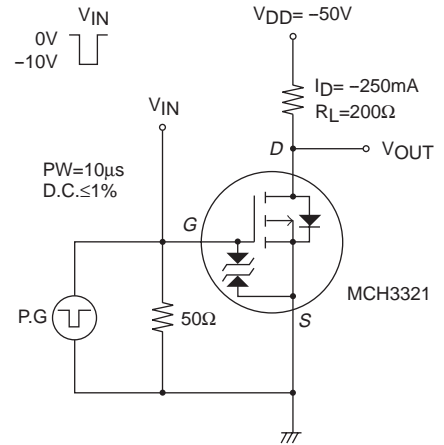
Package Dimensions

unit : mm

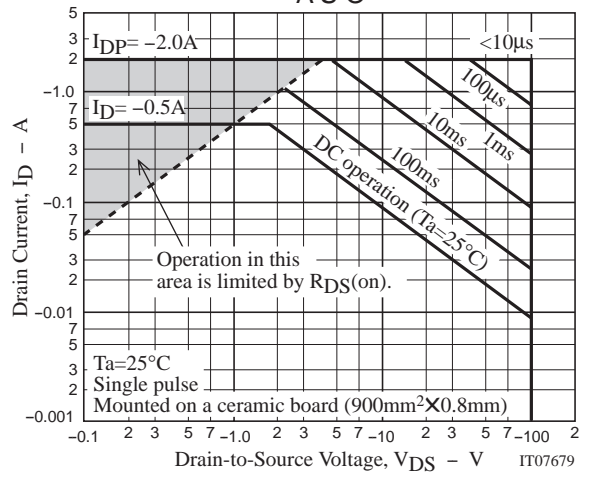
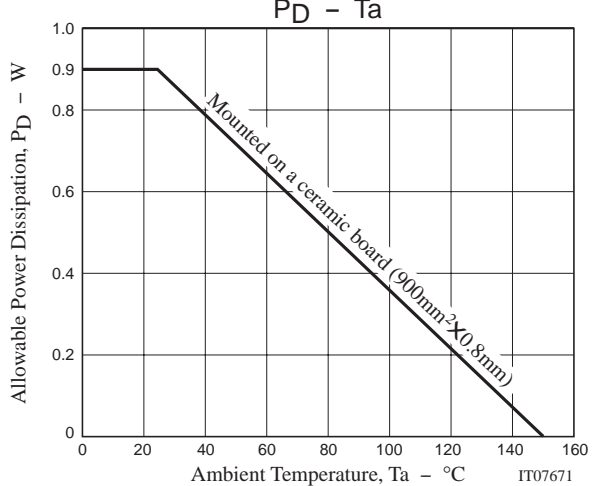
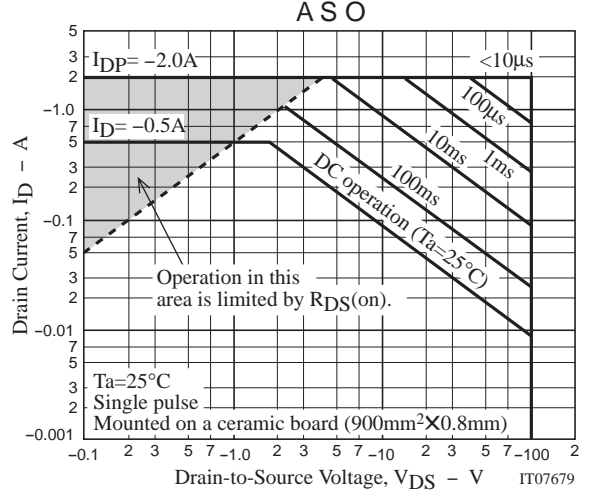
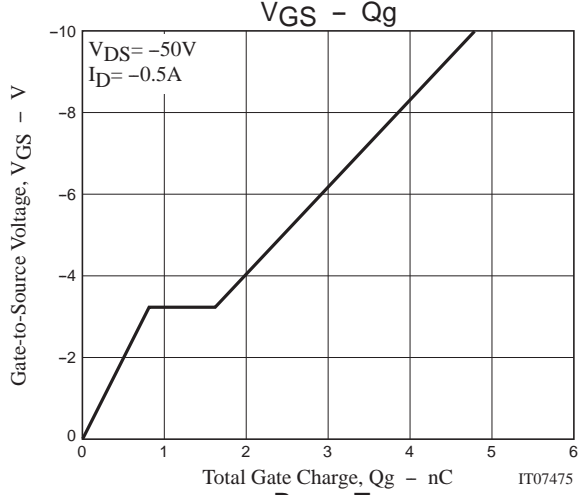
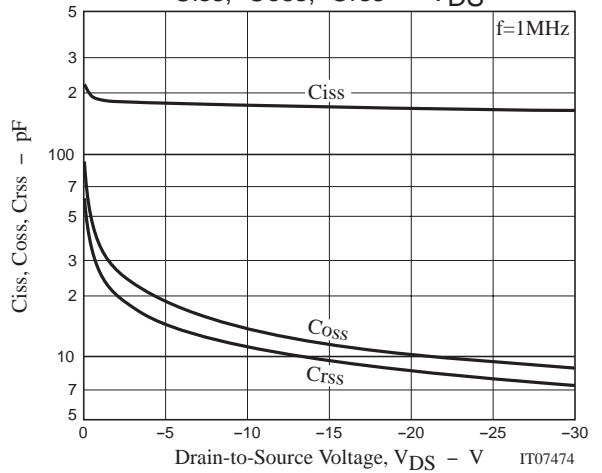
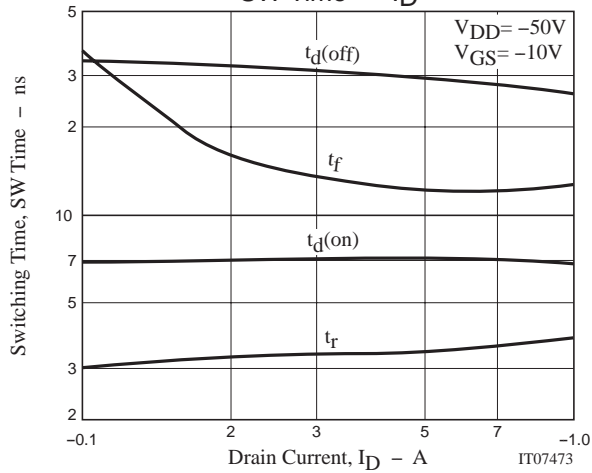
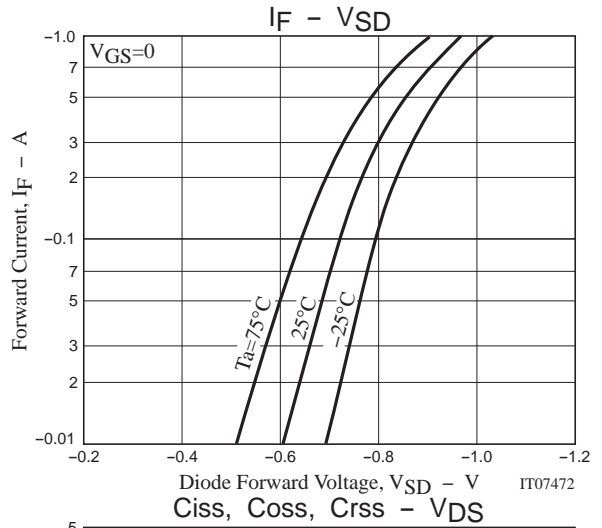
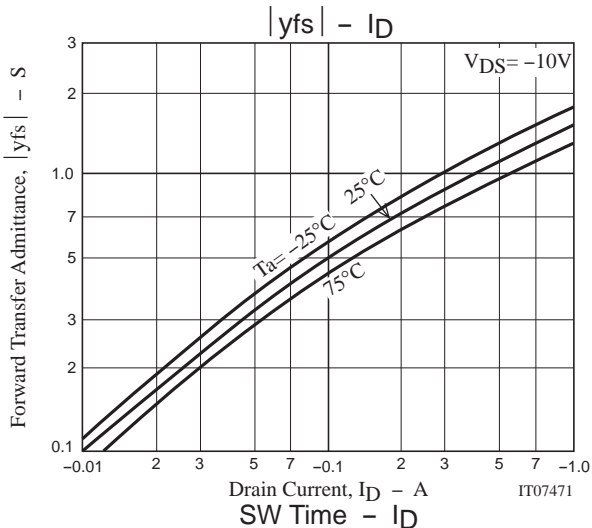
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Switching Time Test Circuit



MCH3321



Note on usage : Since the MCH3321 is a MOSFET product, please avoid using this device in the vicinity of highly charged objects.

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