Ordering number : ENN7994

ON Semiconductor®

ON Semiconductor
DATA SHEET

P-Channel Silicon MOSFET

MCH3322 — 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		−0.6	A
Drain Current (Pulse)	I_{DP}	PW≤10μs, duty cycle≤1%	−2.4	A
Allowable Power Dissipation	P_D	Mounted on a ceramic board (900mm²×0.8mm)	1	W
Channel Temperature	Tch		150	°C
Storage Temperature	Tstg		−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	$\|yfs\|$	V_{DS}=−10V, I_D=−300mA	0.5	1.0		S
Static Drain-to-Source On-State Resistance	R_{DS}(on)1	I_D=−300mA, V_{GS}=−10V		1.1	1.45	Ω
	R_{DS}(on)2	I_D=−300mA, V_{GS}=−4V		1.2	1.7	Ω
Input Capacitance	Ciss	V_{DS}=−20V, f=1MHz		245		pF
Output Capacitance	Coss	V_{DS}=−20V, f=1MHz		16		pF
Reverse Transfer Capacitance	Crss	V_{DS}=−20V, f=1MHz		13		pF
Turn-ON Delay Time	t_d(on)	See specified Test Circuit.		8.5		ns
Rise Time	t_r	See specified Test Circuit.		2.7		ns
Turn-OFF Delay Time	t_d(off)	See specified Test Circuit.		36		ns
Fall Time	t_f	See specified Test Circuit.		16		ns

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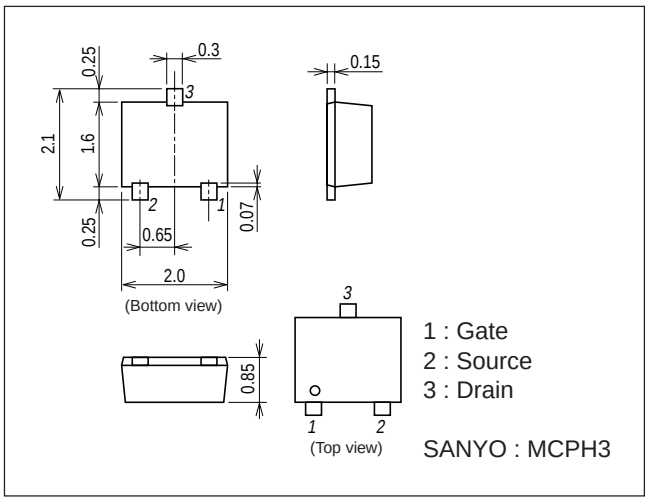
Parameter	Symbol	Conditions	Ratings			Unit
			min	typ	max	
Total Gate Charge	Qg	V_{DS}=−50V, V_{GS}=−10V, I_D=−0.6A		7.0		nC
Gate-to-Source Charge	Qgs	V_{DS}=−50V, V_{GS}=−10V, I_D=−0.6A		1.0		nC
Gate-to-Drain “Miller” Charge	Qgd	V_{DS}=−50V, V_{GS}=−10V, I_D=−0.6A		1.0		nC
Diode Forward Voltage	V_{SD}	I_S=−0.6A, V_{GS}=0		−0.85	−1.2	V

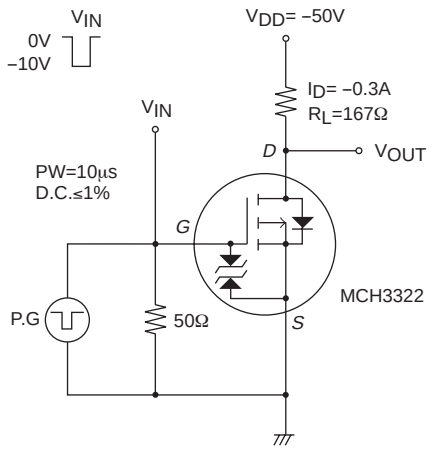
Package Dimensions

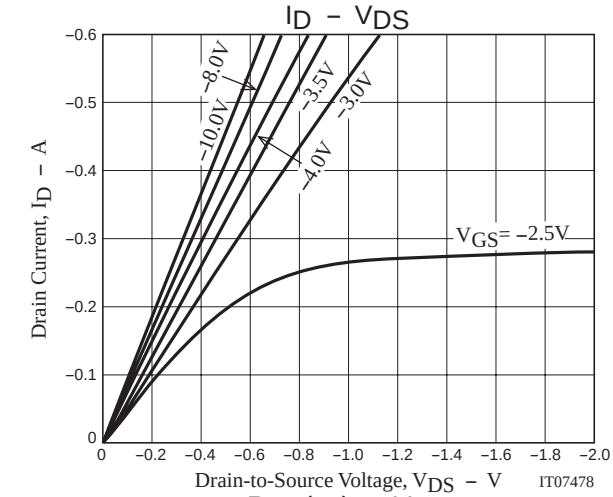
unit : mm

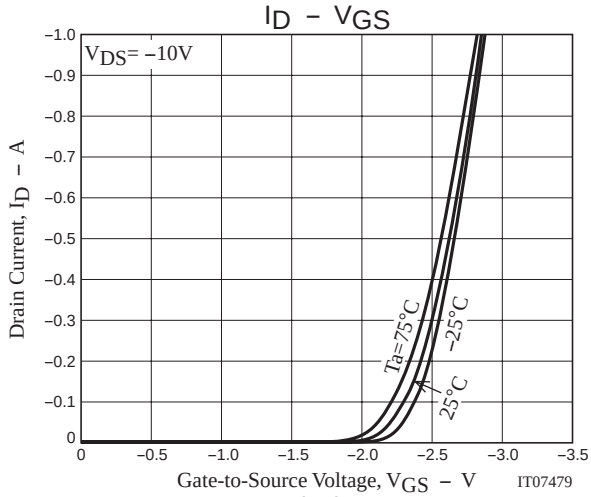
2167A

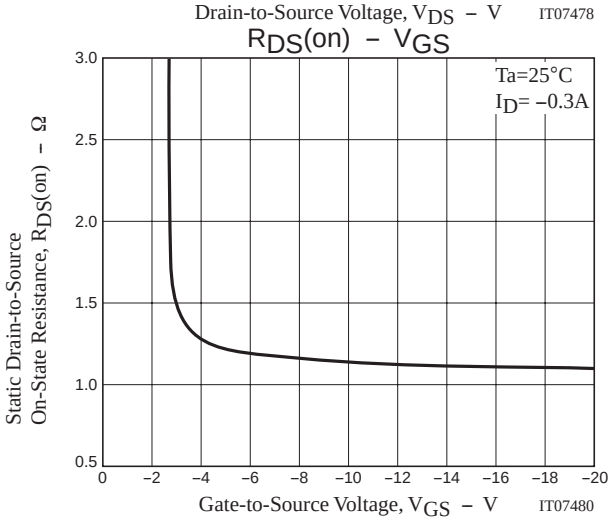


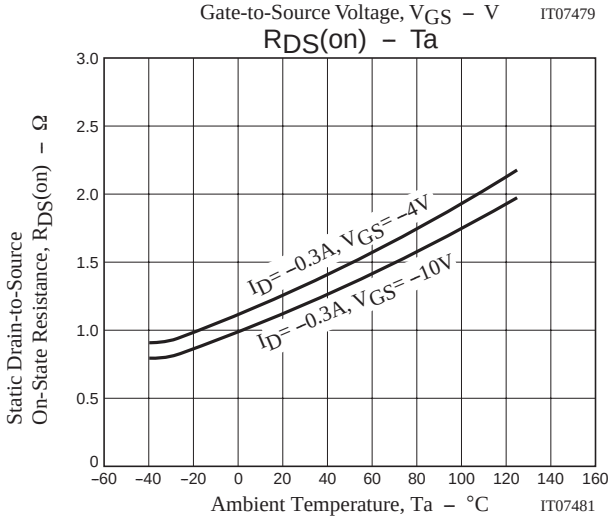
Switching Time Test Circuit

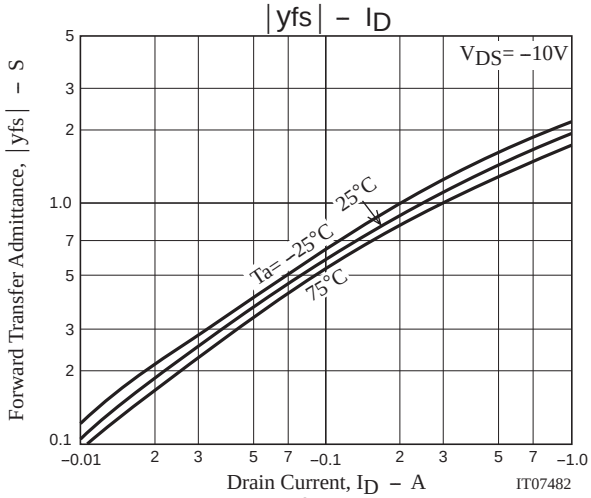


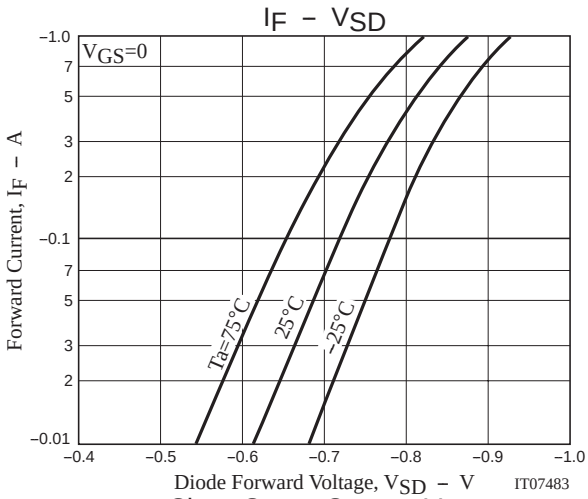


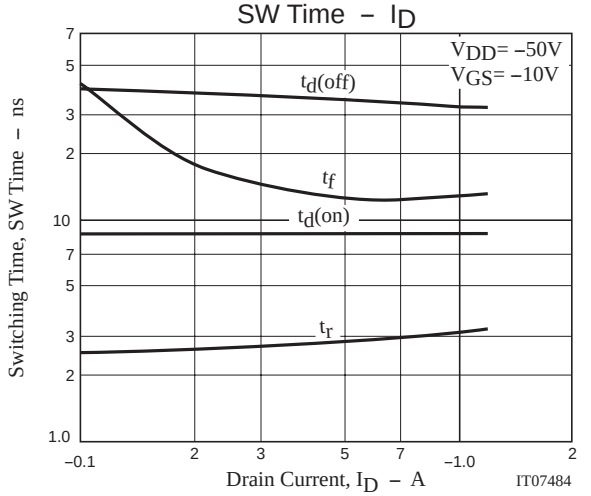


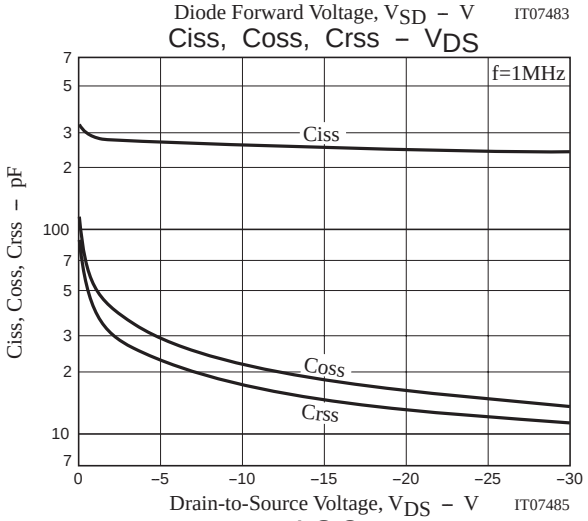


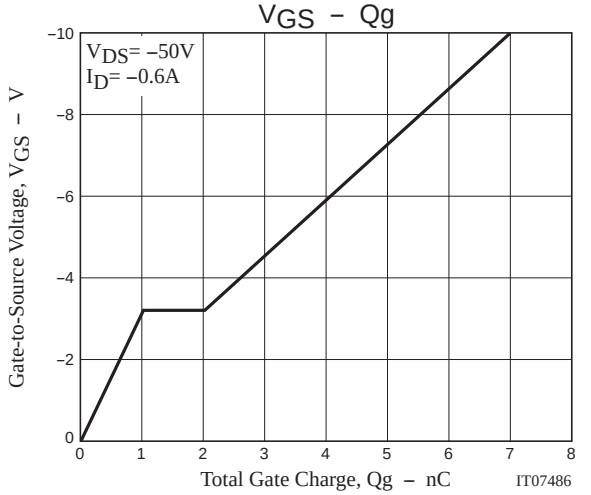


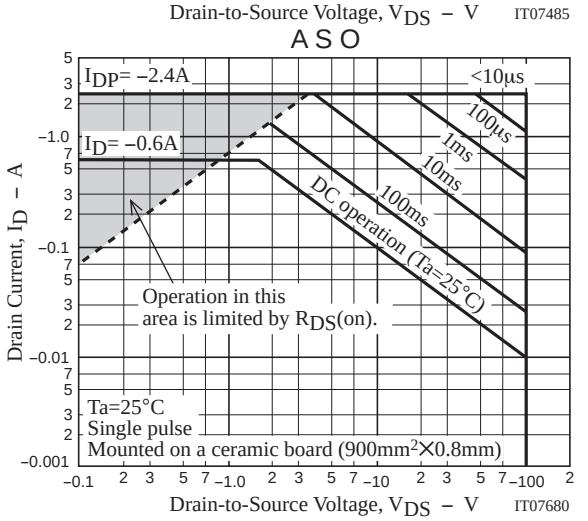


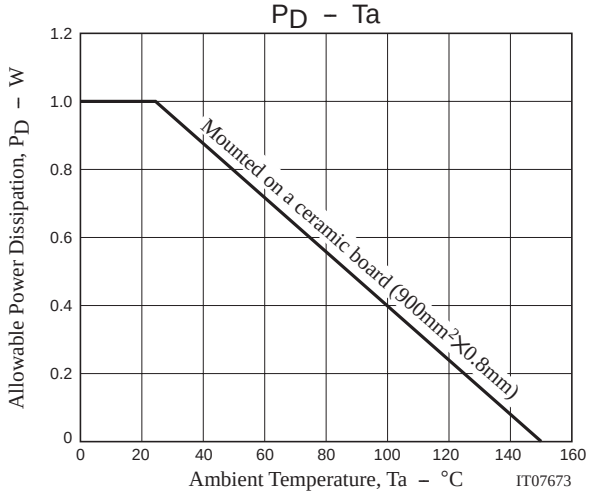












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