Ordering number : ENN7213

P-Channel Silicon MOSFET

MCH3318

Ultrahigh-Speed Switching Applications

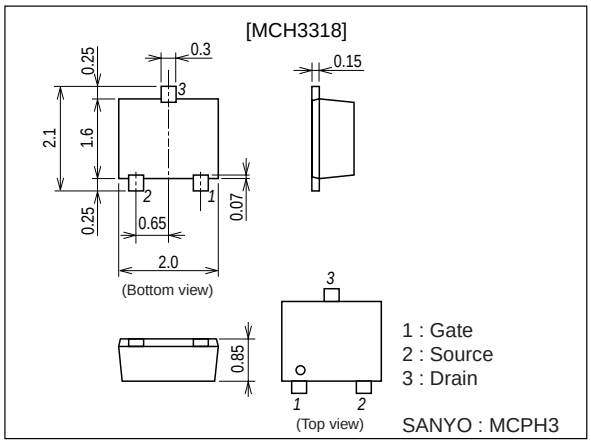
Features

- Low ON-resistance.
- Ultrahigh-speed switching.
- 1.8V drive.

Package Dimensions

unit : mm

2167A



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}		±8	V
Drain Current (DC)	I_D		−2	A
Drain Current (Pulse)	I_{DP}	PW≤10μs, duty cycle≤1%	−8	A
Allowable Power Dissipation	P_D	Mounted on a ceramic board (900mm²×0.8mm)	0.9	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	−12			V
Zero-Gate Voltage Drain Current	I_{DSS}	V_{DS}=−12V, V_{GS}=0			−10	μA
Gate-to-Source Leakage Current	I_{GSS}	V_{GS}=±6.4V, V_{DS}=0			±10	μA
Cutoff Voltage	V_{GS}(off)	V_{DS}=−6V, I_D=−1mA	−0.3		−1.0	V
Forward Transfer Admittance	|yfs|	V_{DS}=−6V, I_D=−1A	2.0	2.9		S
Static Drain-to-Source On-State Resistance	R_{DS}(on)1	I_D=−1A, V_{GS}=−4.5V		110	145	mΩ
	R_{DS}(on)2	I_D=−0.5A, V_{GS}=−2.5V		160	225	mΩ
	R_{DS}(on)3	I_D=−0.2A, V_{GS}=−1.8V		220	330	mΩ

Marking : JT

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Parameter	Symbol	Conditions	Ratings			Unit
			min	typ	max	
Input Capacitance	Ciss	V_{DS}=-6V, f=1MHz		310		pF
Output Capacitance	Coss	V_{DS}=-6V, f=1MHz		90		pF
Reverse Transfer Capacitance	Crss	V_{DS}=-6V, f=1MHz		80		pF
Turn-ON Delay Time	t_d(on)	See specified Test Circuit.		14		ns
Rise Time	t_r	See specified Test Circuit.		53		ns
Turn-OFF Delay Time	t_d(off)	See specified Test Circuit.		53		ns
Fall Time	t_f	See specified Test Circuit.		52		ns
Total Gate Charge	Qg	V_{DS}=-6V, V_{GS}=-4.5V, I_D=-2.0A		4.6		nC
Gate-to-Source Charge	Qgs	V_{DS}=-6V, V_{GS}=-4.5V, I_D=-2.0A		0.7		nC
Gate-to-Drain “Miller” Charge	Qgd	V_{DS}=-6V, V_{GS}=-4.5V, I_D=-2.0A		1.3		nC
Diode Forward Voltage	V_{SD}	I_S=-2.0A, V_{GS}=0		-0.89	-1.5	V

Switching Time Test Circuit