N-Channel Silicon MOSFET



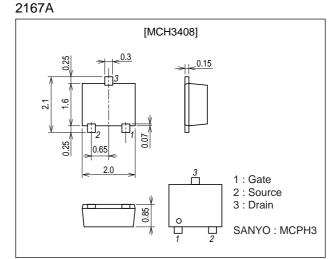
MCH3408

Features

- Low ON-resistance.
- · Ultrahigh-speed switching.
- 4V drive.

Package Dimensions

unit : mm



Specifications

Absolute Maximum Ratings at Ta=25°C

Parameter	Symbol	Conditions	Ratings	Unit
Drain-to-Source Voltage	VDSS		30	V
Gate-to-Source Voltage	VGSS		±20	V
Drain Current (DC)	۱D		1.4	А
Drain Current (Pulse)	IDP	PW≤10µs, duty cycle≤1%	5.6	A
Allowable Power Dissipation	PD	Mounted on a ceramic board (900mm ² X0.8mm)	0.8	W
Channel Temperature	Tch		150	°C
Storage Temperature	Tstg		-55 to +150	°C

Electrical Characteristics at Ta=25°C

Symbol	Conditions	Ratings			Unit
		min	typ	max	Unit
V(BR)DSS	ID=1mA, VGS=0	30			V
IDSS	VDS=30V, VGS=0			1	μA
IGSS	V _{GS} =±16V, V _{DS} =0			±10	μΑ
VGS(off)	V _{DS} =10V, I _D =1mA	1.2		2.6	V
yfs	VDS=10V, ID=700mA	0.77	1.1		S
R _{DS} (on)1	I _D =700mA, V _{GS} =10V		230	300	mΩ
R _{DS} (on)2	ID=400mA, VGS=4V		400	560	mΩ
	V(BR)DSS IDSS IGSS VGS(off) yfs RDS(on)1	V(BR)DSS ID=1mA, VGS=0 IDSS VDS=30V, VGS=0 IGSS VGS=±16V, VDS=0 VGS(off) VDS=10V, ID=1mA yfs VDS=10V, ID=700mA RDS(on)1 ID=700mA, VGS=10V	V(BR)DSS ID=1mA, VGS=0 30 IDSS VDS=30V, VGS=0 IGSS VGS=±16V, VDS=0 VGS(off) VDS=10V, ID=1mA 1.2 yfs VDS=10V, ID=700mA 0.77 RDS(on)1 ID=700mA, VGS=10V	Symbol Conditions min typ V(BR)DSS ID=1mA, VGS=0 30 30 IDSS VDS=30V, VGS=0 - - IGSS VGS=±16V, VDS=0 - - VGS(off) VDS=10V, ID=1mA 1.2 - yfs VDS=10V, ID=700mA 0.77 1.1 RDS(on)1 ID=700mA, VGS=10V 230 -	Symbol Conditions min typ max V(BR)DSS ID=1mA, VGS=0 30 1 IDSS VDS=30V, VGS=0 1 1 IGSS VGS=±16V, VDS=0 ±10 ±10 VGS(off) VDS=10V, ID=1mA 1.2 2.6 yfs VDS=10V, ID=700mA 0.77 1.1 RDS(on)1 ID=700mA, VGS=10V 230 300

Marking : KH

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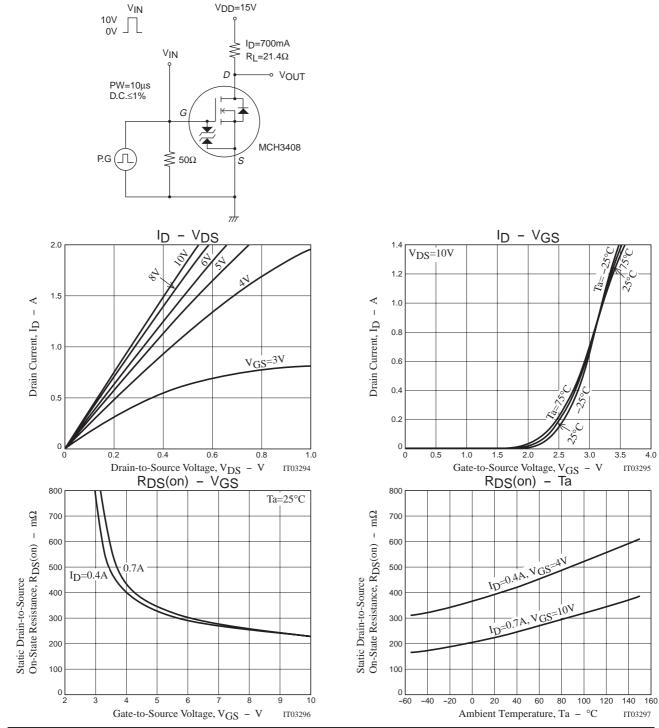
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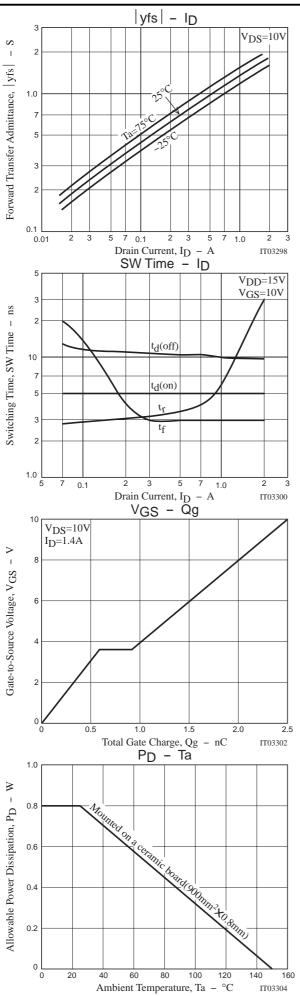
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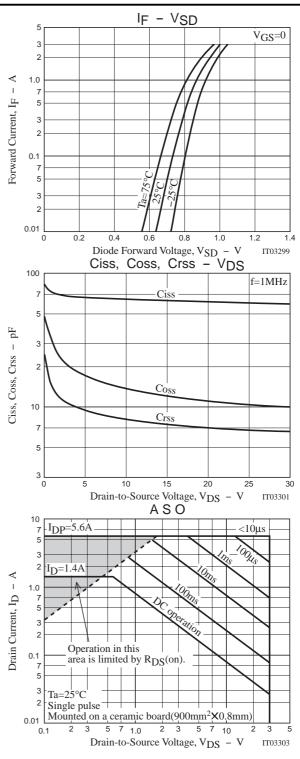
Parameter	Symbol	Conditions		Ratings		
	Symbol		min	typ	max	Unit
Input Capacitance	Ciss	V _{DS} =10V, f=1MHz		65		pF
Output Capacitance	Coss	V _{DS} =10V, f=1MHz		14		pF
Reverse Transfer Capacitance	Crss	VDS=10V, f=1MHz		8		pF
Turn-ON Delay Time	t _d (on)	See specified Test Circuit		5		ns
Rise Time	tr	See specified Test Circuit		4		ns
Turn-OFF Delay Time	td(off)	See specified Test Circuit		11		ns
Fall Time	tf	See specified Test Circuit		3		ns
Total Gate Charge	Qg	V _{DS} =10V, V _{GS} =10V, I _D =1.4A		2.5		nC
Gate-to-Source Charge	Qgs	V _{DS} =10V, V _{GS} =10V, I _D =1.4A		0.6		nC
Gate-to-Drain "Miller" Charge	Qgd	V _{DS} =10V, V _{GS} =10V, I _D =1.4A		0.3		nC
Diode Forward Voltage	VSD	I _S =1.4A, V _{GS} =0		0.87	1.2	V

Switching Time Test Circuit



4.0





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