MCH3375



Features

- On-Resistance $R_{DS}(on)1=227m\Omega$ (typ)
- 4V Drive
- High Speed Switching and Low Loss
- Pb-Free, Halogen Free and RoHS Compliance

Specifications

Absolute Maximum Ratings at Ta = 25°C

Parameter	Symbol	Value	Unit
Drain to Source Voltage	VDSS	-30	V
Gate to Source Voltage	V _{GSS}	±20	V
Drain Current (DC)	ID	-1.6	А
Drain Current (Pulse) PW≤10μs, duty cycle≤1%	I _{DP}	-6.4	A
Power Dissipation When mounted on ceramic substrate (900mm ² × 0.8mm)	PD	0.8	W
Junction Temperature	Tj	150	°C
Storage Temperature	Tstg	–55 to +150	°C

This product is designed to "ESD immunity < 200V*", so please take care when handling. * Machine Model

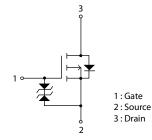
Thermal Resistance Ratings

Parameter	Symbol	Value	Unit
Junction to Ambient When mounted on ceramic substrate (900mm ² × 0.8mm)	R _{θJA}	156.25	°C/W



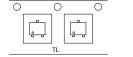
VDSS	R _{DS} (on) Max	ID Max
	295mΩ@ −10V	
-30V	523mΩ@ −4.5V	-1.6A
	609mΩ@ –4V	





Packing Type:TL







Marking

Stresses exceeding those listed in the Maximum Ratings table may damage the device. If any of these limits are exceeded, device functionality should not be assumed, damage may occur and reliability may be affected.

ORDERING INFORMATION

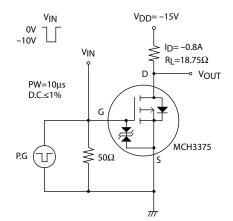
See detailed ordering and shipping information on page 5 of this data sheet.

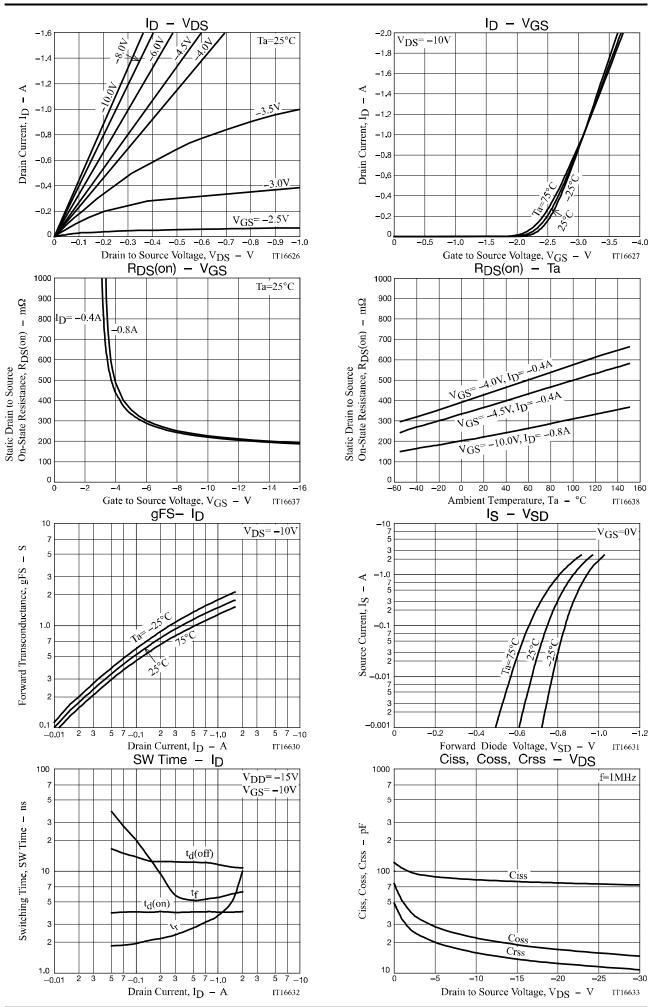
Electrical Characteristics at $Ta = 25^{\circ}C$

Parameter	Symbol	Conditions		Value		
			min	typ	max	Unit
Drain to Source Breakdown Voltage	V(BR)DSS	I _D =-1mA, V _{GS} =0V	-30			V
Zero-Gate Voltage Drain Current	IDSS	V _{DS} =-30V, V _{GS} =0V			-1	μA
Gate to Source Leakage Current	IGSS	V _{GS} =±16V, V _{DS} =0V			±10	μA
Gate Threshold Voltage	V _{GS} (th)	V _{DS} =-10V, I _D =-1mA	-1.2		-2.6	V
Forward Transconductance	9FS	V _{DS} =-10V, I _D =-0.8A		1.3		S
	R _{DS} (on)1	I _D =-0.8A, V _{GS} =-10V		227	295	mΩ
Static Drain to Source On-State Resistance	R _{DS} (on)2	I _D =-0.4A, V _{GS} =-4.5V		374	523	mΩ
	R _{DS} (on)3	I _D =-0.4A, V _{GS} =-4V		435	609	mΩ
Input Capacitance	Ciss	V _{DS} =-10V, f=1MHz		82		pF
Output Capacitance	Coss			22		pF
Reverse Transfer Capacitance	Crss	7		16		pF
Turn-ON Delay Time	t _d (on)			4.0		ns
Rise Time	tr			3.3		ns
Turn-OFF Delay Time	t _d (off)	See specified Test Circuit		12		ns
Fall Time	tf			5.4		ns
Total Gate Charge	Qg	V _{DS} =-15V, V _{GS} =-10V, I _D =-1.6A		2.2		nC
Gate to Source Charge	Qgs			0.36		nC
Gate to Drain "Miller" Charge	Qgd	7		0.49		nC
Forward Diode Voltage	V _{SD}	I _S =–1.6A, V _{GS} =0V		-0.9	-1.5	V

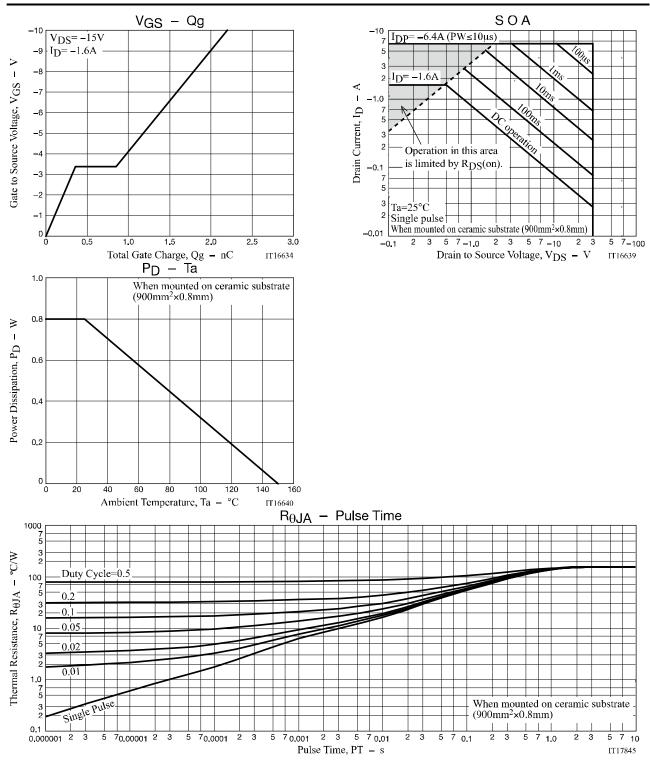
Product parametric performance is indicated in the Electrical Characteristics for the listed test conditions, unless otherwise noted. Product performance may not be indicated by the Electrical Characteristics if operated under different conditions.

Switching Time Test Circuit





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Package Dimensions

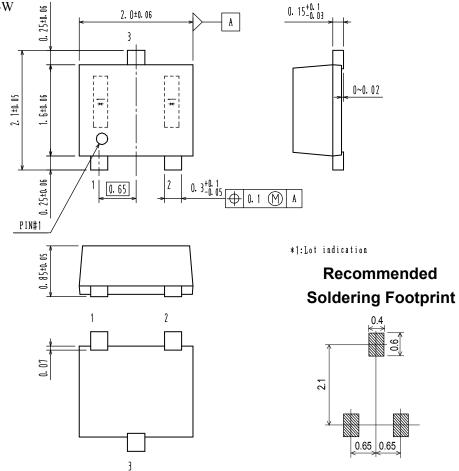
MCH3375-TL-H / MCH3375-TL-W

MCPH3

CASE 419AQ ISSUE O

Unit : mm

- 1 : Gate
- 2 : Source
- 3 : Drain



ORDERING INFORMATION

Device	Package	Shipping	Note	
MCH3375-TL-H	MCPH3	2,000,000, / rool	Pb-Free	
MCH3375-TL-W	SC-70,SOT-323	3,000 pcs. / reel	and Halogen Free	

Note on usage : Since the MCH3375 is a MOSFET product, please avoid using this device in the vicinity of highly charged objects.

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