MCH3375

Power MOSFET -30V, 295mΩ, -1.6A, Single P-Channel



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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

VDSS RDS(on) Max ID Max $295m\Omega@ -10V$ -30V $523m\Omega@ -4.5V$ $609m\Omega@ -4V$ -1.6A

Specifications

Absolute Maximum Ratings at Ta = 25°C

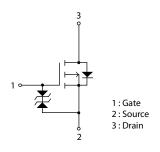
Parameter	Symbol	Value	Unit
Drain to Source Voltage	V _{DSS}	-30	V
Gate to Source Voltage	VGSS	±20	V
Drain Current (DC)	ID	-1.6	Α
Drain Current (Pulse) PW≤10μs, duty cycle≤1%	I _{DP}	-6.4	А
Power Dissipation When mounted on ceramic substrate (900mm² × 0.8mm)	PD	0.8	W
Junction Temperature	Tj	150	°C
Storage Temperature	Tstg	–55 to +150	°C

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

Thermal Resistance Ratings

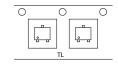
Parameter	Symbol	Value	Unit
Junction to Ambient When mounted on ceramic substrate (900mm² × 0.8mm)	R _{θJA}	156.25	°C/W

Electrical Connection P-Channel



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.

^{*} Machine Model

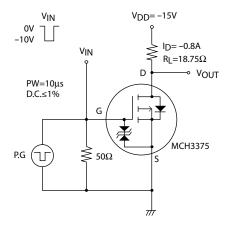
MCH3375

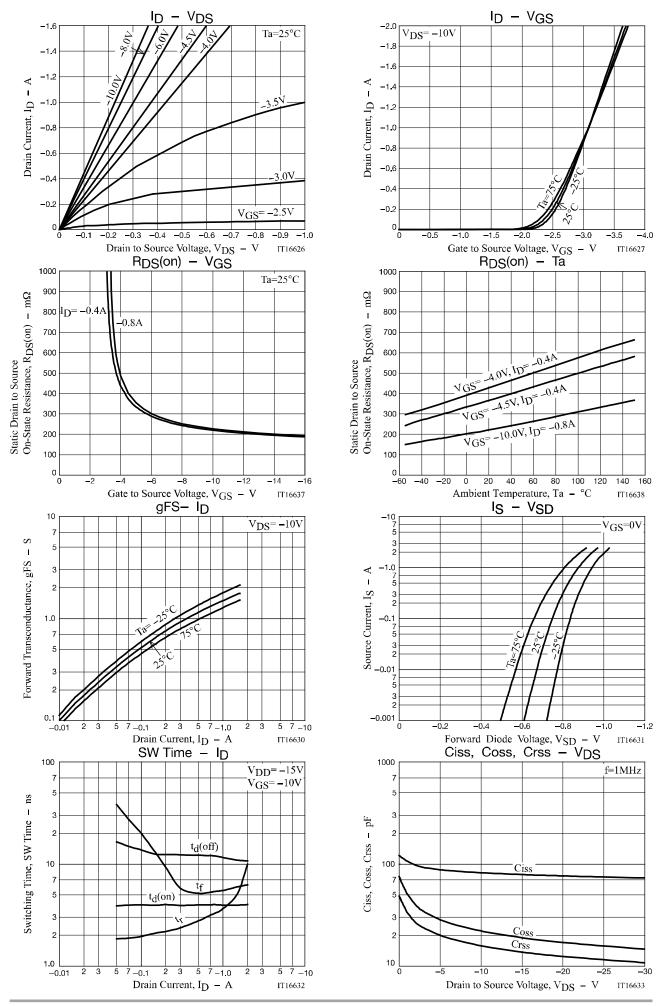
Electrical Characteristics at Ta = 25°C

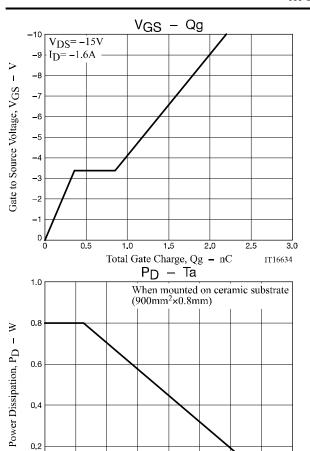
Davision	0	Conditions		Value		
Parameter	Symbol		min	typ	max	Unit
Drain to Source Breakdown Voltage	V(BR)DSS	I _D =-1mA, V _{GS} =0V	-30			٧
Zero-Gate Voltage Drain Current	IDSS	V _{DS} =-30V, V _{GS} =0V			-1	μΑ
Gate to Source Leakage Current	IGSS	V _{GS} =±16V, V _{DS} =0V			±10	μΑ
Gate Threshold Voltage	V _{GS} (th)	V _{DS} =-10V, I _D =-1mA	-1.2		-2.6	>
Forward Transconductance	gFS .	V _{DS} =-10V, I _D =-0.8A		1.3		S
Static Drain to Source On-State Resistance	R _{DS} (on)1	I _D =-0.8A, V _{GS} =-10V		227	295	mΩ
	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			16		pF
Turn-ON Delay Time	t _d (on)	See specified Test Circuit		4.0		ns
Rise Time	t _r			3.3		ns
Turn-OFF Delay Time	t _d (off)			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

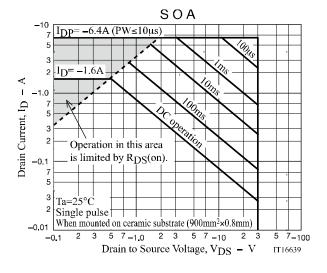
Product parametric performance is indicated in the Electrical Characteristics for the listed test conditions, unless otherwise noted. Product performance may not be indicated by the Electrical Characteristics if operated under different conditions.

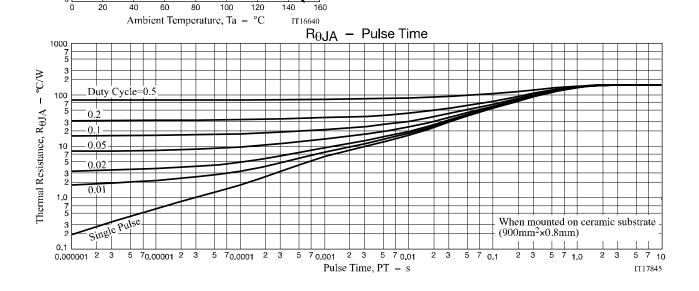
Switching Time Test Circuit











Package Dimensions

MCH3375-TL-H / MCH3375-TL-W

MCPH3

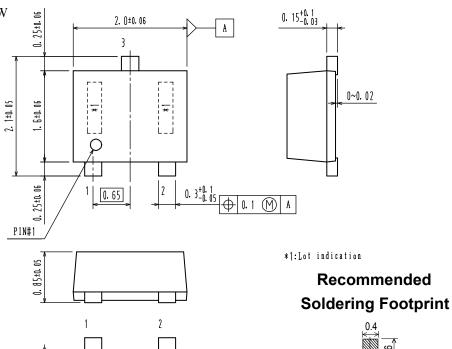
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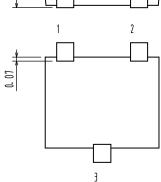
Unit: mm

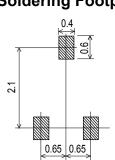
1 : Gate

2 : Source

3 : Drain







ORDERING INFORMATION

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