MCH3475

Power MOSFET 30V, $180m\Omega$, 1.8A, Single N-Channel



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Features

- High Speed Switching
- 4V Drive
- Pb-Free and RoHS Compliance
- Halogen Free Compliance : MCH3475-TL-W

VDSS	RDS(on) Max	ID Max
00) (180mΩ@ 10V	4.04
30V	330mΩ@ 4V	1.8A

Specifications

Absolute Maximum Ratings at Ta = 25°C

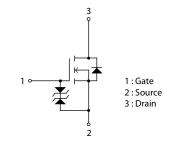
Parameter	Symbol	Value	Unit
Drain to Source Voltage	V _{DSS}	30	V
Gate to Source Voltage	VGSS	±20	V
Drain Current (DC)	ID	1.8	Α
Drain Current (Pulse) PW≤10μs, duty cycle≤1%	I _{DP}	7.2	Α
Power Dissipation When mounted on ceramic substrate (900mm² × 0.8mm)	PD	0.8	W
Junction Temperature	Tj	150	°C
Storage Temperature	Tstg	–55 to +150	°C

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

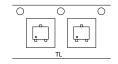
Thermal Resistance Ratings

Parameter	Symbol	Value	Unit
Junction to Ambient			
When mounted on ceramic substrate	$R_{\theta JA}$	156.2	°C/W
(900mm ² × 0.8mm)			

Electrical Connection N-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

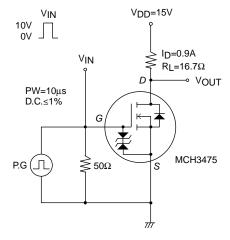
MCH3475

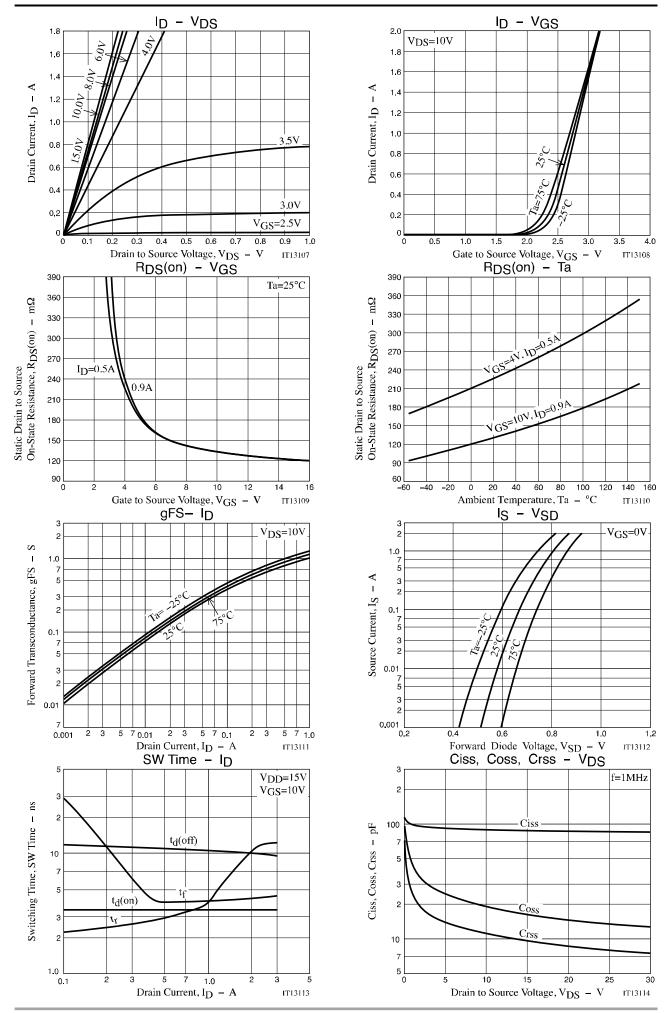
Electrical Characteristics at Ta = 25°C

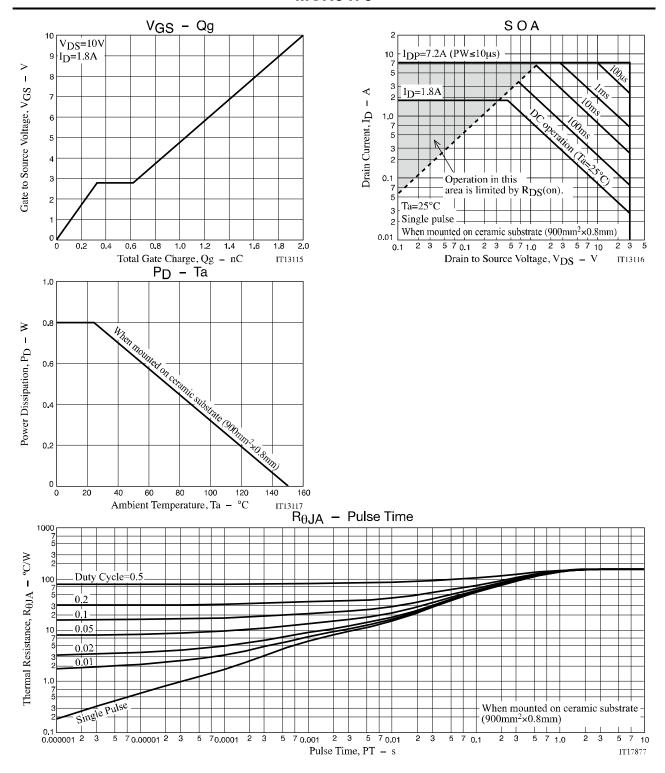
Parameter Symbol Conditions	Cumbal	Conditions.	Value			Unit
	Conditions	min	typ	max	Unit	
Drain to Source Breakdown Voltage	V(BR)DSS	I _D =1mA, V _{GS} =0V	30			V
Zero-Gate Voltage Drain Current	I _{DSS}	V _{DS} =30V, V _{GS} =0V			1	μΑ
Gate to Source Leakage Current	IGSS	V _{GS} =±16V, V _{DS} =0V			±10	μΑ
Gate Threshold Voltage	V _{GS} (th)	V _{DS} =10V, I _D =1mA	1.2		2.6	V
Forward Transconductance	9FS	V _{DS} =10V, I _D =0.9A	0.66	1.1		S
Static Drain to Source On-State Resistance	R _{DS} (on)1	I _D =0.9A, V _{GS} =10V		135	180	mΩ
	R _{DS} (on)2	I _D =0.5A, V _{GS} =4V		230	330	mΩ
Input Capacitance	Ciss			88		pF
Output Capacitance	Coss	V _{DS} =10V, f=1MHz		19		pF
Reverse Transfer Capacitance	Crss			11		pF
Turn-ON Delay Time	t _d (on)			3.4		ns
Rise Time	t _r	1		3.6		ns
Turn-OFF Delay Time	t _d (off)	See specified Test Circuit		10.5		ns
Fall Time	tf			4.0		ns
Total Gate Charge	Qg			2.0		nC
Gate to Source Charge	Qgs	V _{DS} =10V, V _{GS} =10V, I _D =1.8A		0.33		nC
Gate to Drain "Miller" Charge	Qgd			0.29		nC
Forward Diode Voltage	V _{SD}	I _S =1.8A, V _{GS} =0V		0.86	1.2	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

MCH3475-TL-E / MCH3475-TL-W

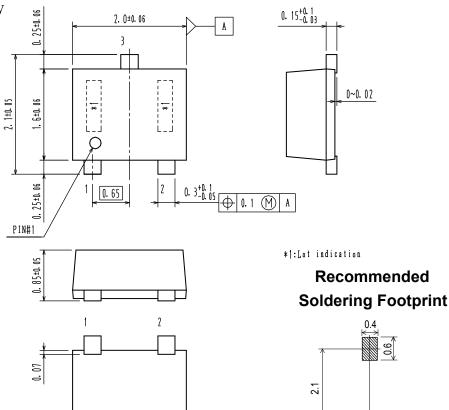
МСРН3

CASE 419AQ ISSUE O

Unit: mm

1 : Gate 2 : Source

3: Drain



0.65 0.65

ORDERING INFORMATION

Device	Package	Shipping	Note
MCH3475-TL-E	МСРН3		Pb-Free
MCH3475-TL-W	SC-70FL, SOT-323	3,000 pcs. / Tape & Reel	Pb-Free and Halogen Free

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Note on usage: Since the MCH3475 is a MOSFET product, please avoid using this device in the vicinity of highly charged objects.

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[†] For information on tape and reel specifications, including part orientation and tape sizes, please refer to our Tape and Reel Packaging Specifications Brochure, BRD8011/D. http://www.onsemi.com/pub_link/Collateral/BRD8011-D.PDF