MCH6336

Power MOSFET -12V, 43mΩ, -5A, Single P-Channel



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Features

- Low On-Resistance
- 1.8V Drive
- High Speed Switching
- ESD Diode-Protected Gate
- Pb-Free and RoHS Compliance
- Halogen Free Compliance : MCH6336-TL-H, MCH6336-TL-W

VDSS RDS(on) Max ID Max $43m\Omega@ -4.5V$ -5A -12V $66m\Omega@ -2.5V$ $98m\Omega@ -1.8V$

Specifications

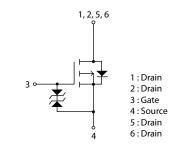
Absolute Maximum Ratings at Ta = 25°C

Parameter	Symbol	Value	Unit
Drain to Source Voltage	V _{DSS}	-12	V
Gate to Source Voltage	V _{GSS}	±10	V
Drain Current (DC)	ID	-5	Α
Drain Current (Pulse) PW≤10μs, duty cycle≤1%	I _{DP}	-20	А
Power Dissipation When mounted on ceramic substrate (1200mm² × 0.8mm)	PD	1.5	W
Junction Temperature	Tj	150	°C
Storage Temperature	Tstg	-55 to +150	°C

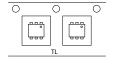
Thermal Resistance Ratings

Parameter	Symbol	Value	Unit
Junction to Ambient			
When mounted on ceramic substrate	$R_{\theta JA}$	83.3	°C/W
(1200mm ² × 0.8mm)			

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.

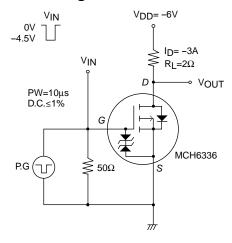
MCH6336

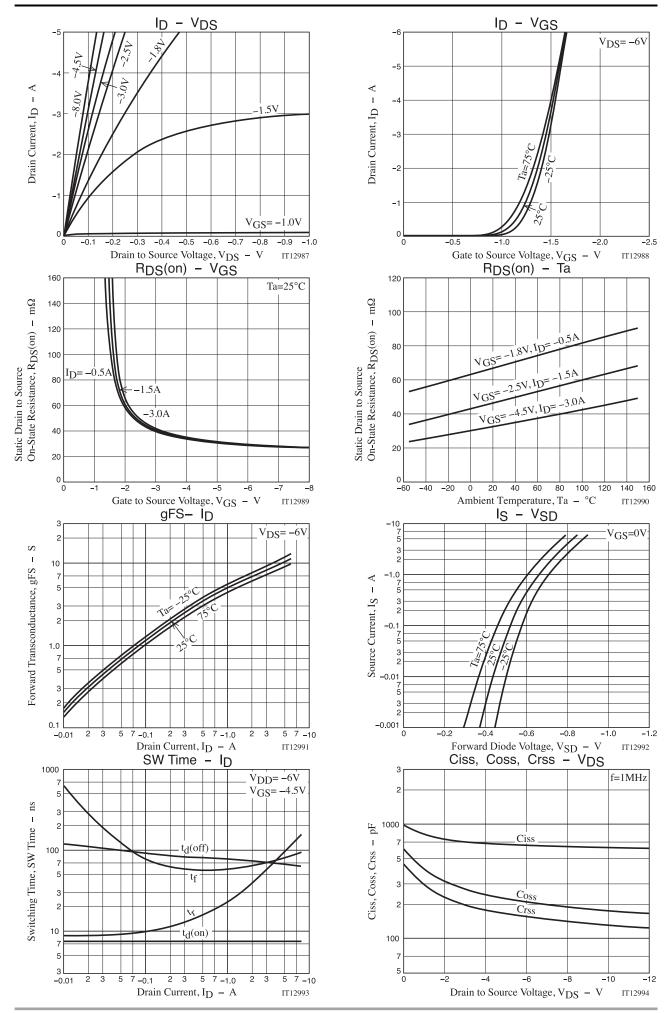
Electrical Characteristics at Ta = 25°C

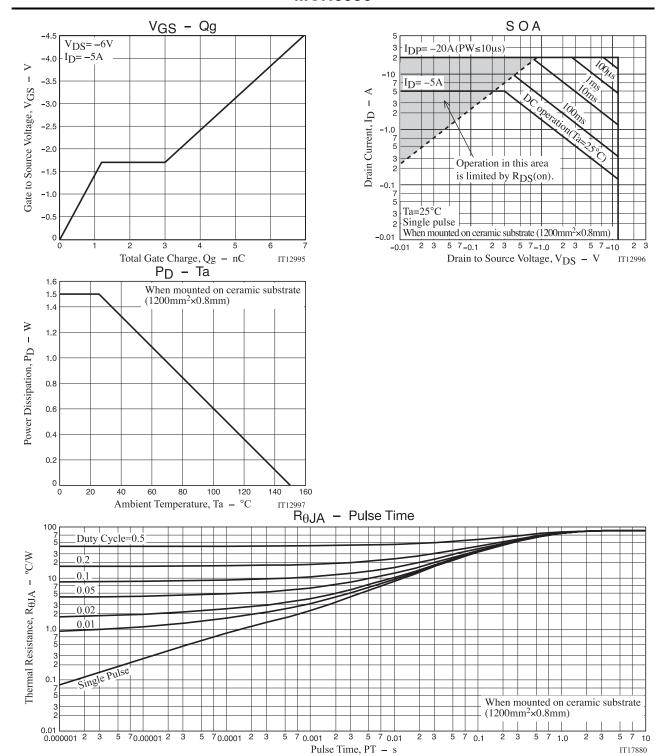
Doromotor	O. mala al	Conditions	Value			11.2
Parameter	Symbol		min	typ	max	Unit
Drain to Source Breakdown Voltage	V(BR)DSS	I _D =-1mA, V _{GS} =0V	-12			٧
Zero-Gate Voltage Drain Current	IDSS	V _{DS} =-12V, V _{GS} =0V			-10	μΑ
Gate to Source Leakage Current	IGSS	V _{GS} =±8V, V _{DS} =0V			±10	μА
Gate Threshold Voltage	V _{GS} (th)	V _{DS} =-6V, I _D =-1mA	-0.4		-1.4	V
Forward Transconductance	9FS	V _{DS} =-6V, I _D =-3A	4.8	8.1		S
Static Drain to Source On-State Resistance	R _{DS} (on)1	I _D =-3A, V _{GS} =-4.5V		33	43	mΩ
	R _{DS} (on)2	I _D =-1.5A, V _{GS} =-2.5V		47	66	mΩ
	R _{DS} (on)3	I _D =-0.5A, V _{GS} =-1.8V		68	98	mΩ
Input Capacitance	Ciss	V _{DS} =-6V, f=1MHz		660		pF
Output Capacitance	Coss			210		pF
Reverse Transfer Capacitance	Crss			155		pF
Turn-ON Delay Time	t _d (on)	See specified Test Circuit		7.4		ns
Rise Time	t _r			57		ns
Turn-OFF Delay Time	t _d (off)			72		ns
Fall Time	t _f	1		69		ns
Total Gate Charge	Qg	V _{DS} =-6V, V _{GS} =-4.5V, I _D =-5A		6.9		nC
Gate to Source Charge	Qgs			1.2		nC
Gate to Drain "Miller" Charge	Qgd	7		1.8		nC
Forward Diode Voltage	V _{SD}	I _S =-5A, V _{GS} =0V		-0.83	-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

MCH6336-TL-E / MCH6336-TL-H / MCH6336-TL-W

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CASE 419AS ISSUE O

unit: mm

1: Drain

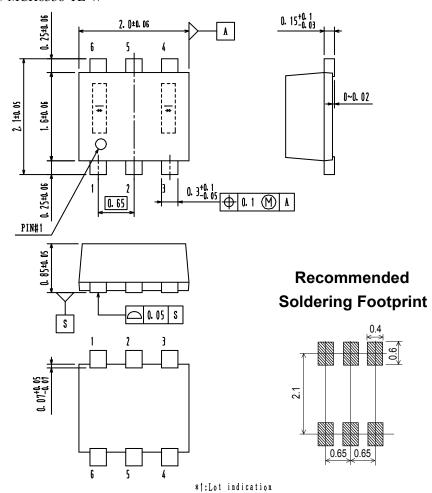
2 : Drain

3: Gate

4 : Source

5: Drain

6: Drain



ORDERING INFORMATION

Device	Package	Shipping	Note
MCH6336-TL-E			Pb-Free
MCH6336-TL-H	MCPH6 SC-88FL,SC-70-6,SOT-363	3,000 pcs. / Tape & Reel	Pb-Free
MCH6336-TL-W		and Halogen Free	

[†] 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

Note on usage: Since the MCH6336 is a MOSFET product, please avoid using this device in the vicinity of highly charged objects.

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