MCH6337

Power MOSFET –20V, 49mΩ, –4.5A, Single P-Channel



Features

• Low On-Resistance

• Low Gate Drive Voltage

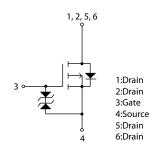
- High Speed Switching
- ESD Diode-Protected Gate
- Pb-Free and RoHS Compliance
- Halogen Free Compliance : MCH6337-TL-H, MCH6337-TL-W

Specifications

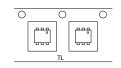
Absolute Maximum Ratings at $Ta = 25^{\circ}C$

Parameter	Symbol	Value	Unit
Drain to Source Voltage	VDSS	-20	V
Gate to Source Voltage	VGSS	±10	V
Drain Current (DC)	ID	-4.5	А
Drain Current (Pulse) PW≤10µs, duty cycle≤1%	I _{DP}	-18	A
Power Dissipation When mounted on ceramic substrate (1200mm ² ×0.8mm)	PD	1.5	W
Junction Temperature	Tj	150	°C
Storage Temperature	Tstg	-55 to +150	°C

Electrical Connection P-Channel



Marking



Packing Type:TL



Thermal Resistance Ratings

Parameter	Symbol	Value	Unit
Junction to Ambient When mounted on ceramic substrate (1200mm ² ×0.8mm)	R _{θJA}	83.3	°C/W

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

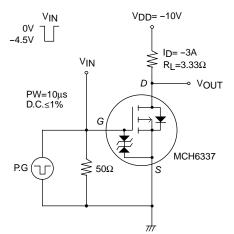
See detailed ordering and shipping information on page 5 of this data sheet.

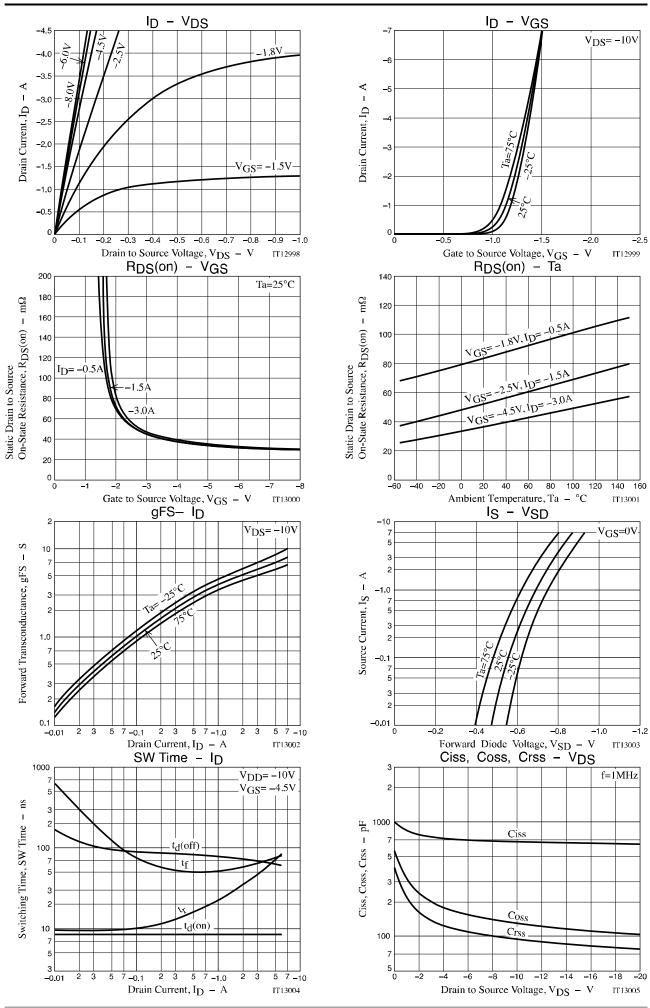
Electrical Characteristics at $Ta = 25^{\circ}C$

Parameter	Correctional	Symbol Conditions	Value			
Parameter	Symbol		min	typ	max	Unit
Drain to Source Breakdown Voltage	V(BR)DSS	I _D =-1mA, V _{GS} =0V	-20			V
Zero-Gate Voltage Drain Current	IDSS	V _{DS} =-20V, V _{GS} =0V			-1	μΑ
Gate to Source Leakage Current	IGSS	$V_{GS}=\pm 8V, V_{DS}=0V$			±10	μΑ
Gate Threshold Voltage	VGS(th)	V _{DS} =-10V, I _D =-1mA	-0.4		-1.3	V
Forward Transconductance	9FS	V _{DS} =-10V, I _D =-3A	3.5	5.9		S
Static Drain to Source On-State Resistance	R _{DS} (on)1	I _D =-3A, V _{GS} =-4.5V		37	49	mΩ
	R _{DS} (on)2	I _D =-1.5A, V _{GS} =-2.5V		53	75	mΩ
	R _{DS} (on)3	I _D =-0.5A, V _{GS} =-1.8V		85	130	mΩ
Input Capacitance	Ciss	V _{DS} =-10V, f=1MHz		670		pF
Output Capacitance	Coss			130		pF
Reverse Transfer Capacitance	Crss			94		pF
Turn-ON Delay Time	t _d (on)	See specified Test Circuit		8.4		ns
Rise Time	tr			45		ns
Turn-OFF Delay Time	t _d (off)			69		ns
Fall Time	tf			63		ns
Total Gate Charge	Qg	V _{DS} =-10V, V _{GS} =-4.5V, I _D =-4.5A		7.3		nC
Gate to Source Charge	Qgs			1.3		nC
Gate to Drain "Miller" Charge	Qgd			2.1		nC
Forward Diode Voltage	VSD	I _S =-4.5A, V _{GS} =0V		-0.82	-1.2	V

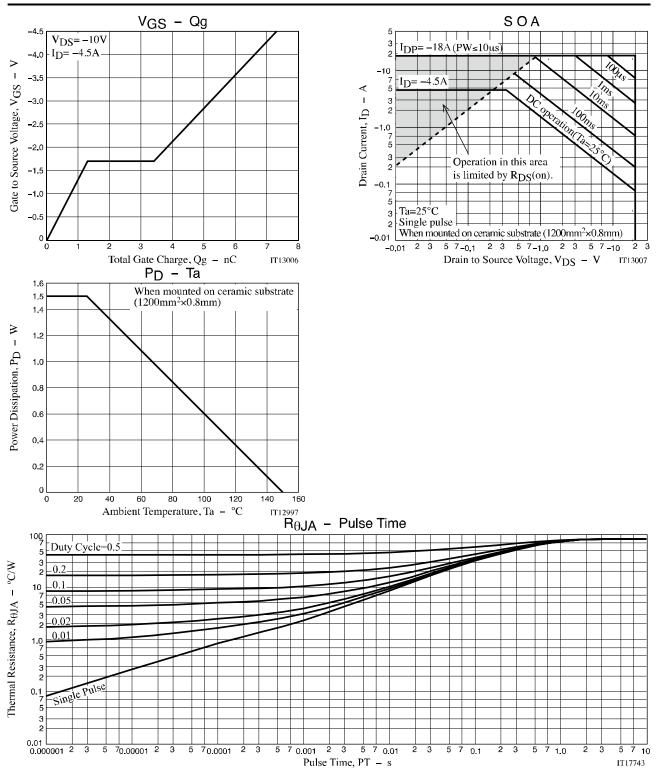
Product parametric performance is indicated in the Electrical Characteristics for the listed test conditions, unless otherwise noted. Product performance may not be indicated by the Electrical Characteristics if operated under different conditions.

Switching Time Test Circuit





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Package Dimensions

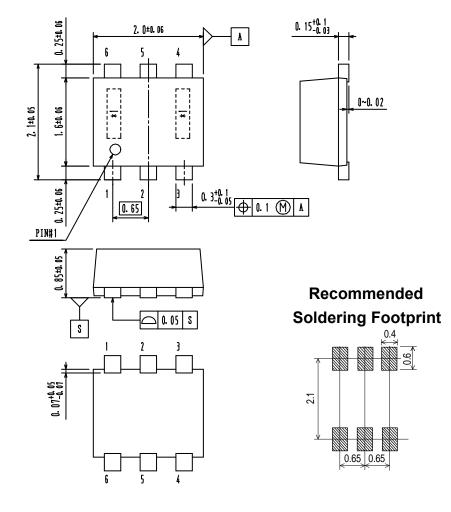
MCH6337-TL-E/ MCH6337-TL-H/ MCH6337-TL-W

MCPH6

CASE 419AS ISSUE O

Unit : mm

- 1 : Drain
- 2 : Drain
- 3 : Gate
- 4 : Source
- 5 : Drain
- 6 : Drain



ORDERING INFORMATION

Device	Package	Shipping	Note	
MCH6337-TL-E			Pb-Free	
MCH6337-TL-H	MCPH6 SC-88,SC-70-6,SOT-363	3,000 pcs. / reel	Pb-Free	
MCH6337-TL-W			and Halogen Free	

Note on usage : Since the MCH6337 is a MOSFET product, please avoid using this device in the vicinity of highly charged objects.

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