Ordering number : ENA1272B

MCH6341

ON Semiconductor®

http://onsemi.com

Power MOSFET
−30V, 59mΩ, −5A, Single P-Channel

Features

- Low R_{DS}(on)
- Pb-free and RoHS Compliance
- 4V drive
- ESD diode-Protected gate

Specifications

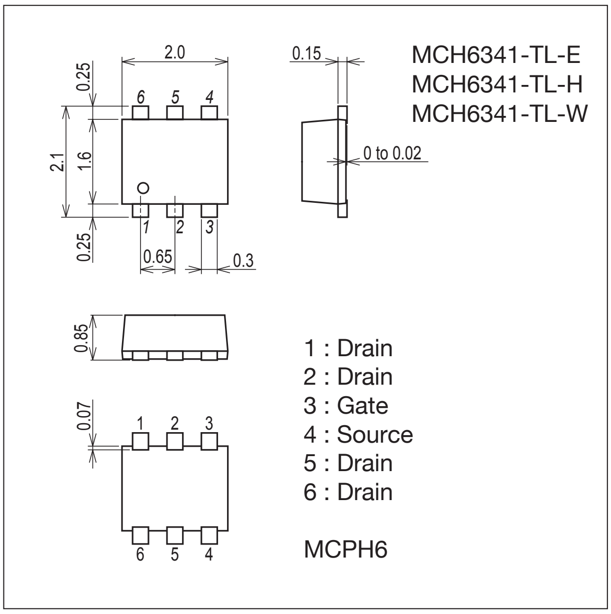
Absolute Maximum Ratings at Ta=25°C

Parameter	Symbol	Conditions	Ratings	Unit
Drain-to-Source Voltage	V_{DSS}		−30	V
Gate-to-Source Voltage	V_{GSS}		±20	V
Drain Current (DC)	I_D		−5	A
Drain Current (Pulse)	I_{DP}	PW≤10μs, duty cycle≤1%	−20	A
Power Dissipation	P_D	When mounted on ceramic substrate (1200mm^2×0.8mm)	1.5	W
Junction Temperature	Tj		150	°C
Storage Temperature	Tstg		−55 to +150	°C

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.

Package Dimensions

unit : mm (typ)
7022A-009



MCH6341-TL-E
MCH6341-TL-H
MCH6341-TL-W

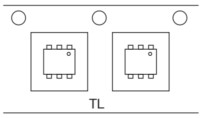
1 : Drain
2 : Drain
3 : Gate
4 : Source
5 : Drain
6 : Drain

MCPH6

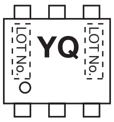
Product & Package Information

• Package	: MCPH6
• JEITA, JEDEC	: SC-88, SC-70-6, SOT-363
• Minimum Packing Quantity	: 3,000 pcs./reel

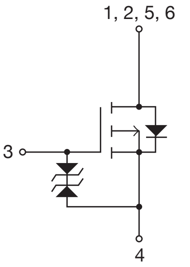
Packing Type : TL



Marking



Electrical Connection



ORDERING INFORMATION

See detailed ordering and shipping information on page 2 of this data sheet.

Semiconductor Components Industries, LLC, 2014

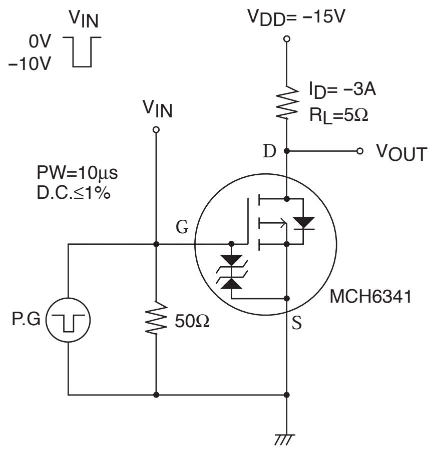
July, 2014

Electrical Characteristics at Ta=25°C

Parameter	Symbol	Conditions	Ratings			Unit
			min	typ	max	
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	µA
Gate-to-Source Leakage Current	I_{GSS}	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	g_{FS}	V_{DS}=–10V, I_D=–3A	2.8	4.8		S
Static Drain-to-Source On-State Resistance	R_{DS}(on)1	I_D=–3A, V_{GS}=–10V		45	59	mΩ
	R_{DS}(on)2	I_D=–1.5A, V_{GS}=–4.5V		71	100	mΩ
	R_{DS}(on)3	I_D=–1.5A, V_{GS}=–4V		82	115	mΩ
Input Capacitance	Ciss	V_{DS}=–10V, f=1MHz		430		pF
Output Capacitance	Coss			105		pF
Reverse Transfer Capacitance	Crss			75		pF
Turn-ON Delay Time	t_d(on)	See specified Test Circuit.		7.5		ns
Rise Time	t_r			26		ns
Turn-OFF Delay Time	t_d(off)			45		ns
Fall Time	t_f			35		ns
Total Gate Charge	Qg	V_{DS}=–15V, V_{GS}=–10V, I_D=–5A		10		nC
Gate-to-Source Charge	Qgs			2.0		nC
Gate-to-Drain “Miller” Charge	Qgd			2.5		nC
Forward Diode Voltage	V_{SD}	I_S=–5A, V_{GS}=0V		–0.87	–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.

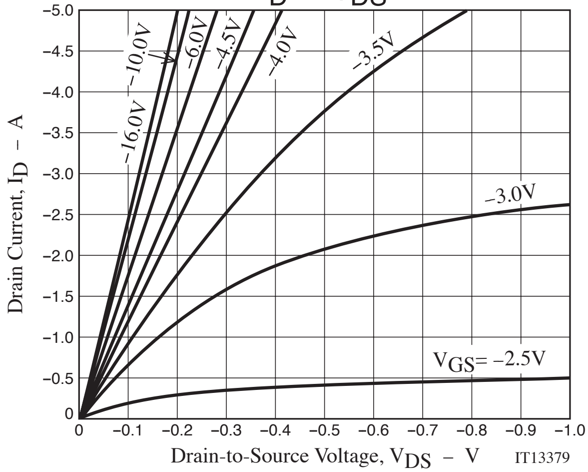
Switching Time Test Circuit



Ordering Information

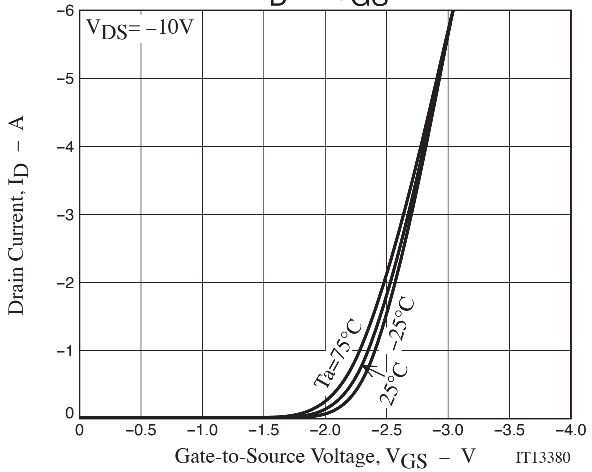
Device	Package	Shipping	memo
MCH6341-TL-E	MCPH6	3,000pcs./reel	Pb Free
MCH6341-TL-H	MCPH6	3,000pcs./reel	Pb Free and Halogen Free
MCH6341-TL-W	MCPH6	3,000pcs./reel	Pb Free and Halogen Free

I_D – V_{DS}



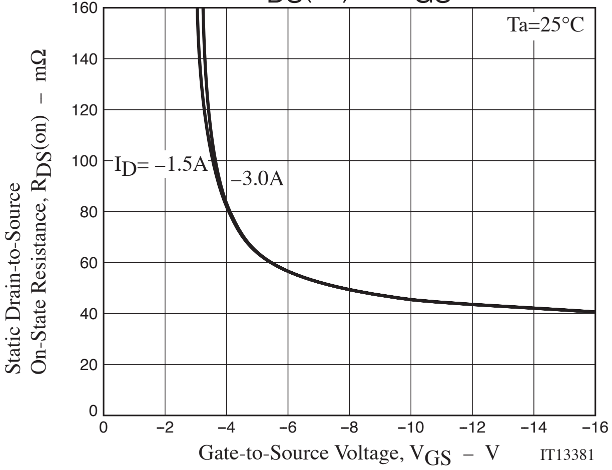
IT13379

I_D – V_{GS}



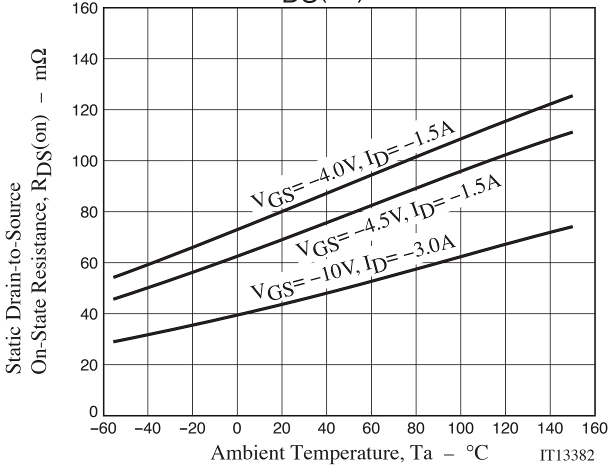
IT13380

R_{DS}(on) – V_{GS}



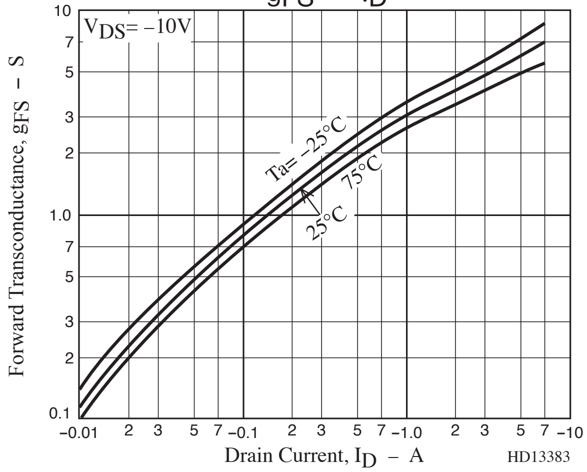
IT13381

R_{DS}(on) – Ta



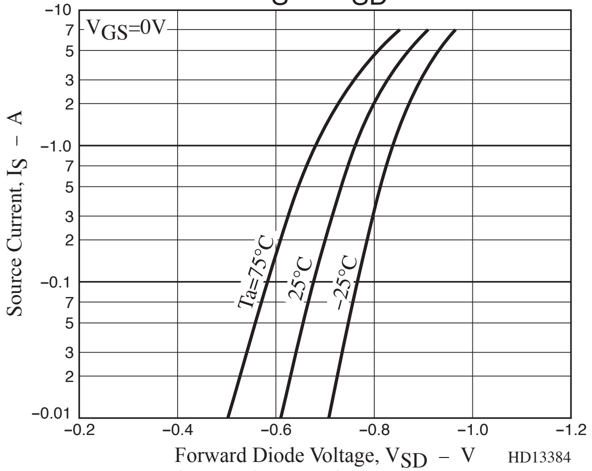
IT13382

g_{FS} – I_D



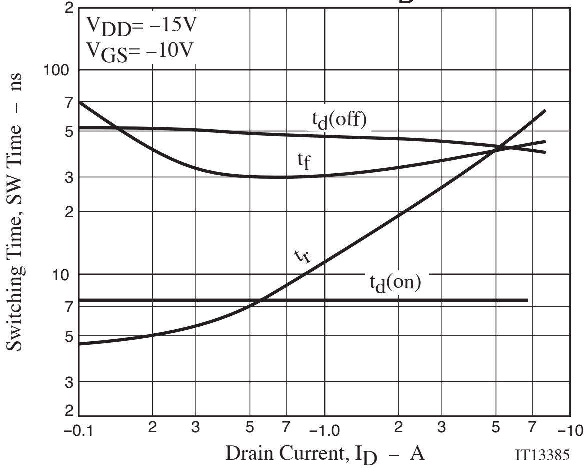
HD13383

I_S – V_{SD}



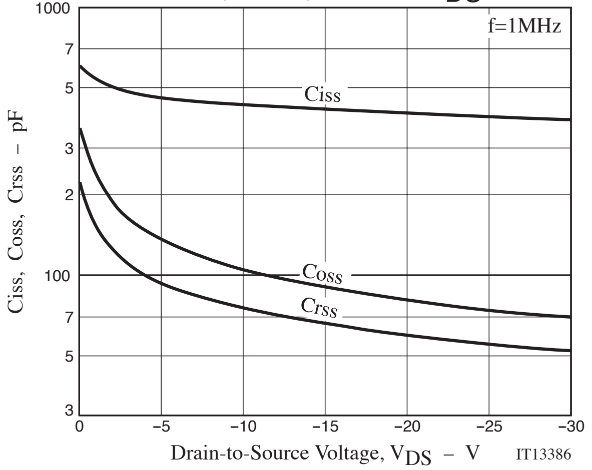
HD13384

SW Time – I_D



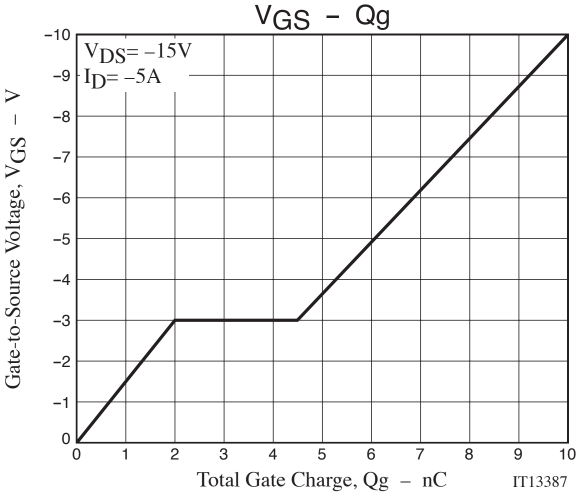
IT13385

Ciss, Coss, Crss – V_{DS}

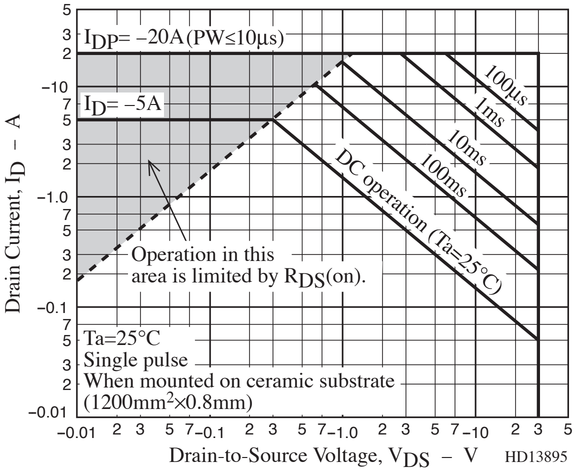


IT13386

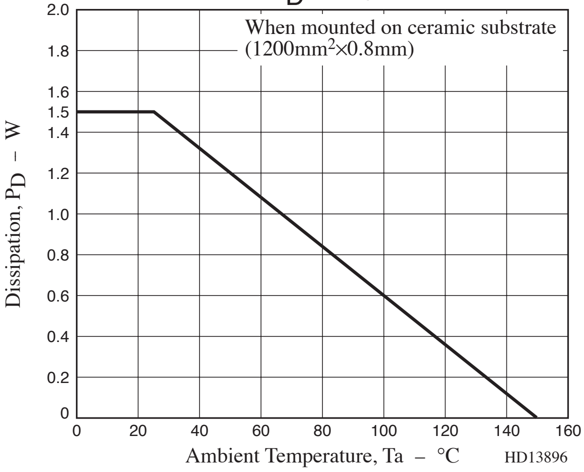
V_{GS} – Qg



S O A



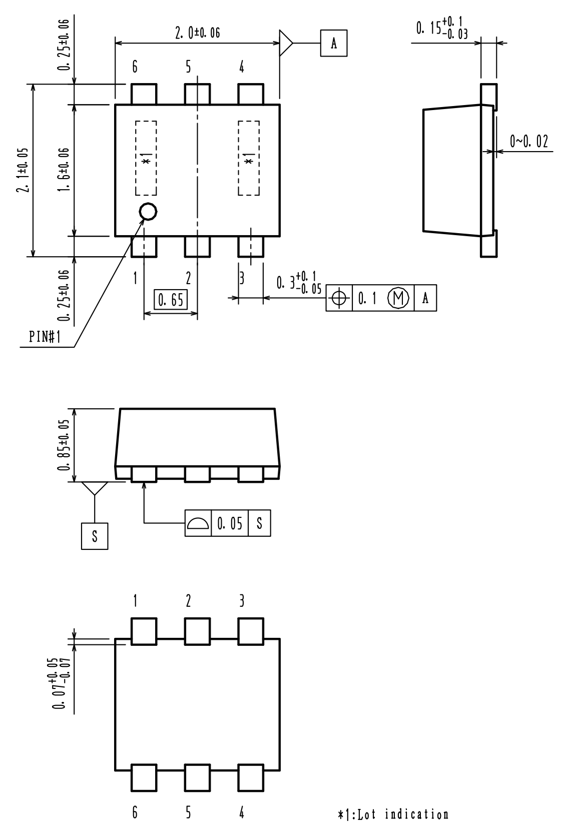
P_D – Ta



Outline Drawing

MCH6341-TL-E, MCH6341-TL-H, MCH6341-TL-W

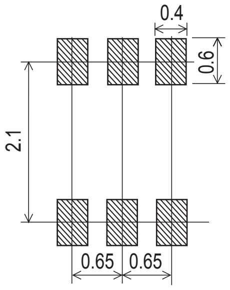
Mass (g)	Unit
0.008 * For reference	mm



*1:Lot indication

Land Pattern Example

Unit: mm



Note on usage : Since the MCH6341 is a MOSFET product, please avoid using this device in the vicinity of highly charged objects.

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