Ordering number : ENA2206

MCH6353

P-Channel Power MOSFET
-12V, -6.0A, 35mΩ, Single MCPH6

ON Semiconductor®

http://onsemi.com

Features

- On-resistance $R_{DS}(on)1$=29mΩ(typ.)
- Halogen free compliance
- 1.5V drive
- Protection diode in

Specifications

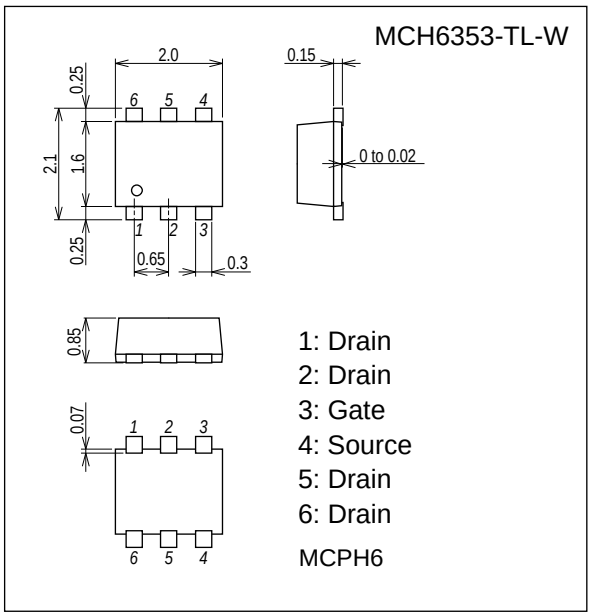
Absolute Maximum Ratings at Ta = 25°C

Parameter	Symbol	Conditions	Ratings	Unit
Drain to Source Voltage	V_{DSS}		-12	V
Gate to Source Voltage	V_{GSS}		±10	V
Drain Current (DC)	I_D		-6.0	A
Drain Current (Pulse)	I_{DP}	PW≤10μs, duty cycle≤1%	-24	A
Allowable Power Dissipation	P_D	When mounted on ceramic substrate (1500mm^2×0.8mm)	1.4	W
Channel Temperature	Tch		150	°C
Storage Temperature	Tstg		- 55 to +150	°C

Stresses exceeding Maximum Ratings may damage the device. Maximum Ratings are stress ratings only. Functional operation above the Recommended Operating Conditions is not implied. Extended exposure to stresses above the Recommended Operating Conditions may affect device reliability.

Package Dimensions

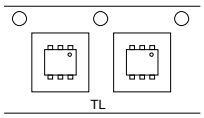
unit : mm (typ)
7022A-009



Ordering & Package Information

Device	Package	Shipping	note
MCH6353-TL-W	MCPH6 SC-88,SC-70-6, SOT-363	3,000 pcs. / reel	Pb-Free and Halogen Free

Packing Type: TL



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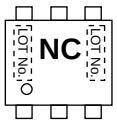
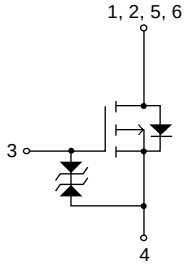


Electrical Connection



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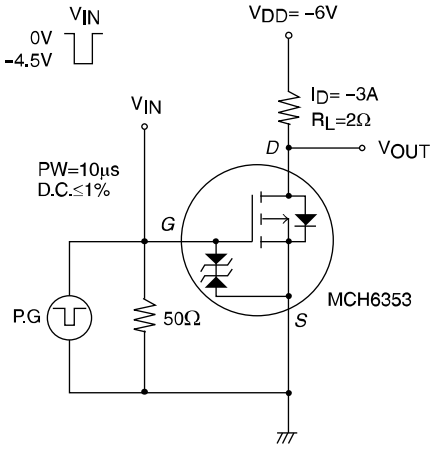
Electrical Characteristics at Ta = 25°C

Parameter	Symbol	Conditions	Ratings			Unit
			min	typ	max	
Drain to Source Breakdown Voltage	$V_{(BR)DSS}$	I_D=-1mA, V_{GS}=0V	-12			V
Zero-Gate Voltage Drain Current	I_{DSS}	V_{DS}=-12V, V_{GS}=0V			-1	μA
Gate to Source Leakage Current	I_{GSS}	V_{GS}=±8V, V_{DS}=0V			±1	μA
Cutoff Voltage	V_{GS}(off)	V_{DS}=-6V, I_D=-1mA	-0.4		-1.4	V
Forward Transfer Admittance	| yfs |	V_{DS}=-6V, I_D=-3A		11		S
Static Drain to Source On-State Resistance	R_{DS}(on)1	I_D=-3A, V_{GS}=-4.5V		29	35	mΩ
	R_{DS}(on)2	I_D=-1.5A, V_{GS}=-2.5V		38	48	mΩ
	R_{DS}(on)3	I_D=-0.5A, V_{GS}=-1.8V		52	78	mΩ
	R_{DS}(on)4	I_D=-0.5A, V_{GS}=-1.5V		70	140	mΩ
Input Capacitance	Ciss	V_{DS}=-6V, f=1MHz		1250		pF
Output Capacitance	Coss			160		pF
Reverse Transfer Capacitance	Crss			150		pF
Turn-ON Delay Time	t_d(on)	See specified Test Circuit.		8.4		ns
Rise Time	t_r			48		ns
Turn-OFF Delay Time	t_d(off)			165		ns
Fall Time	t_f			68		ns
Total Gate Charge	Qg	V_{DS}=-6V, V_{GS}=-4.5V, I_D=-6A		12		nC
Gate to Source Charge	Qgs			1.7		nC
Gate to Drain “Miller” Charge	Qgd			2.1		nC
Diode Forward Voltage	V_{SD}	I_S=-6A, V_{GS}=0V		-0.9	-1.2	V

Switching Time Test Circuit



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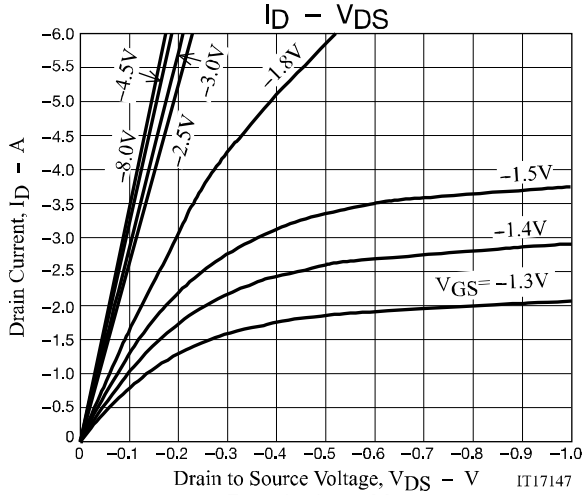

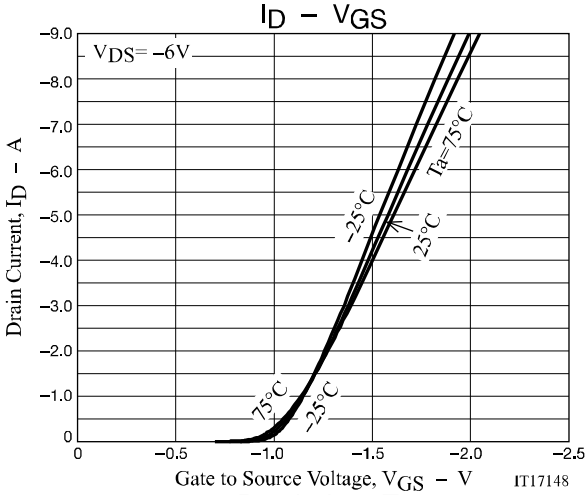

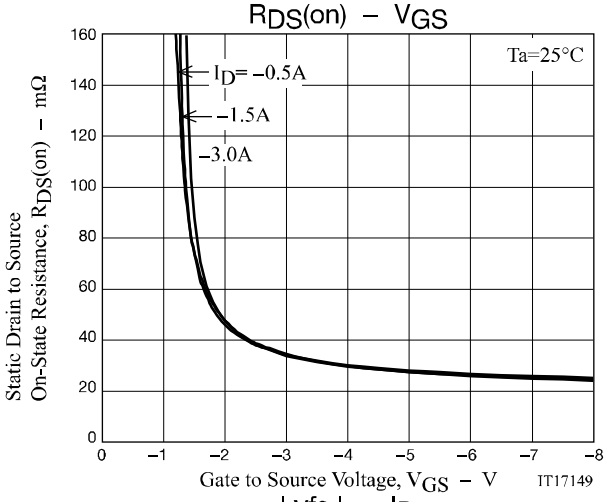

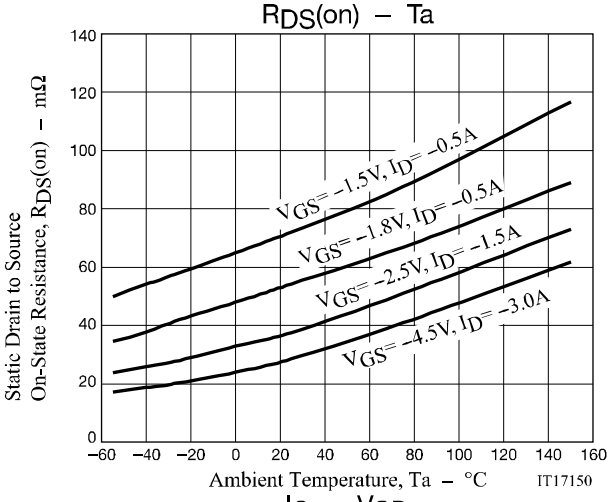

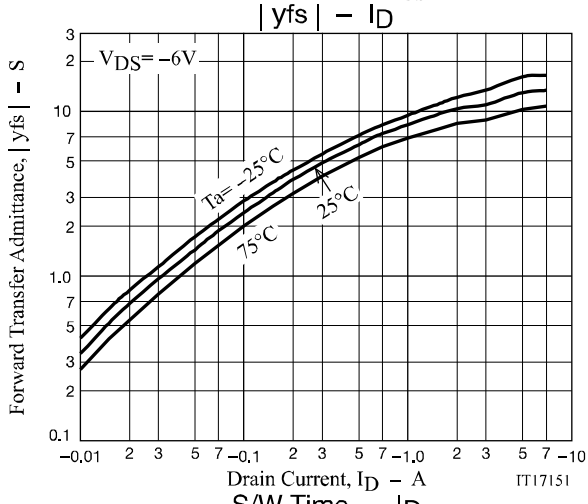

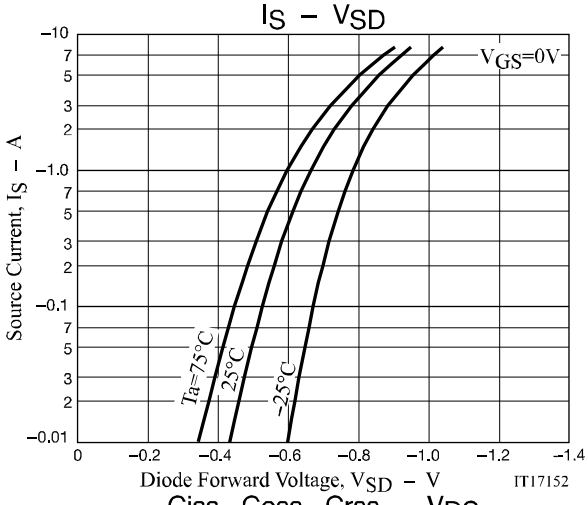

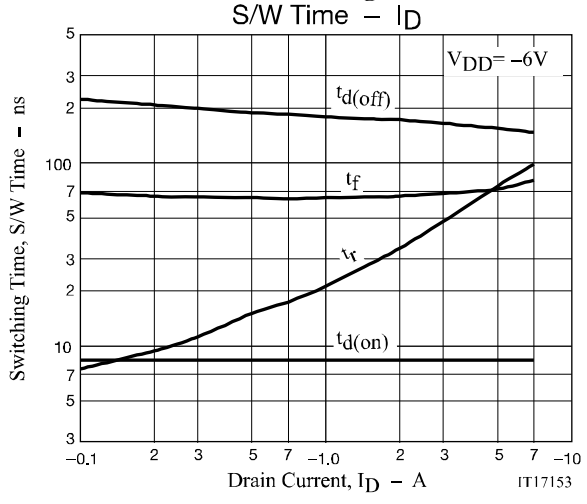

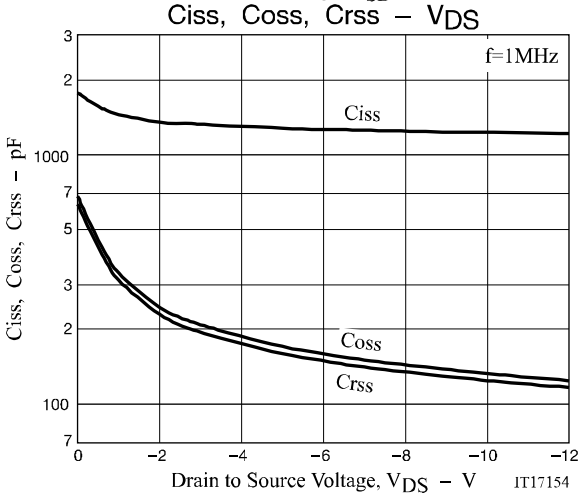

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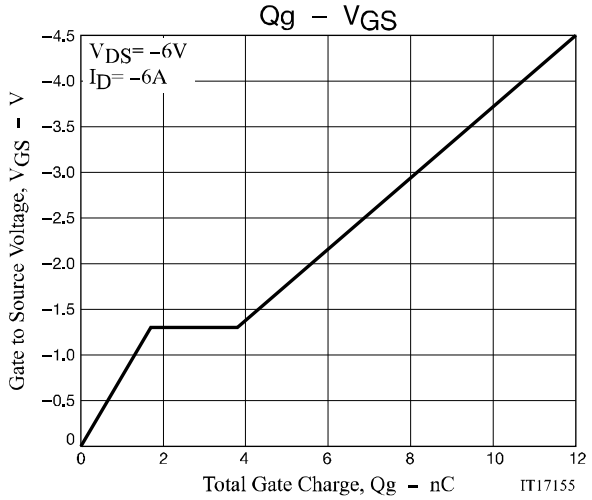

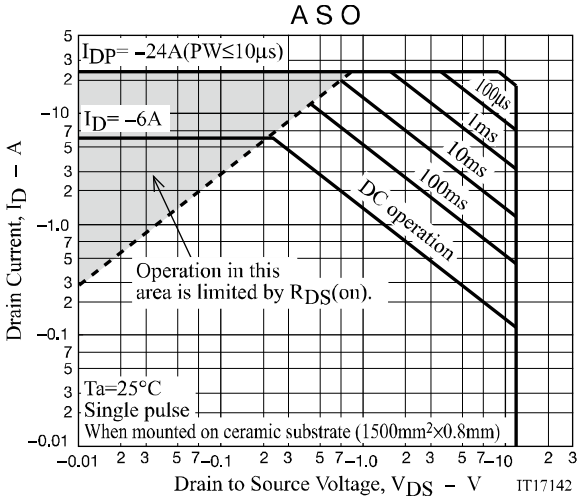

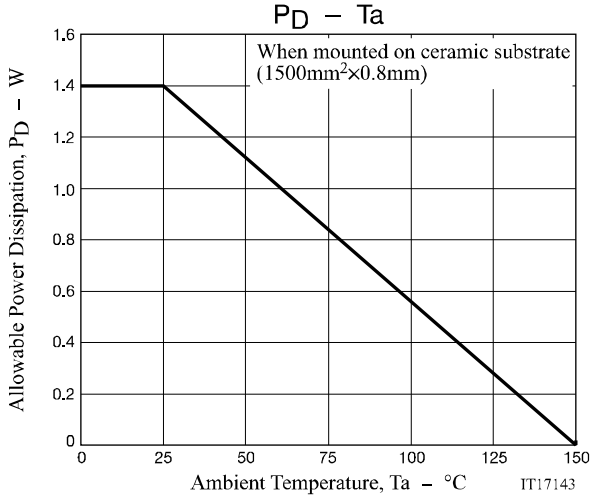

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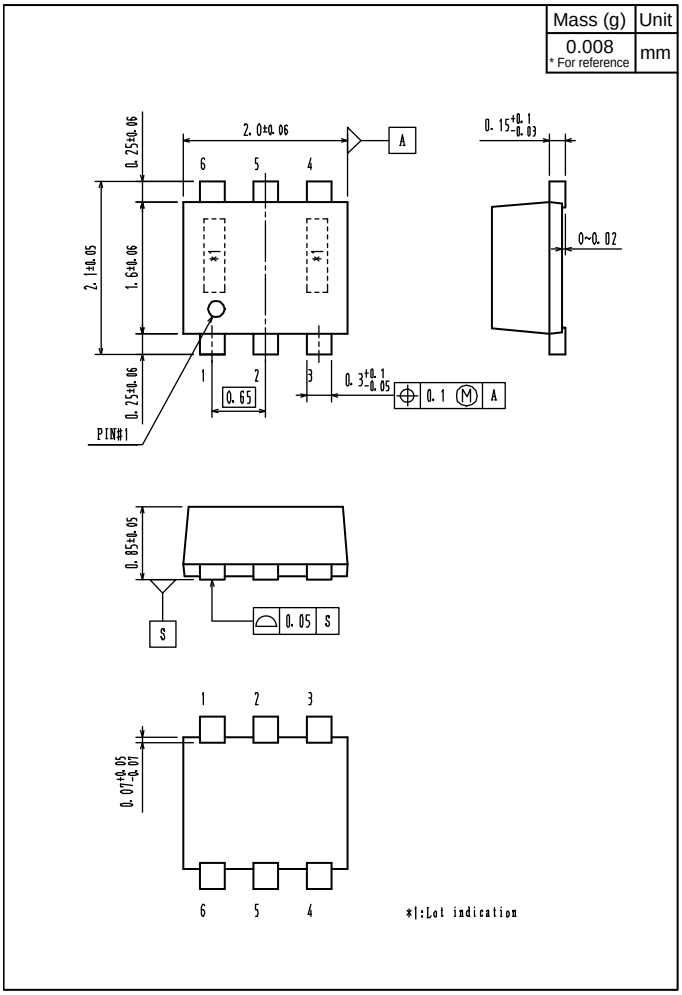
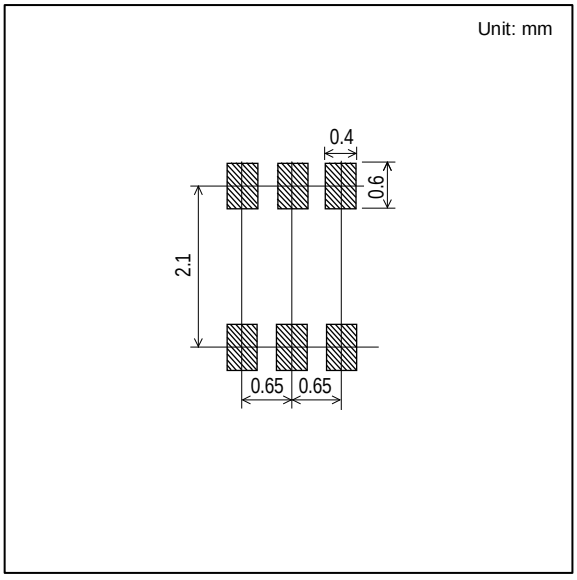
Outline Drawing

MCH6353-TL-W



Land Pattern Example



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Note on usage : Since the MCH6353 is a MOSFET product, please avoid using this device in the vicinity of highly charged objects.

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