P-Channel Power MOSFET -12V, -9A, 16.9mΩ, Single MCPH6



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Features

- On-resistance $R_{DS}(on)1=14m\Omega(typ.)$
- Halogen free compliance

- 1.5V drive
- Protection diode in

Specifications

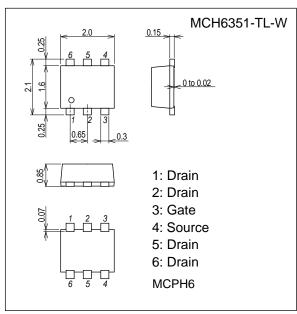
Absolute Maximum Ratings at Ta = 25°C

Parameter	Symbol	Conditions	Ratings	Unit
Drain to Source Voltage	V _{DSS}		-12	V
Gate to Source Voltage	VGSS		±10	V
Drain Current (DC)	ID		-9	Α
Drain Current (Pulse)	I _{DP}	PW≤10μs, duty cycle≤1%	-36	Α
Allowable Power Dissipation	PD	When mounted on ceramic substrate (1500mm ² ×0.8mm)	1.5	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

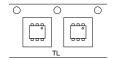
unit : mm (typ) 7022A-009



Ordering & Package Information

Device	Package	Shipping	note	
MCH6351-TL-W	MCPH6 SC-88,SOT-363	3,000 pcs. / reel	Pb-Free and Halogen Free	

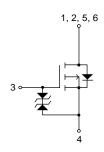
Packing Type: TL



Marking



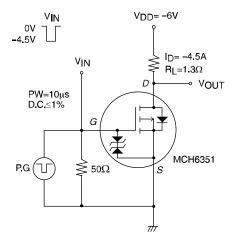
Electrical Connection

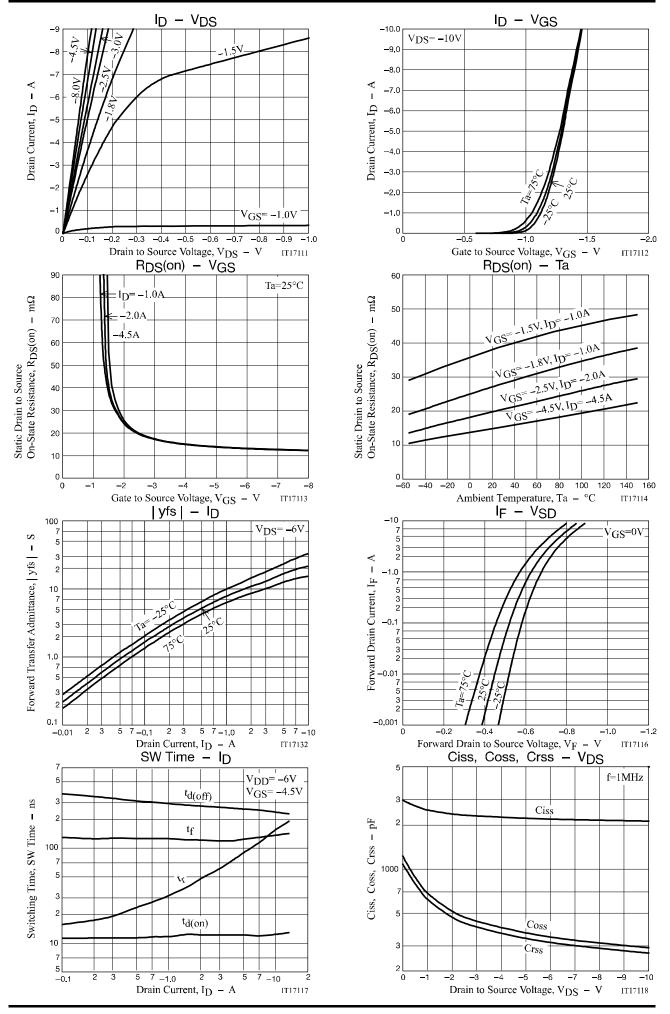


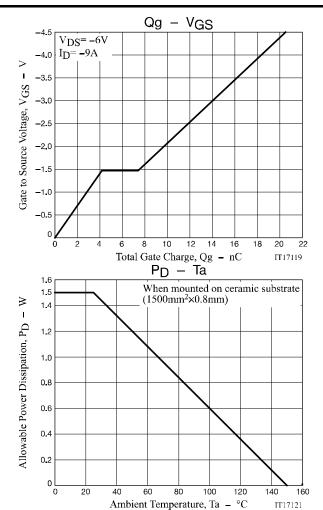
Electrical Characteristics at Ta = 25°C

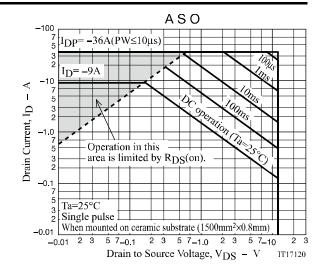
Parameter	Symbol	Conditions	Ratings			11-4
Parameter			min	typ	max	Unit
Drain to Source Breakdown Voltage	V(BR)DSS	I _D =-1mA, V _G S=0V	-12			V
Zero-Gate Voltage Drain Current	IDSS	V _{DS} =-12V, V _{GS} =0V			-1	μΑ
Gate to Source Leakage Current	IGSS	V _{GS} =±8V, V _{DS} =0V			±10	μΑ
Cutoff Voltage	V _{GS} (off)	V _{DS} =-6V, I _D =-1mA	-0.4		-1.3	V
Forward Transfer Admittance	yfs	V _{DS} =-6V, I _D =-4.5A		16.5		S
	R _{DS} (on)1	I _D =-4.5A, V _G S=-4.5V		14	16.9	mΩ
Static Drain to Source On-State	R _{DS} (on)2	I _D =-2.0A, V _G S=-2.5V		19	24	mΩ
Resistance	R _{DS} (on)3	I _D =-1.0A, V _G S=-1.8V		28	40	mΩ
	R _{DS} (on)4	I _D =-1.0A, V _G S=-1.5V		37	74	mΩ
Input Capacitance	Ciss			2200		pF
Output Capacitance	Coss	V _{DS} =-6V, f=1MHz		350		pF
Reverse Transfer Capacitance	Crss			320		pF
Turn-ON Delay Time	t _d (on)			12.3		ns
Rise Time	t _r	0		89		ns
Turn-OFF Delay Time	t _d (off)	See specified Test Circuit.		260		ns
Fall Time	tf			122		ns
Total Gate Charge	Qg			20.5	_	nC
Gate to Source Charge	Qgs	V _{DS} =-6V, V _{GS} =-4.5V, I _D =-9A		4.2		nC
Gate to Drain "Miller" Charge	Qgd]		3.2		nC
Diode Forward Voltage	V _{SD}	I _S =-9A, V _{GS} =0V		-0.83	-1.2	V

Switching Time Test Circuit





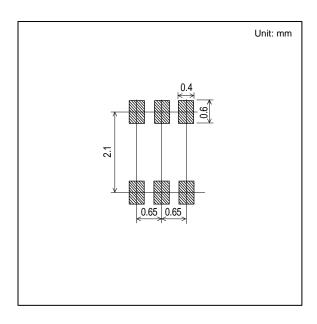




Outline Drawing

MCH6351-TL-W

Land Pattern Example



Note on usage: Since the MCH6351 is a MOSFET product, please avoid using this device in the vicinity of highly charged objects.

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