



SANYO Semiconductors

## DATA SHEET

# MCH6306

P-Channel Silicon MOSFET

## General-Purpose Switching Device Applications

### Features

- Low ON-resistance.
- Ultrahigh-speed switching.
- 4V drive.

### Specifications

Absolute Maximum Ratings at Ta=25°C

Parameter	Symbol	Conditions	Ratings	Unit
Drain-to-Source Voltage	VDSS		-30	V
Gate-to-Source Voltage	VGSS		±20	V
Drain Current (DC)	ID		-4	A
Drain Current (Pulse)	IDP	PW≤10μs, duty cycle≤1%	-16	A
Allowable Power Dissipation	PD	Mounted on a ceramic board (900mm²X0.8mm)	1.5	W
Channel Temperature	Tch		150	°C
Storage Temperature	Tstg		-55 to +150	°C

Electrical Characteristics at Ta=25°C

Parameter	Symbol	Conditions	Ratings			Unit
			min	typ	max	
Drain-to-Source Breakdown Voltage	V(BR)DSS	ID=-1mA, VGS=0	-30			V
Zero-Gate Voltage Drain Current	IDSS	VDS=-30V, VGS=0			-1	μA
Gate-to-Source Leakage Current	IGSS	VGS=±16V, VDS=0			±10	μA
Cutoff Voltage	VGS(off)	VDS=-10V, ID=-1mA	-1.2		-2.6	V
Forward Transfer Admittance	yfs	VDS=-10V, ID=-2A	2.5	3.6		S
Static Drain-to-Source On-State Resistance	RDS(on)1	ID=-2A, VGS=-10V		53	69	mΩ
	RDS(on)2	ID=-1A, VGS=-4.5V		92	129	mΩ
	RDS(on)3	ID=-1A, VGS=-4V		105	147	mΩ
Input Capacitance	Ciss	VDS=-10V, f=1MHz		510		pF
Output Capacitance	Coss	VDS=-10V, f=1MHz		115		pF
Reverse Transfer Capacitance	Crss	VDS=-10V, f=1MHz		78		pF
Turn-ON Delay Time	td(on)	See specified Test Circuit		11		ns
Rise Time	tr	See specified Test Circuit		20		ns
Turn-OFF Delay Time	td(off)	See specified Test Circuit		40		ns
Fall Time	tf	See specified Test Circuit		32		ns

Marking : JF

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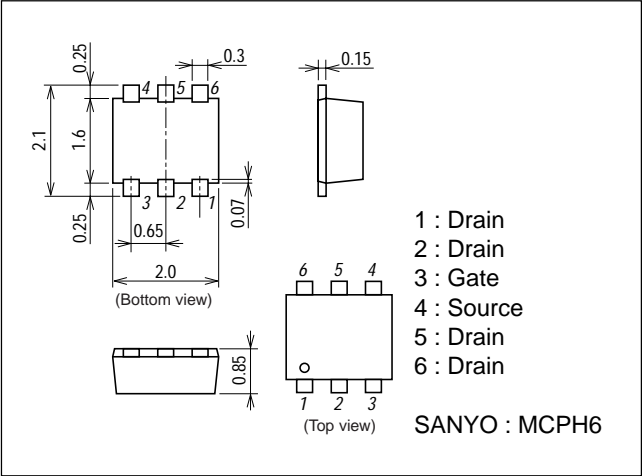
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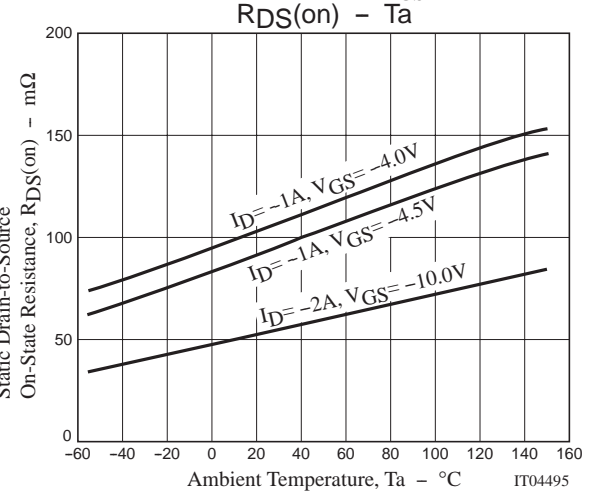
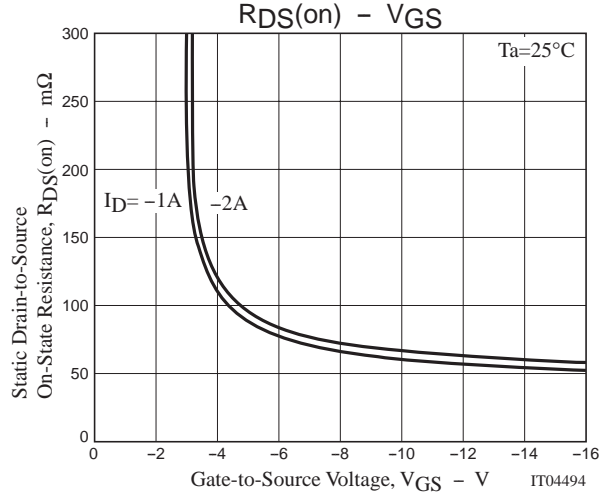
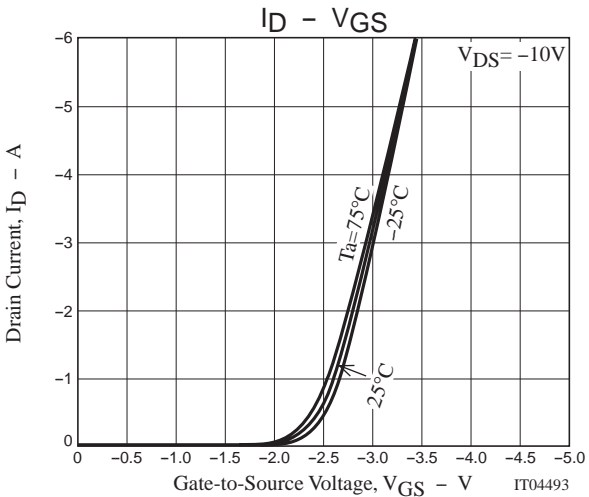
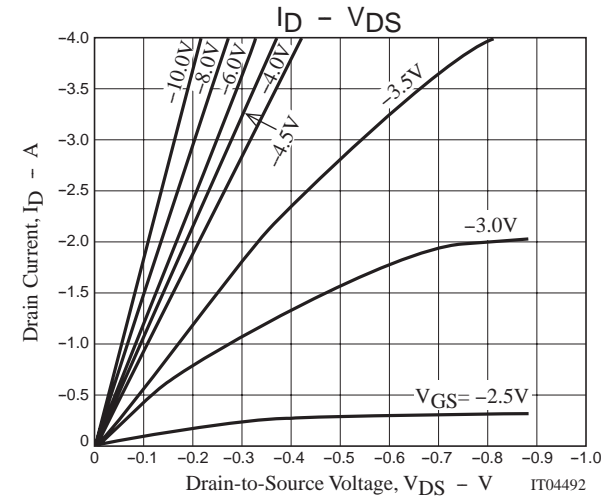
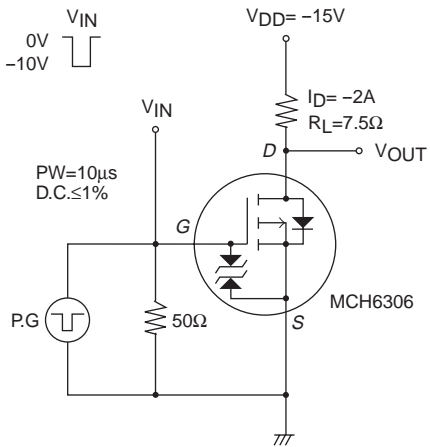
Parameter	Symbol	Conditions	Ratings			Unit
			min	typ	max	
Total Gate Charge	Qg	V <sub>DS</sub> =-10V, V <sub>GS</sub> =-10V, I <sub>D</sub> =-4A		11		nC
Gate-to-Source Charge	Q <sub>gs</sub>	V <sub>DS</sub> =-10V, V <sub>GS</sub> =-10V, I <sub>D</sub> =-4A		2.4		nC
Gate-to-Drain "Miller" Charge	Q <sub>gd</sub>	V <sub>DS</sub> =-10V, V <sub>GS</sub> =-10V, I <sub>D</sub> =-4A		1.7		nC
Diode Forward Voltage	V <sub>SD</sub>	I <sub>S</sub> =-4A, V <sub>GS</sub> =0		-0.86	-1.2	V

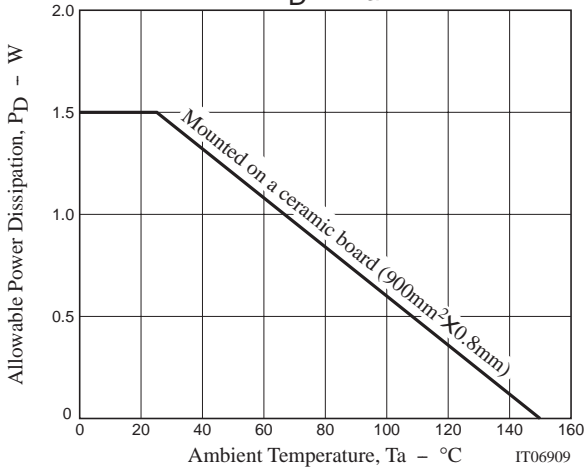
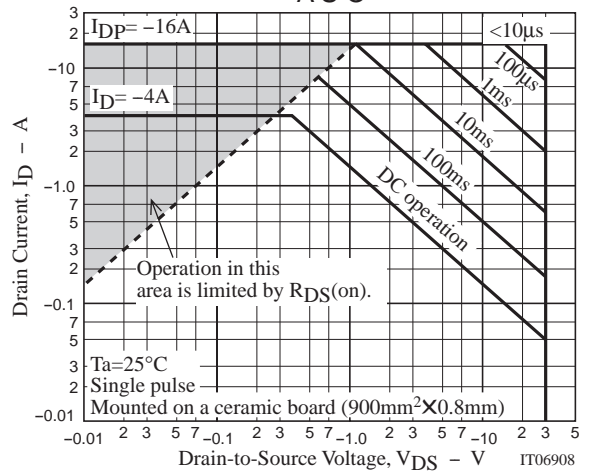
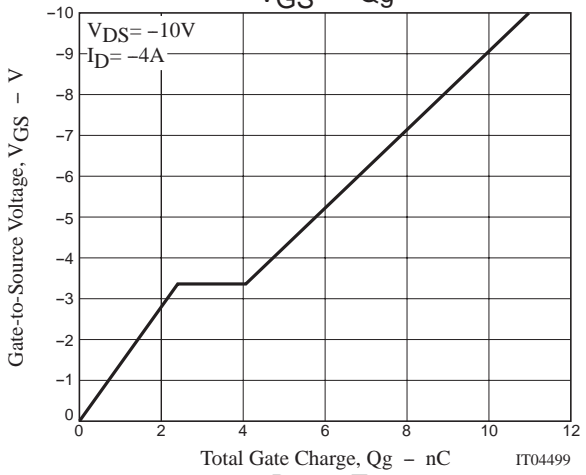
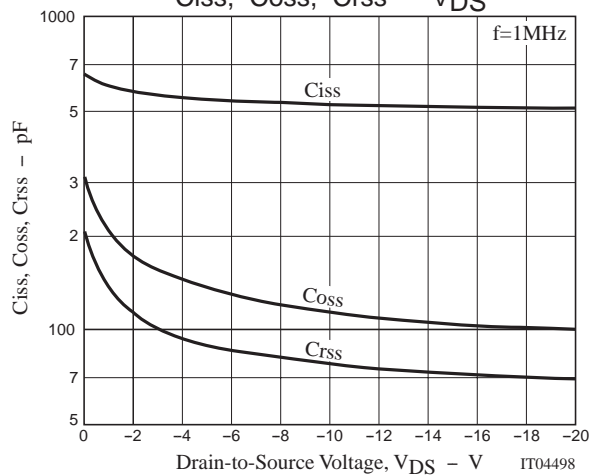
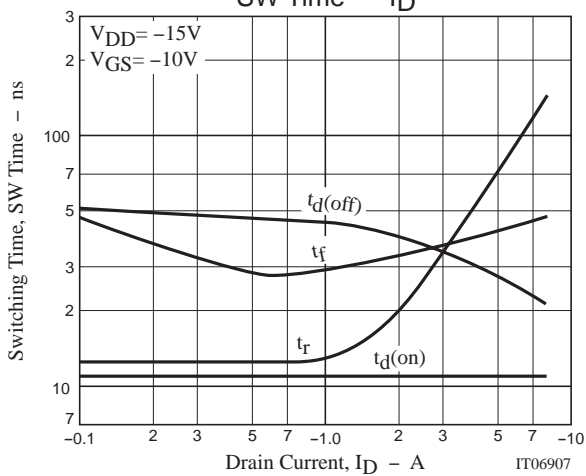
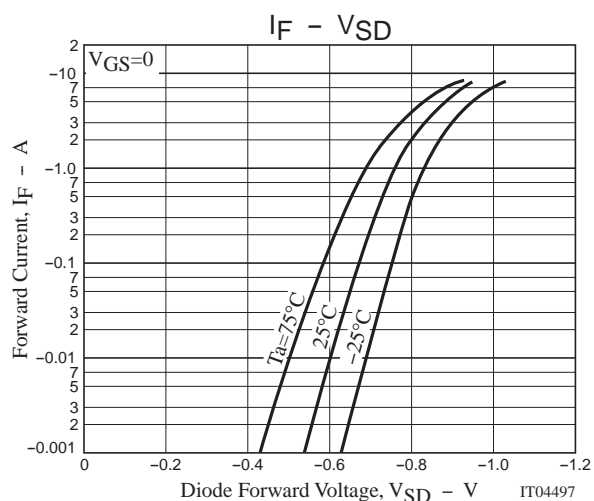
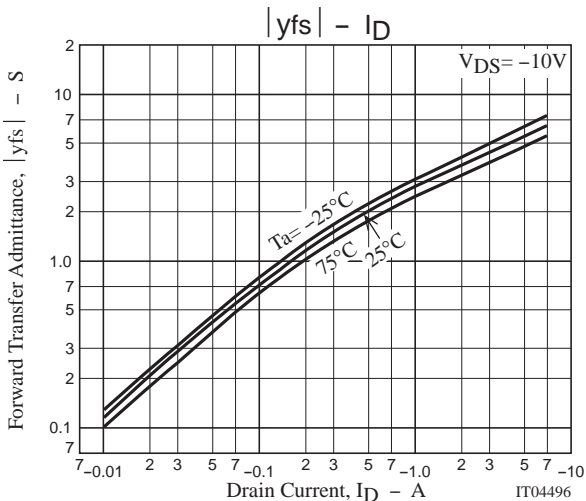
Package Dimensions

unit : mm  
2193A



Switching Time Test Circuit





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