



SANYO Semiconductors

DATA SHEET

An ON Semiconductor Company

P-Channel Silicon MOSFET

MCH3383 — Low Voltage Drive Switching Device Applications

Features

- ON-resistance $R_{DS(on)1}=57m\Omega$ (typ.)
- 0.9V drive
- Halogen free compliance

Specifications

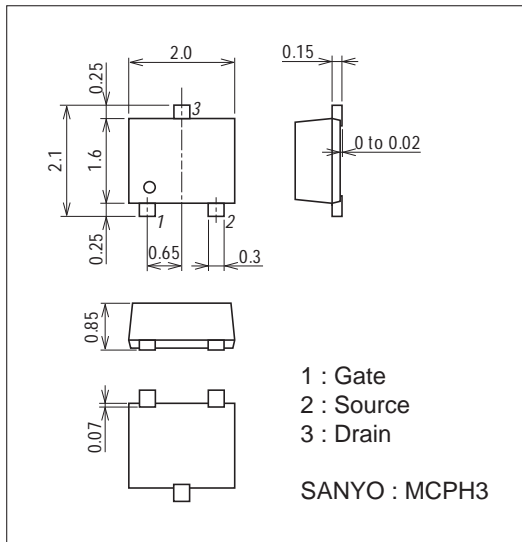
Absolute Maximum Ratings at $T_a=25^\circ C$

Parameter	Symbol	Conditions	Ratings	Unit
Drain-to-Source Voltage	V_{DSS}		-12	V
Gate-to-Source Voltage	V_{GSS}		± 5	V
Drain Current (DC)	I_D		-3.5	A
Drain Current (Pulse)	I_{DP}	$PW \leq 10\mu s$, duty cycle $\leq 1\%$	-14	A
Allowable Power Dissipation	P_D	When mounted on ceramic substrate (900mm ² ×0.8mm)	1.0	W
Channel Temperature	T_{ch}		150	°C
Operating Temperature	T_{opr}		-5 to +150	°C
Storage Temperature	T_{stg}		-55 to +150	°C

Package Dimensions

unit : mm (typ)

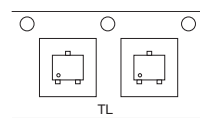
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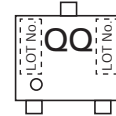
Product & Package Information

- Package : MCPH3
- JEITA, JEDEC : SC-70, SOT-323
- Minimum Packing Quantity : 3,000 pcs./reel

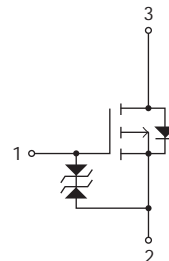
Packing Type : TL



Marking



Electrical Connection

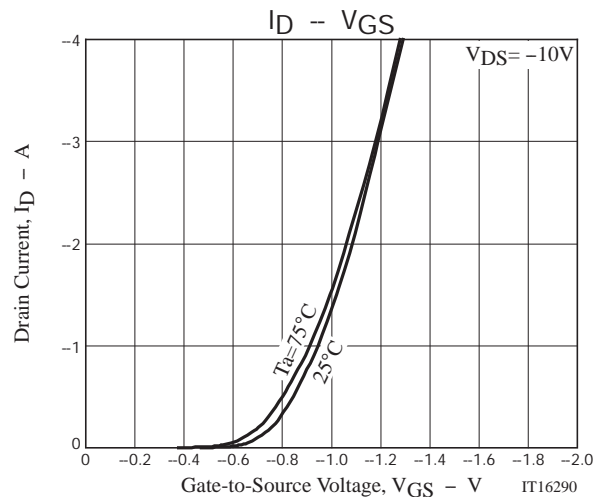
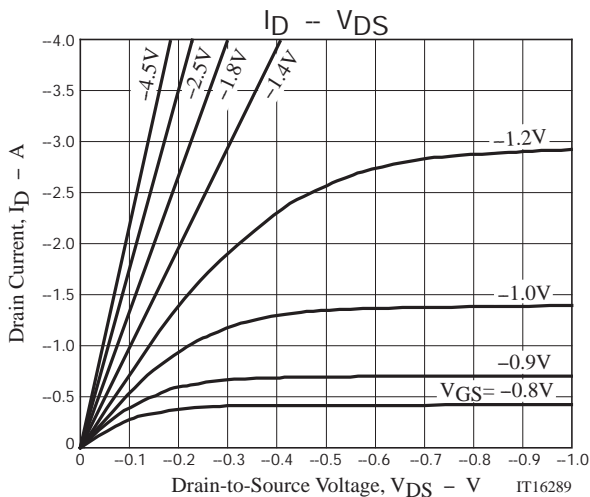
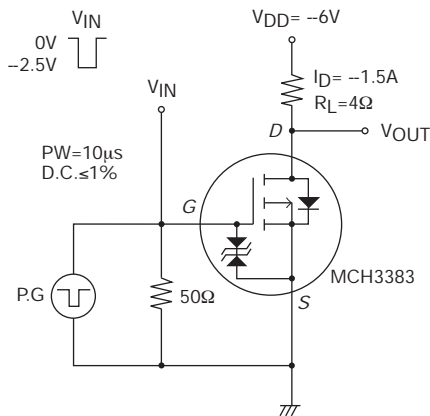


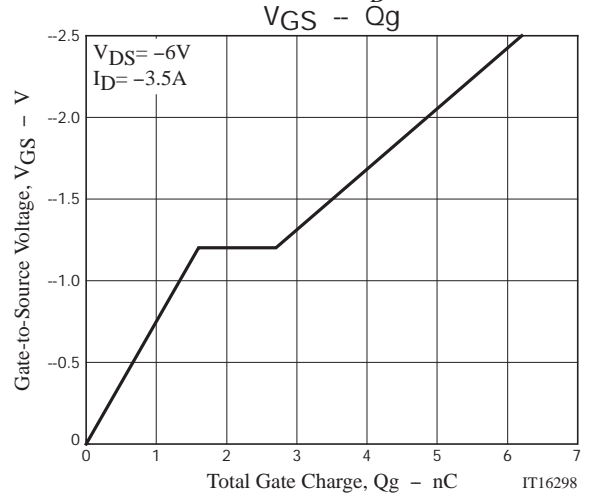
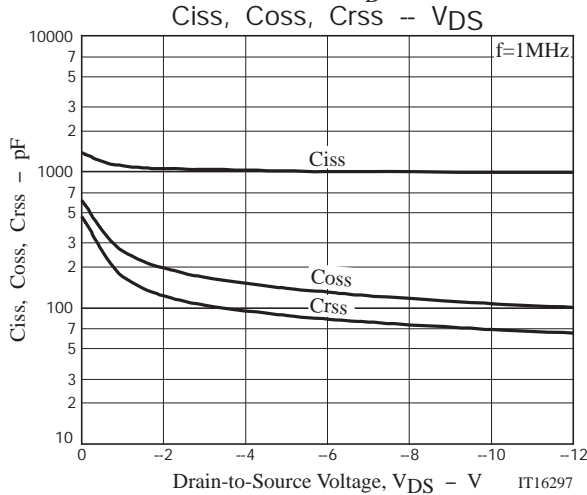
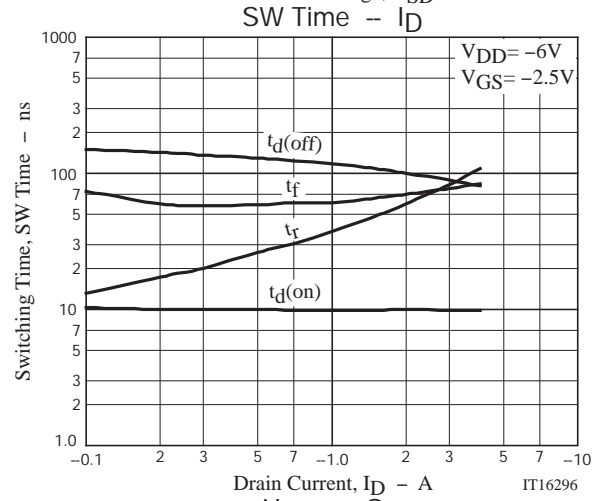
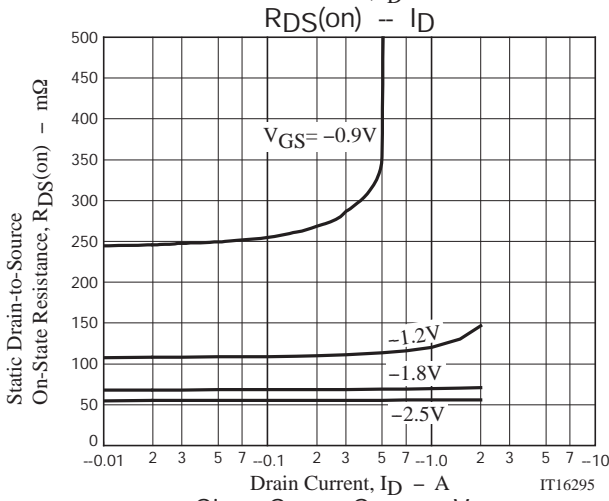
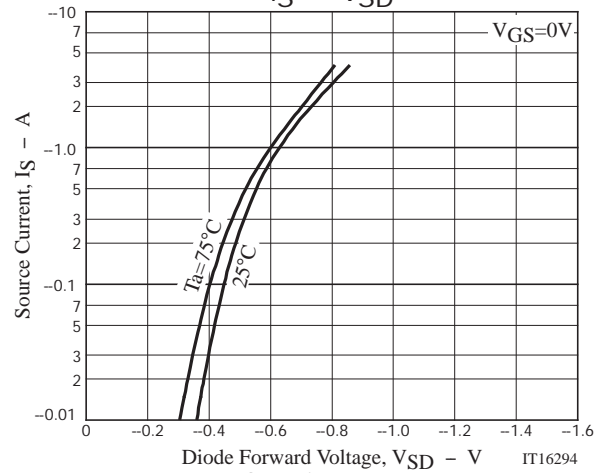
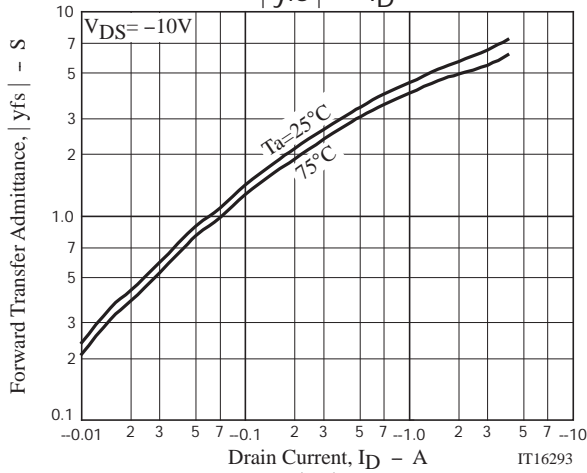
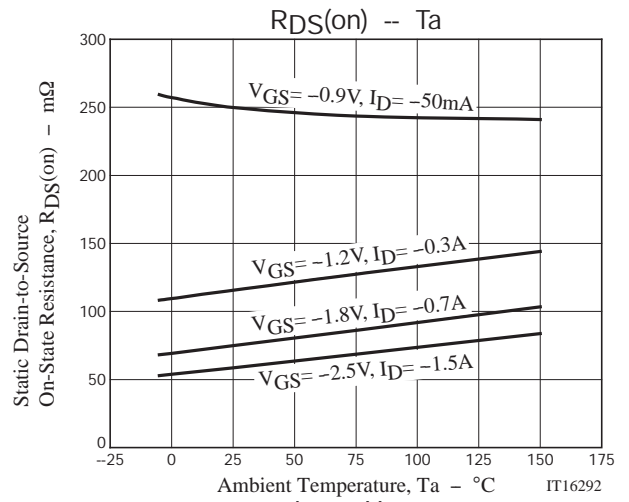
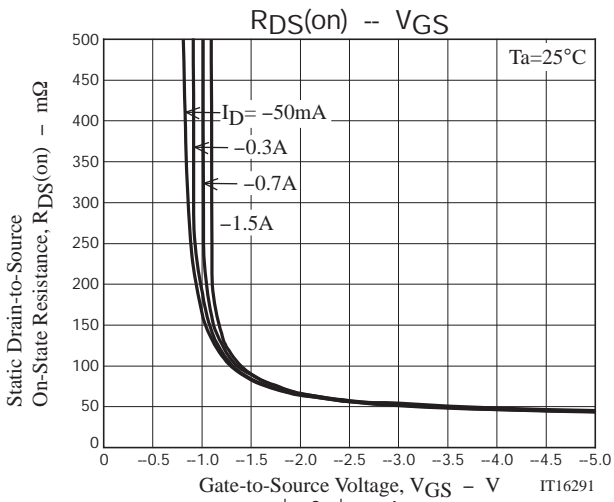
MCH3383

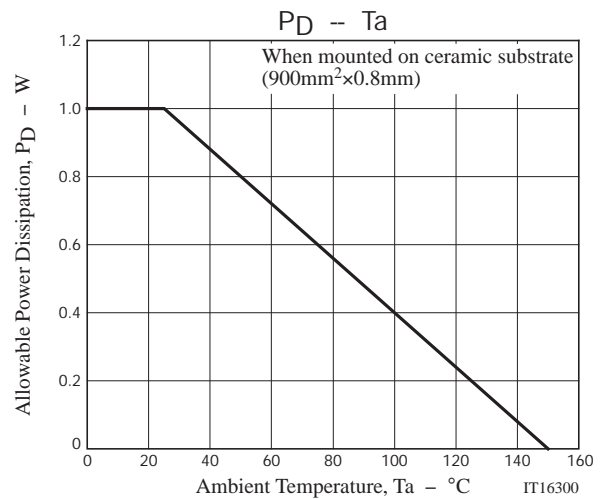
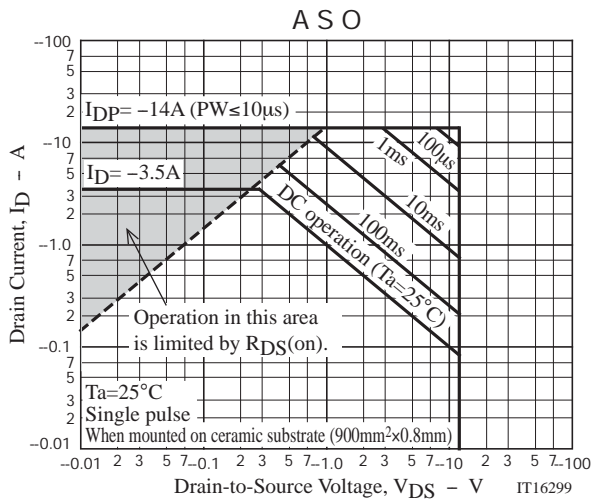
Electrical Characteristics at Ta=25°C

Parameter	Symbol	Conditions	Ratings			Unit
			min	typ	max	
Drain-to-Source Breakdown Voltage	V(BR)DSS	ID=-1mA, VGS=0V	-12			V
Zero-Gate Voltage Drain Current	IDSS	VDS=-12V, VGS=0V			-10	μA
Gate-to-Source Leakage Current	IGSS	VGS=±4V, VDS=0V			±10	μA
Cutoff Voltage	VGS(off)	VDS=-6V, ID=-1mA	-0.3		-0.8	V
Forward Transfer Admittance	yfs	VDS=-6V, ID=-1.5A		5.3		S
Static Drain-to-Source On-State Resistance	RDS(on)1	ID=-1.5A, VGS=-2.5V		57	69	mΩ
	RDS(on)2	ID=-0.7A, VGS=-1.8V		75	98	mΩ
	RDS(on)3	ID=-0.3A, VGS=-1.2V		115	173	mΩ
	RDS(on)4	ID=-50mA, VGS=-0.9V		250	500	mΩ
Input Capacitance	Ciss	VDS=-6V, f=1MHz		1010		pF
Output Capacitance	Coss	VDS=-6V, f=1MHz		130		pF
Reverse Transfer Capacitance	Crss	VDS=-6V, f=1MHz		85		pF
Turn-ON Delay Time	td(on)	See specified Test Circuit.		9.9		ns
Rise Time	tr	See specified Test Circuit.		49		ns
Turn-OFF Delay Time	td(off)	See specified Test Circuit.		109		ns
Fall Time	tf	See specified Test Circuit.		65		ns
Total Gate Charge	Qg	VDS=-6V, VGS=-2.5V, ID=-3.5A		6.2		nC
Gate-to-Source Charge	Qgs	VDS=-6V, VGS=-2.5V, ID=-3.5A		1.6		nC
Gate-to-Drain "Miller" Charge	Qgd	VDS=-6V, VGS=-2.5V, ID=-3.5A		1.1		nC
Diode Forward Voltage	VSD	IS=-3.5A, VGS=0V		-0.83	-1.2	V

Switching Time Test Circuit







Note on usage : Since the MCH3383 is a MOSFET product, please avoid using this device in the vicinity of highly charged objects.

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