



SANYO Semiconductors

DATA SHEET

An ON Semiconductor Company

MCH6344 — P-Channel Silicon MOSFET
General-Purpose Switching Device Applications

Features

- ON-resistance $R_{DS(on)1}=115m\Omega(\text{typ.})$
- 4V drive
- Halogen free compliance

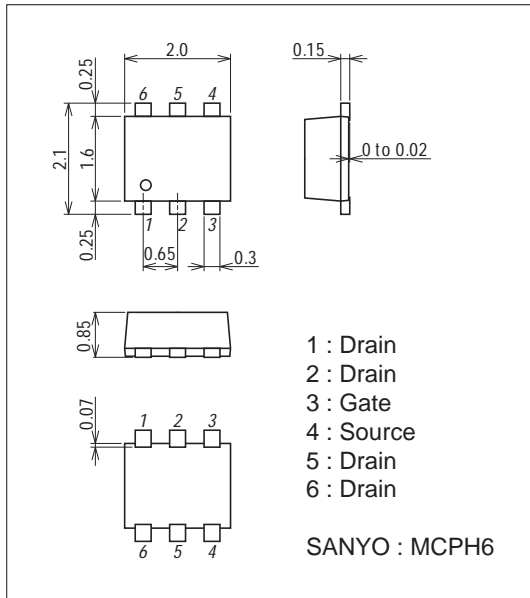
Specifications

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

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		-2	A
Drain Current (Pulse)	I_{DP}	$PW \leq 10\mu s, \text{ duty cycle} \leq 1\%$	-8	A
Allowable Power Dissipation	P_D	When mounted on ceramic substrate (900mm ² ×0.8mm)	0.8	W
Channel Temperature	T_{ch}		150	°C
Storage Temperature	T_{stg}		-55 to +150	°C

Package Dimensions

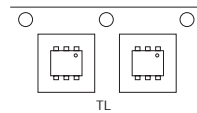
unit : mm (typ)
 7022A-009



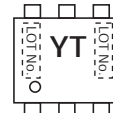
Product & Package Information

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

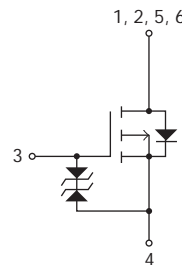
Packing Type : TL



Marking



Electrical Connection

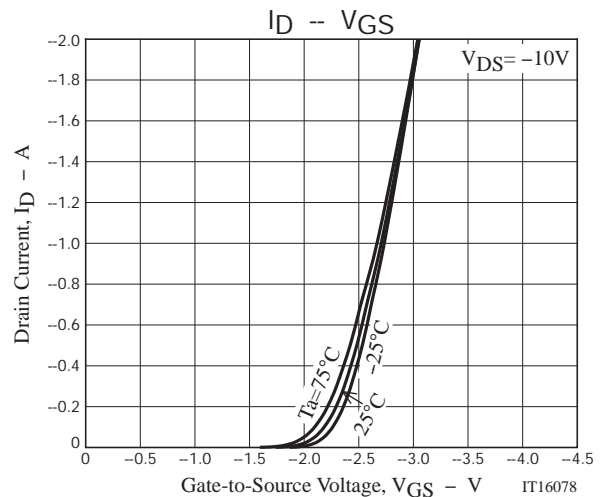
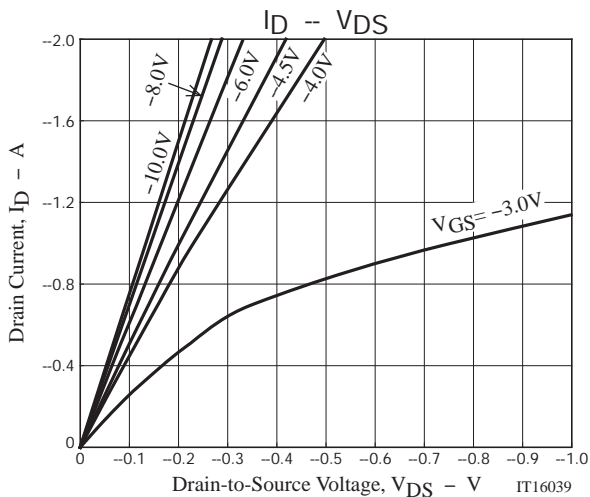
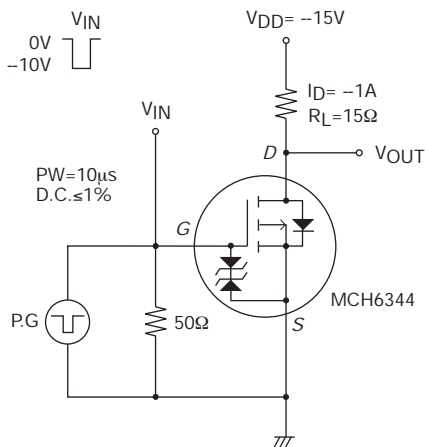


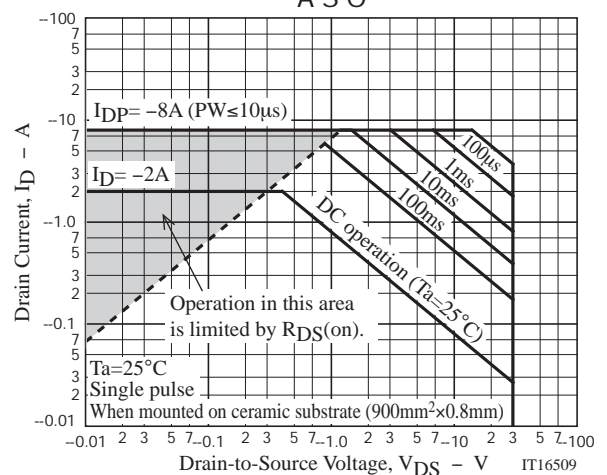
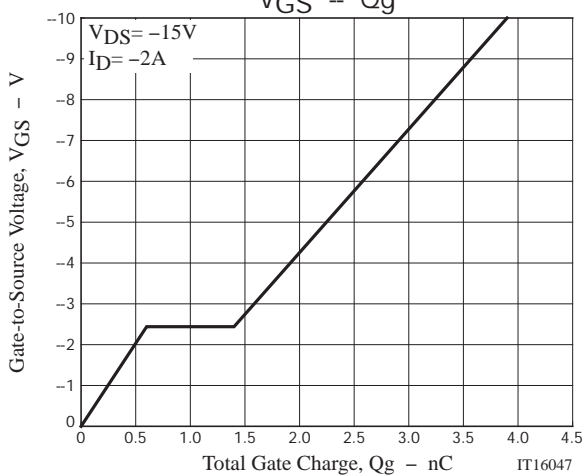
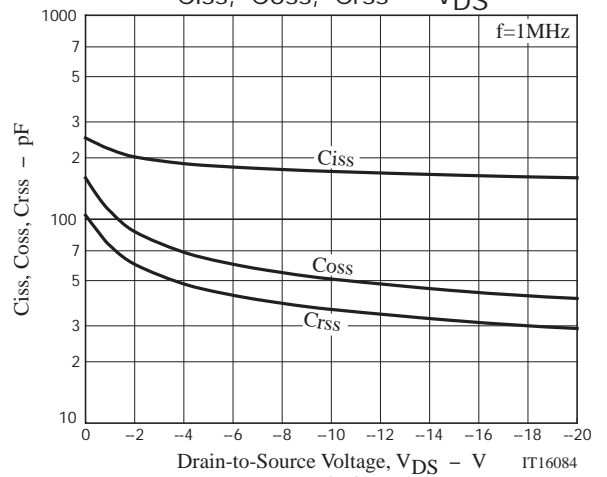
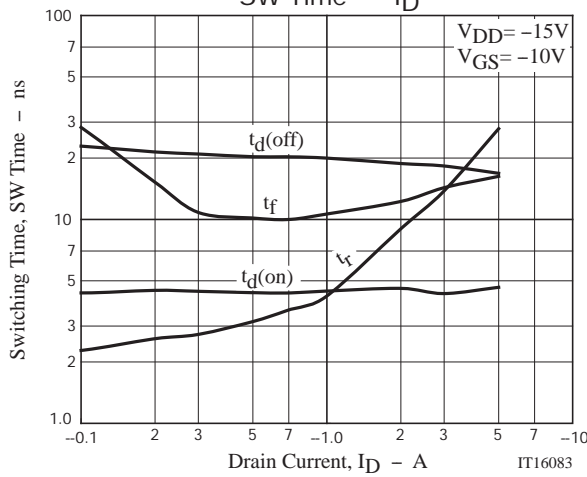
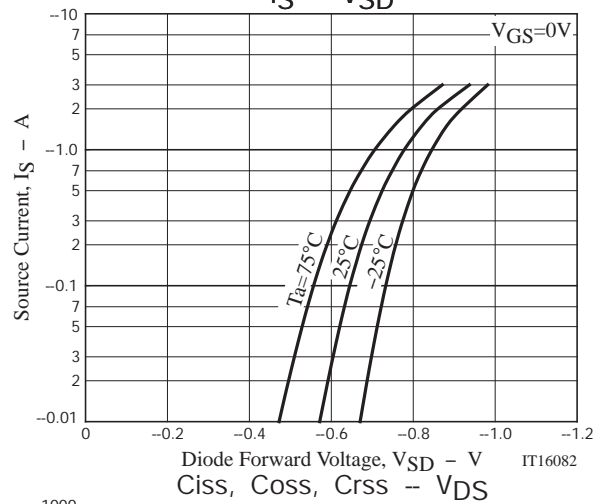
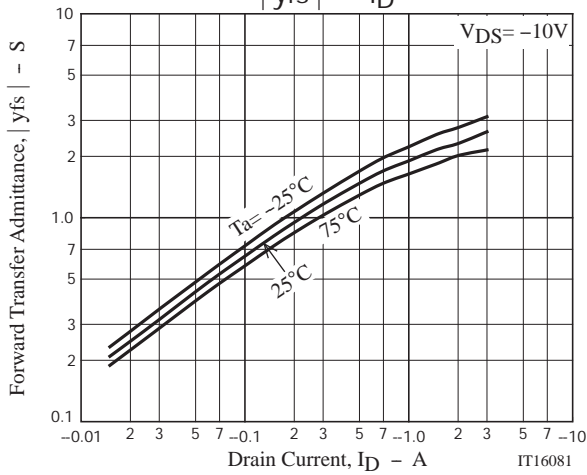
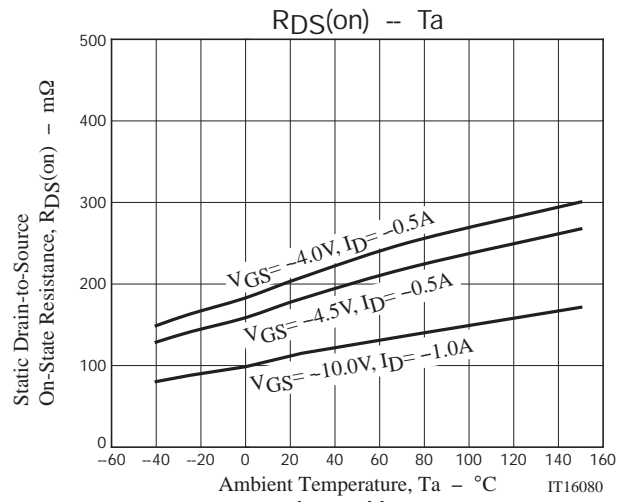
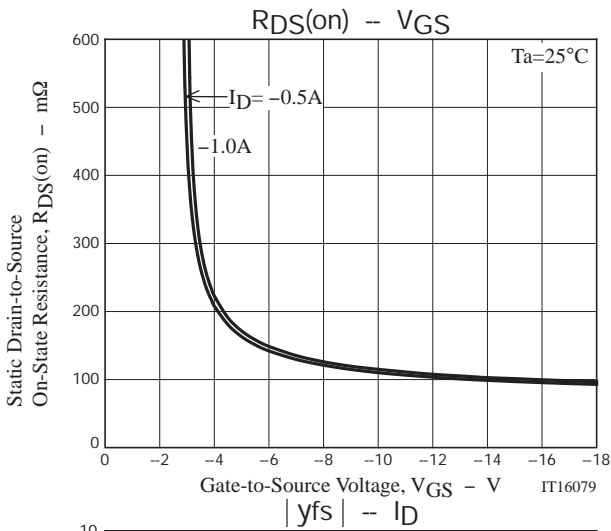
MCH6344

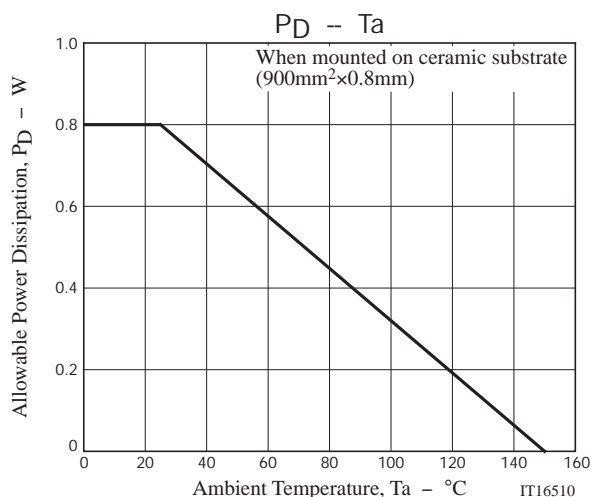
Electrical Characteristics at Ta=25°C

Parameter	Symbol	Conditions	Ratings			Unit
			min	typ	max	
Drain-to-Source Breakdown Voltage	$V_{(BR)DSS}$	$I_D = -1\text{mA}, V_{GS} = 0\text{V}$	-30			V
Zero-Gate Voltage Drain Current	I_{DSS}	$V_{DS} = -30\text{V}, V_{GS} = 0\text{V}$			-1	μA
Gate-to-Source Leakage Current	I_{GSS}	$V_{GS} = \pm 16\text{V}, V_{DS} = 0\text{V}$			± 10	μA
Cutoff Voltage	$V_{GS(off)}$	$V_{DS} = -10\text{V}, I_D = -1\text{mA}$	-1.2		-2.6	V
Forward Transfer Admittance	$ y_{fs} $	$V_{DS} = -10\text{V}, I_D = -1\text{A}$		1.9		S
Static Drain-to-Source On-State Resistance	$R_{DS(on)1}$	$I_D = -1\text{A}, V_{GS} = -10\text{V}$		115	150	$\text{m}\Omega$
	$R_{DS(on)2}$	$I_D = -0.5\text{A}, V_{GS} = -4.5\text{V}$		182	255	$\text{m}\Omega$
	$R_{DS(on)3}$	$I_D = -0.5\text{A}, V_{GS} = -4\text{V}$		208	292	$\text{m}\Omega$
Input Capacitance	C_{iss}	$V_{DS} = -10\text{V}, f = 1\text{MHz}$		172		pF
Output Capacitance	C_{oss}	$V_{DS} = -10\text{V}, f = 1\text{MHz}$		51		pF
Reverse Transfer Capacitance	C_{rss}	$V_{DS} = -10\text{V}, f = 1\text{MHz}$		36		pF
Turn-ON Delay Time	$t_d(on)$	See specified Test Circuit.		4.5		ns
Rise Time	t_r	See specified Test Circuit.		4.2		ns
Turn-OFF Delay Time	$t_d(off)$	See specified Test Circuit.		20		ns
Fall Time	t_f	See specified Test Circuit.		10.6		ns
Total Gate Charge	Q_g	$V_{DS} = -15\text{V}, V_{GS} = -10\text{V}, I_D = -2\text{A}$		3.9		nC
Gate-to-Source Charge	Q_{gs}	$V_{DS} = -15\text{V}, V_{GS} = -10\text{V}, I_D = -2\text{A}$		0.6		nC
Gate-to-Drain "Miller" Charge	Q_{gd}	$V_{DS} = -15\text{V}, V_{GS} = -10\text{V}, I_D = -2\text{A}$		0.8		nC
Diode Forward Voltage	V_{SD}	$I_S = -2\text{A}, V_{GS} = 0\text{V}$		-0.86	-1.5	V

Switching Time Test Circuit







Note on usage : Since the MCH6344 is a MOSFET product, please avoid using this device in the vicinity of highly charged objects.

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