



SANYO Semiconductors

DATA SHEET

An ON Semiconductor Company

MCH3484 — N-Channel Silicon MOSFET — General-Purpose Switching Device Applications

Features

- ON-resistance $R_{DS(on)} = 33\text{m}\Omega$ (typ.)
- 0.9V drive
- Halogen free compliance

Specifications

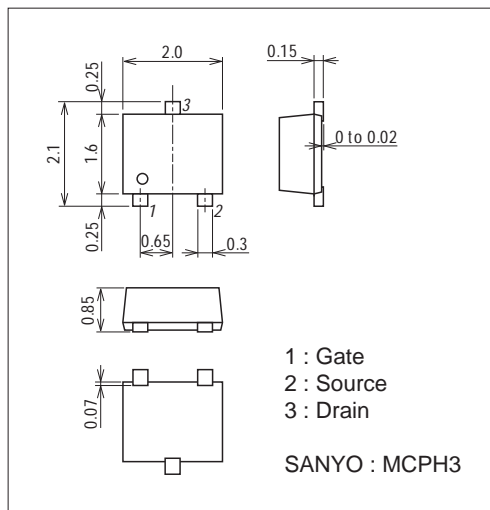
Absolute Maximum Ratings at $T_a = 25^\circ\text{C}$

Parameter	Symbol	Conditions	Ratings	Unit
Drain-to-Source Voltage	V_{DSS}		20	V
Gate-to-Source Voltage	V_{GSS}		± 5	V
Drain Current (DC)	I_D		4.5	A
Drain Current (Pulse)	I_{DP}	$PW \leq 10\mu\text{s}$, duty cycles $\leq 1\%$	18	A
Allowable Power Dissipation	P_D	When mounted on ceramic substrate (900mm ² × 0.8mm)	1.0	W
Channel Temperature	T_{ch}		150	$^\circ\text{C}$
Operating Temperature	T_{opr}		-5 to +150	$^\circ\text{C}$
Storage Temperature	T_{stg}		-55 to +150	$^\circ\text{C}$

Package Dimensions

unit : mm (typ)

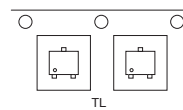
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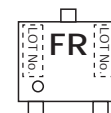
Product & Package Information

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

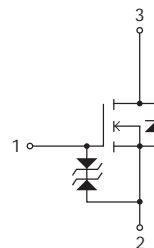
Packing Type : TL



Marking



Electrical Connection

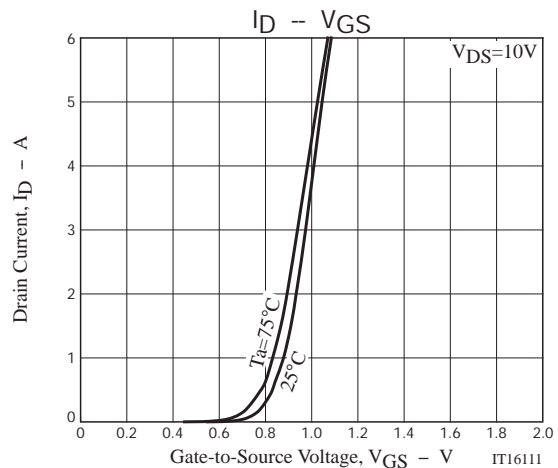
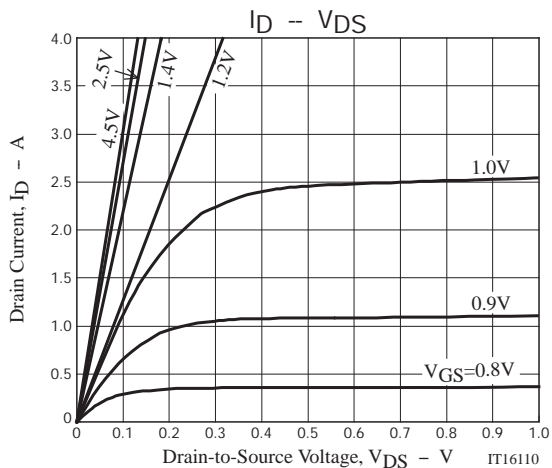
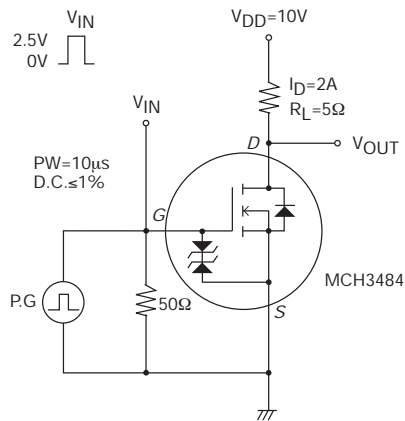


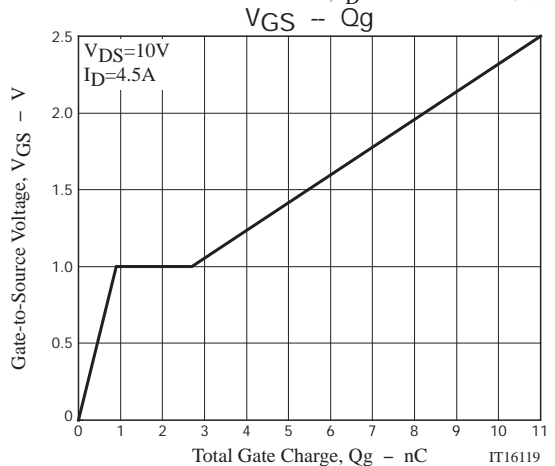
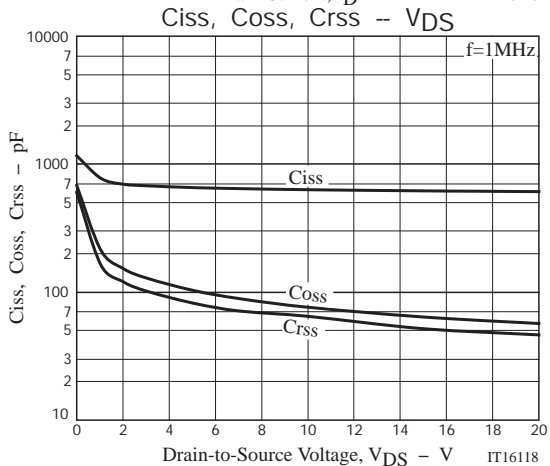
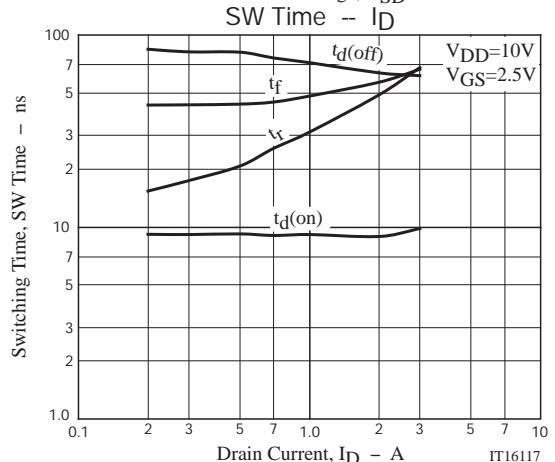
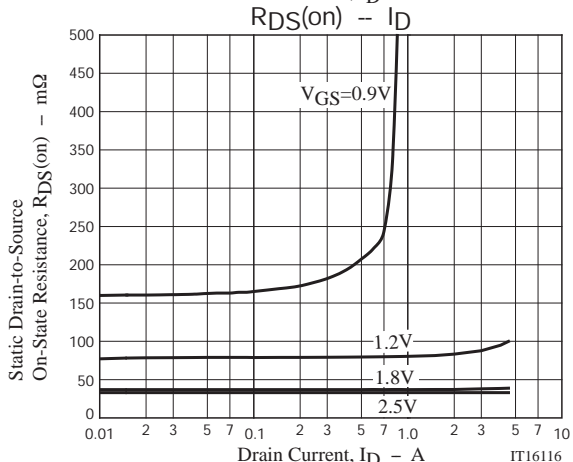
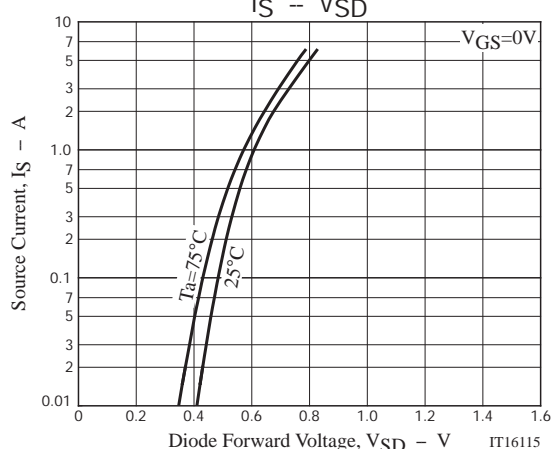
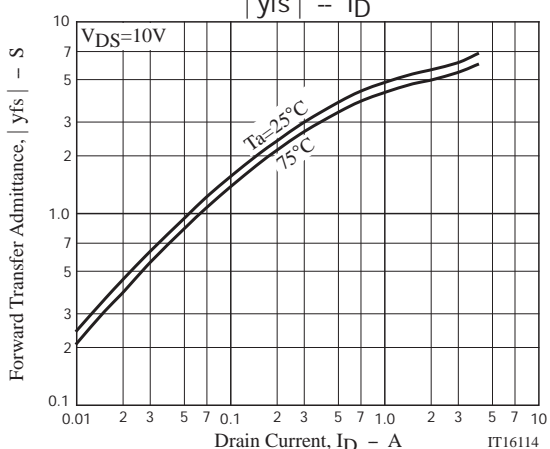
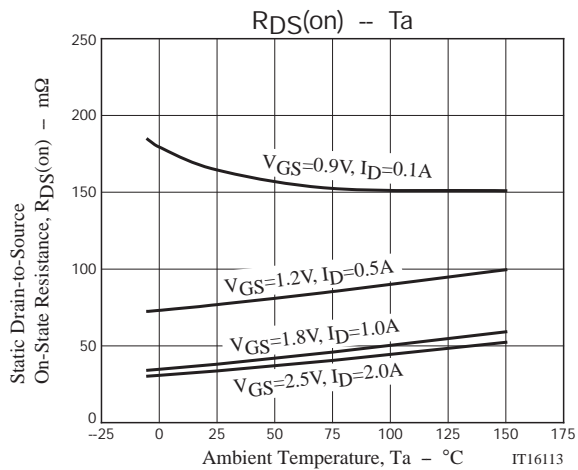
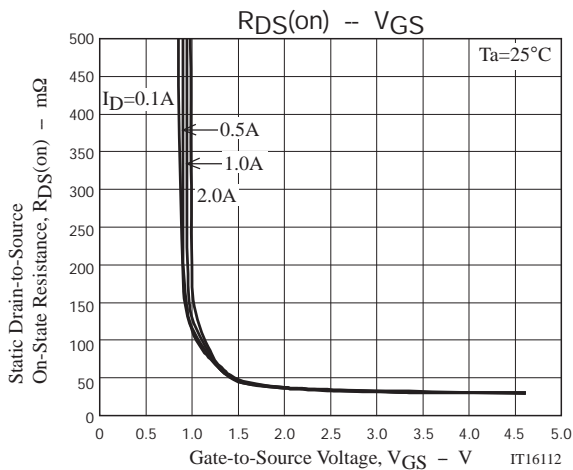
MCH3484

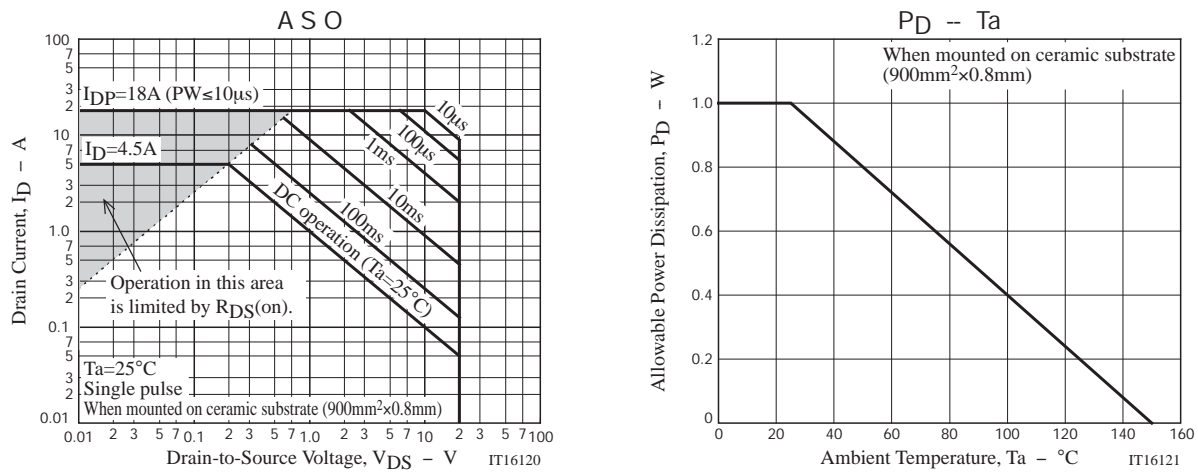
Electrical Characteristics at Ta=25°C

Parameter	Symbol	Conditions	Ratings			Unit
			min	typ	max	
Drain-to-Source Breakdown Voltage	$V_{(BR)DSS}$	$I_D=1mA, V_{GS}=0V$	20			V
Zero-Gate Voltage Drain Current	I_{DSS}	$V_{DS}=20V, V_{GS}=0V$			1	μA
Gate-to-Source Leakage Current	I_{GSS}	$V_{GS}=\pm 4V, V_{DS}=0V$			± 10	μA
Cutoff Voltage	$V_{GS(off)}$	$V_{DS}=10V, I_D=1mA$	0.3		0.8	V
Forward Transfer Admittance	$ y_{fs} $	$V_{DS}=10V, I_D=2A$		5.6		S
Static Drain-to-Source On-State Resistance	$R_{DS(on)1}$	$I_D=2A, V_{GS}=2.5V$		33	40	$m\Omega$
	$R_{DS(on)2}$	$I_D=1A, V_{GS}=1.8V$		37	49	$m\Omega$
	$R_{DS(on)3}$	$I_D=0.5A, V_{GS}=1.2V$		79	119	$m\Omega$
	$R_{DS(on)4}$	$I_D=0.1A, V_{GS}=0.9V$		165	330	$m\Omega$
Input Capacitance	C_{iss}	$V_{DS}=10V, f=1MHz$		630		pF
Output Capacitance	C_{oss}	$V_{DS}=10V, f=1MHz$		75		pF
Reverse Transfer Capacitance	C_{rss}	$V_{DS}=10V, f=1MHz$		65		pF
Turn-ON Delay Time	$t_{d(on)}$	See specified Test Circuit.		8.9		ns
Rise Time	t_r	See specified Test Circuit.		49		ns
Turn-OFF Delay Time	$t_{d(off)}$	See specified Test Circuit.		63		ns
Fall Time	t_f	See specified Test Circuit.		57		ns
Total Gate Charge	Q_g	$V_{DS}=10V, V_{GS}=2.5V, I_D=4.5A$		11		nC
Gate-to-Source Charge	Q_{gs}	$V_{DS}=10V, V_{GS}=2.5V, I_D=4.5A$		0.9		nC
Gate-to-Drain "Miller" Charge	Q_{gd}	$V_{DS}=10V, V_{GS}=2.5V, I_D=4.5A$		1.8		nC
Diode Forward Voltage	V_{SD}	$I_S=4.5A, V_{GS}=0V$		0.8	1.2	V

Switching Time Test Circuit







Note on usage : Since the MCH3484 is a MOSFET product, please avoid using this device in the vicinity of highly charged objects.

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