



SANYO Semiconductors

## DATA SHEET

# MCH3475

N-Channel Silicon MOSFET

## General-Purpose Switching Device Applications

### Features

- Ultrahigh-speed switching.
- 4V drive.

### Specifications

Absolute Maximum Ratings at Ta=25°C

Parameter	Symbol	Conditions	Ratings	Unit
Drain-to-Source Voltage	V <sub>DSS</sub>		30	V
Gate-to-Source Voltage	V <sub>GSS</sub>		±20	V
Drain Current (DC)	I <sub>D</sub>		1.8	A
Drain Current (Pulse)	I <sub>DP</sub>	PW≤10μs, duty cycle≤1%	7.2	A
Allowable Power Dissipation	P <sub>D</sub>	Mounted on a ceramic board (900mm <sup>2</sup> ×0.8mm)	0.8	W
Channel Temperature	T <sub>ch</sub>		150	°C
Storage Temperature	T <sub>stg</sub>		-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) <sub>DSS</sub>	I <sub>D</sub> =1mA, V <sub>GS</sub> =0V	30			V
Zero-Gate Voltage Drain Current	I <sub>DSS</sub>	V <sub>DS</sub> =30V, V <sub>GS</sub> =0V			1	μA
Gate-to-Source Leakage Current	I <sub>GSS</sub>	V <sub>GS</sub> =±16V, V <sub>DS</sub> =0V			±10	μA
Cutoff Voltage	V <sub>GS(off)</sub>	V <sub>DS</sub> =10V, I <sub>D</sub> =1mA	1.2		2.6	V
Forward Transfer Admittance	y <sub>fs</sub>	V <sub>DS</sub> =10V, I <sub>D</sub> =0.9A	0.66	1.1		S
Static Drain-to-Source On-State Resistance	R <sub>DS(on)1</sub>	I <sub>D</sub> =0.9A, V <sub>GS</sub> =10V		135	180	mΩ
	R <sub>DS(on)2</sub>	I <sub>D</sub> =0.5A, V <sub>GS</sub> =4V		230	330	mΩ
Input Capacitance	C <sub>iss</sub>	V <sub>DS</sub> =10V, f=1MHz		88		pF
Output Capacitance	C <sub>oss</sub>	V <sub>DS</sub> =10V, f=1MHz		19		pF
Reverse Transfer Capacitance	C <sub>rss</sub>	V <sub>DS</sub> =10V, f=1MHz		11		pF

Marking : FG

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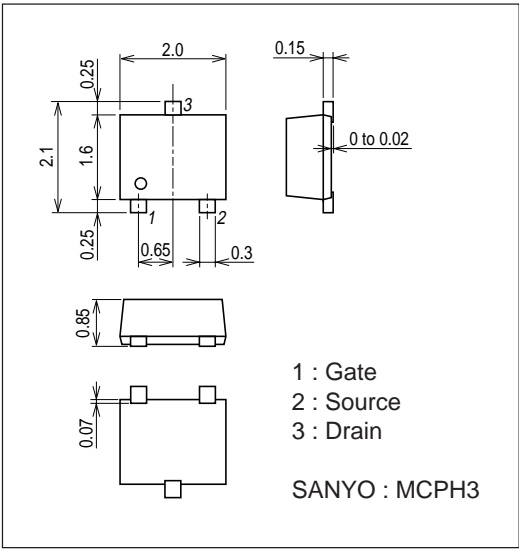
MCH3475

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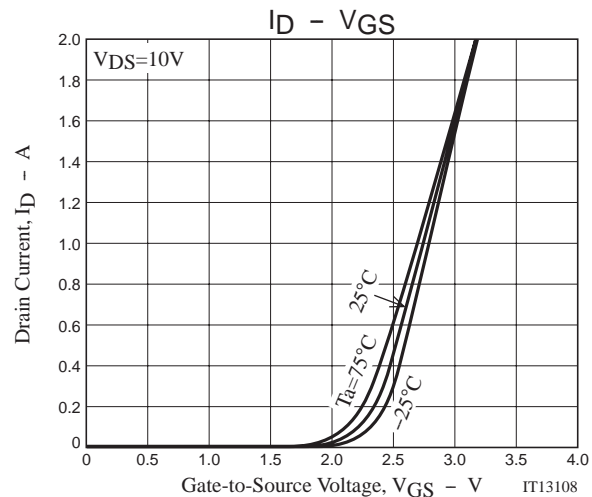
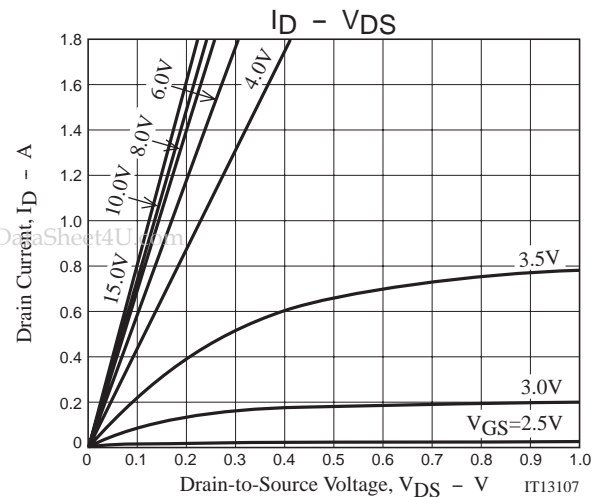
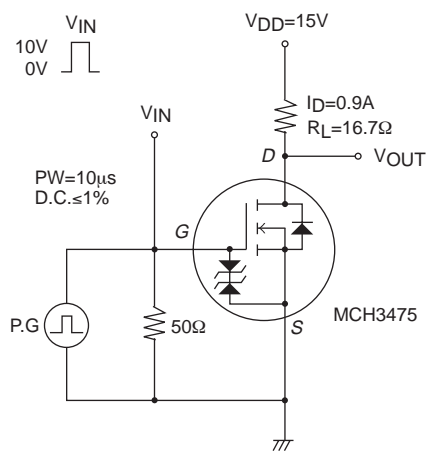
Parameter	Symbol	Conditions	Ratings			Unit
			min	typ	max	
Turn-ON Delay Time	$t_{d(on)}$	See specified Test Circuit.		3.4		ns
Rise Time	$t_r$	See specified Test Circuit.		3.6		ns
Turn-OFF Delay Time	$t_{d(off)}$	See specified Test Circuit.		10.5		ns
Fall Time	$t_f$	See specified Test Circuit.		4.0		ns
Total Gate Charge	$Q_g$	$V_{DS}=10V, V_{GS}=10V, I_D=1.8A$		2.0		nC
Gate-to-Source Charge	$Q_{gs}$	$V_{DS}=10V, V_{GS}=10V, I_D=1.8A$		0.33		nC
Gate-to-Drain "Miller" Charge	$Q_{gd}$	$V_{DS}=10V, V_{GS}=10V, I_D=1.8A$		0.29		nC
Diode Forward Voltage	$V_{SD}$	$I_S=1.8A, V_{GS}=0V$		0.86	1.2	V

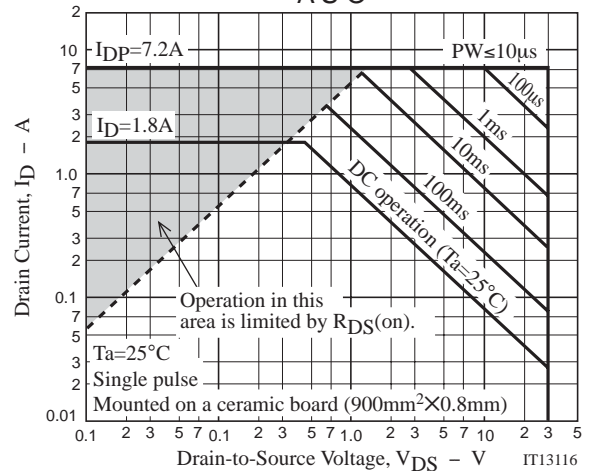
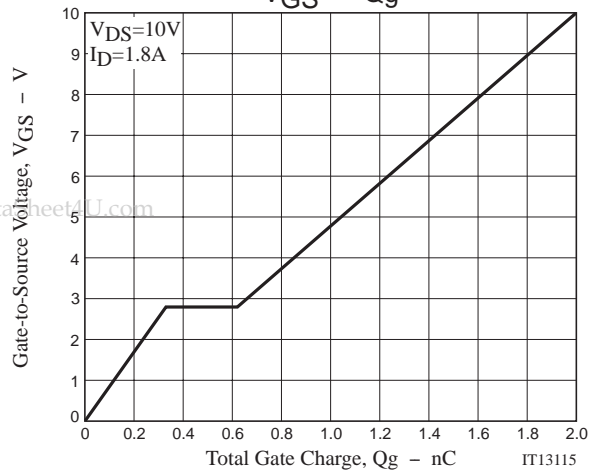
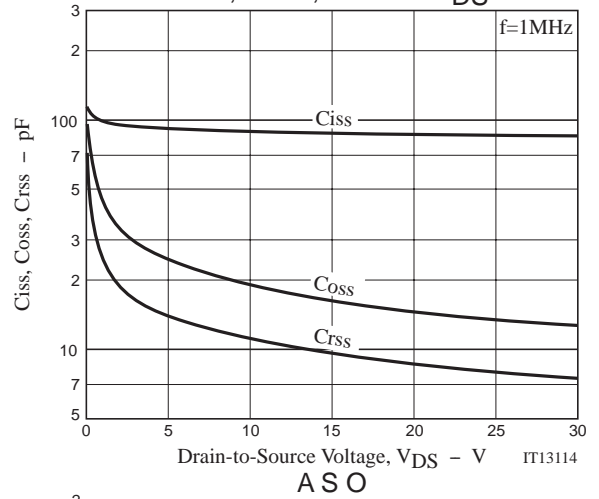
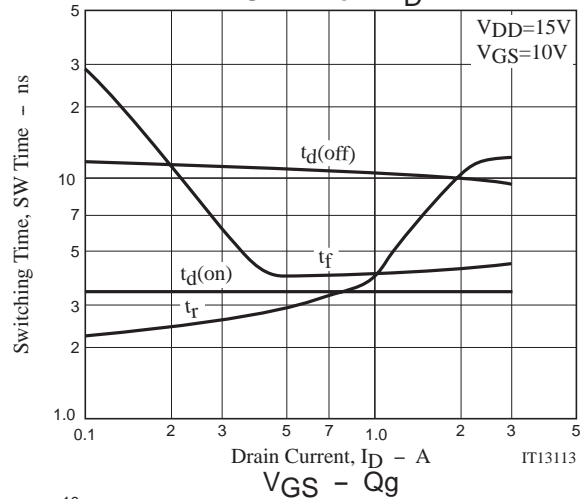
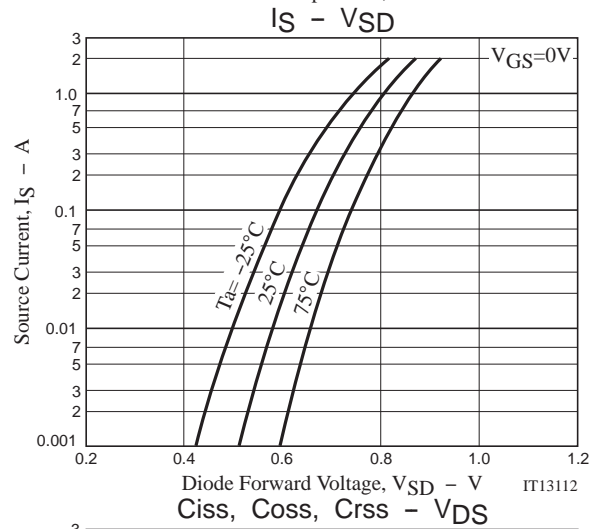
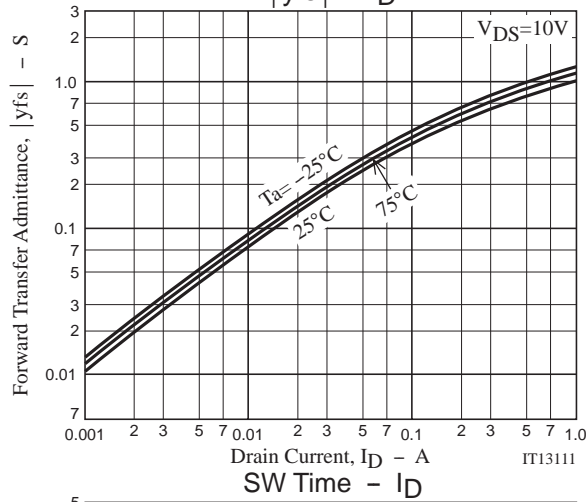
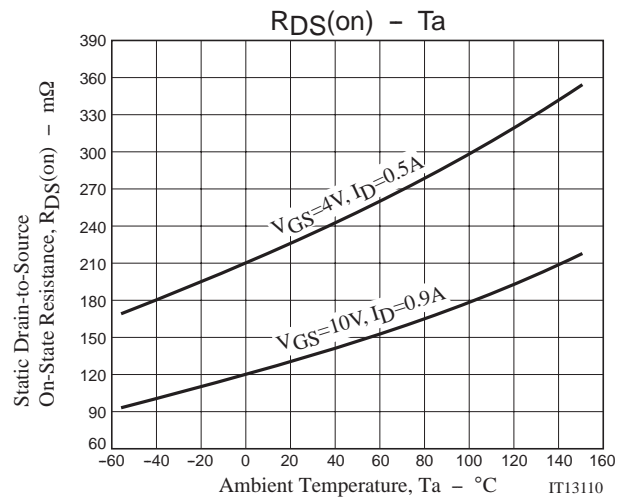
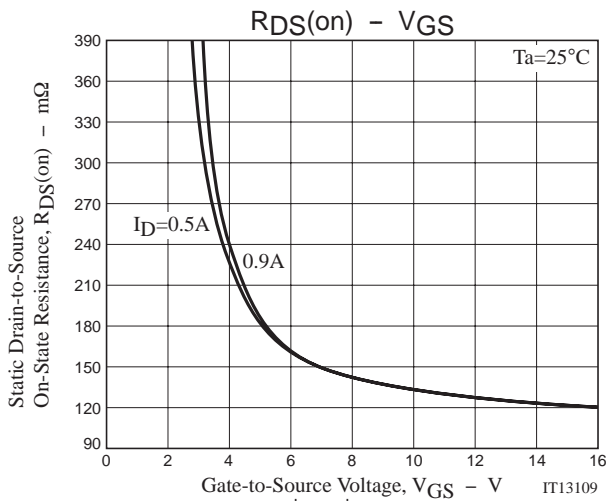
Package Dimensions

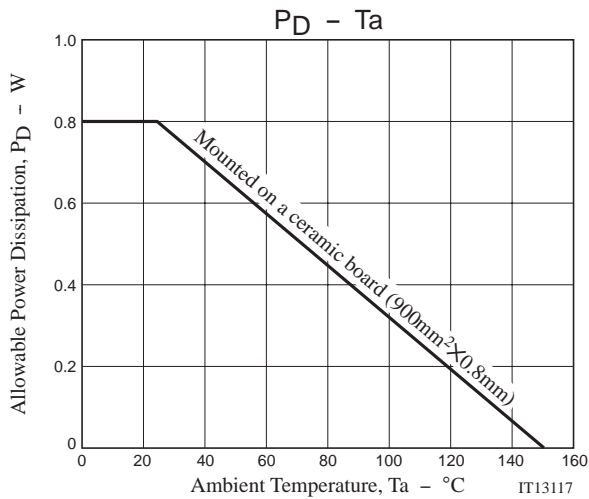
unit : mm (typ)  
7019A-003



Switching Time Test Circuit







Note on usage : Since the MCH3475 is a MOSFET product, please avoid using this device in the vicinity of highly charged objects.

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