



MCH3374 — P-Channel Silicon MOSFET

General-Purpose Switching Device Applications

Features

- Low ON-resistance.
- Ultrahigh-speed switching.
- 1.8V drive.

Specifications

Absolute Maximum Ratings at Ta=25°C

Parameter	Symbol	Conditions	Ratings	Unit
Drain-to-Source Voltage	V _{DSS}		-12	V
Gate-to-Source Voltage	V _{GSS}		±8	V
Drain Current (DC)	I _D		-3	A
Drain Current (Pulse)	I _{DP}	PW≤10μs, duty cycle≤1%	-12	A
Allowable Power Dissipation	P _D	Mounted on a ceramic board (900mm ² ×0.8mm)	1.0	W
Channel Temperature	T _{ch}		150	°C
Storage Temperature	T _{stg}		-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}	I _D =-1mA, V _{GS} =0V	-12			V
Zero-Gate Voltage Drain Current	I _{DSS}	V _{DS} =-12V, V _{GS} =0V			-10	μA
Gate-to-Source Leakage Current	I _{GSS}	V _{GS} =±6.4V, V _{DS} =0V			±10	μA
Cutoff Voltage	V _{GS(off)}	V _{DS} =-6V, I _D =-1mA	-0.4		-1.4	V
Forward Transfer Admittance	y _{fs}	V _{DS} =-6V, I _D =-1.5A	2.7	4.5		S
Static Drain-to-Source On-State Resistance	R _{DS(on)1}	I _D =-1.5A, V _{GS} =-4.5V		54	70	mΩ
	R _{DS(on)2}	I _D =-0.8A, V _{GS} =-2.5V		80	115	mΩ
	R _{DS(on)3}	I _D =-0.3A, V _{GS} =-1.8V		125	215	mΩ

Marking : QF

Continued on next page.

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MCH3374

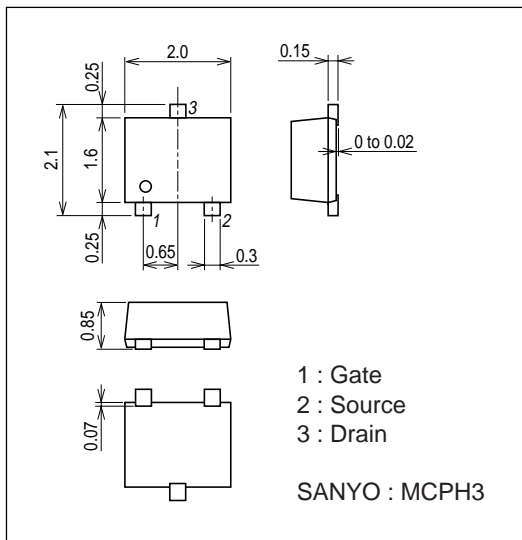
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Parameter	Symbol	Conditions	Ratings			Unit
			min	typ	max	
Input Capacitance	Ciss	V _{DS} =-6V, f=1MHz		405		pF
Output Capacitance	Coss	V _{DS} =-6V, f=1MHz		145		pF
Reverse Transfer Capacitance	Crss	V _{DS} =-6V, f=1MHz		100		pF
Turn-ON Delay Time	t _{d(on)}	See specified Test Circuit.		8.8		ns
Rise Time	t _r	See specified Test Circuit.		80		ns
Turn-OFF Delay Time	t _{d(off)}	See specified Test Circuit.		41		ns
Fall Time	t _f	See specified Test Circuit.		50		ns
Total Gate Charge	Q _g	V _{DS} =-6V, V _{GS} =-4.5V, I _D =-3A		5.6		nC
Gate-to-Source Charge	Q _{gs}	V _{DS} =-6V, V _{GS} =-4.5V, I _D =-3A		0.7		nC
Gate-to-Drain "Miller" Charge	Q _{gd}	V _{DS} =-6V, V _{GS} =-4.5V, I _D =-3A		1.6		nC
Diode Forward Voltage	V _{SD}	I _S =-3A, V _{GS} =0V		-0.85	-1.2	V

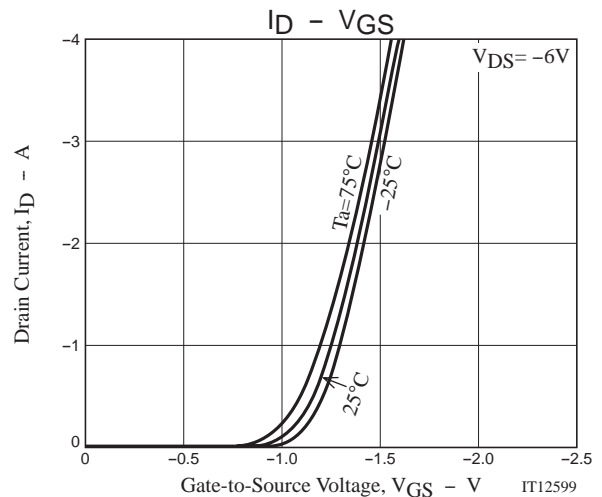
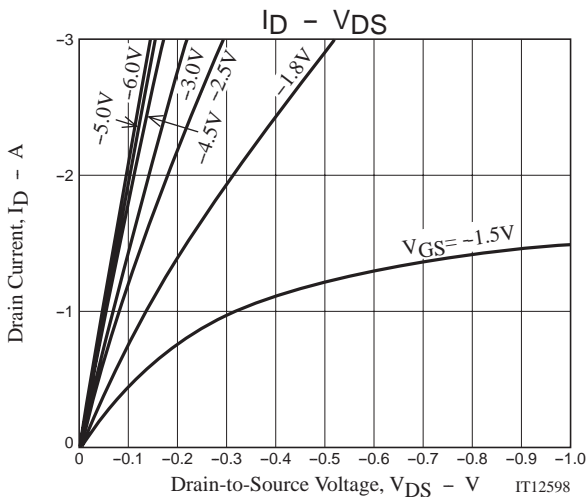
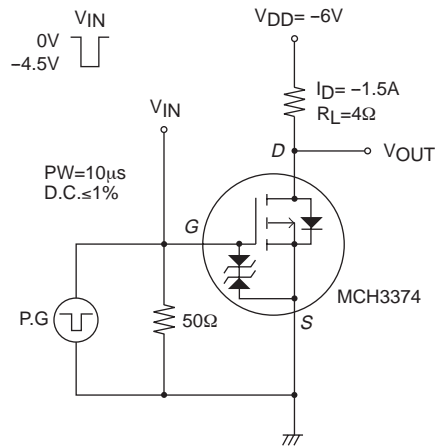
Package Dimensions

unit : mm (typ)

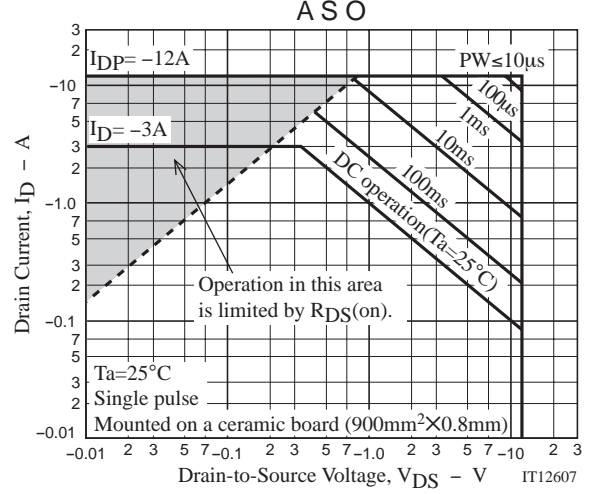
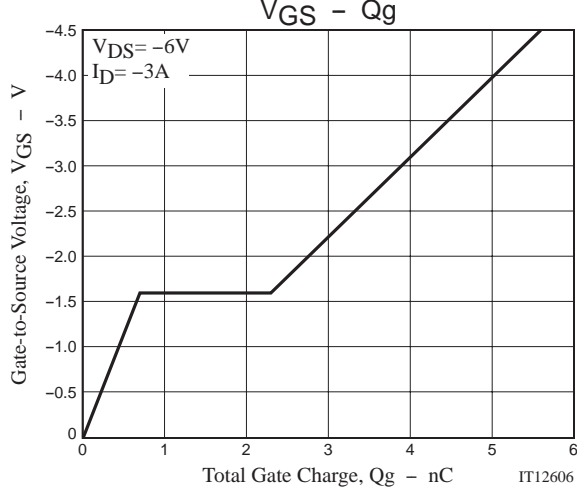
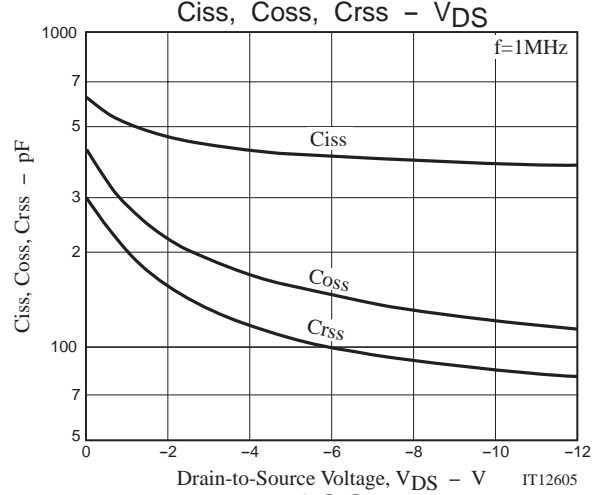
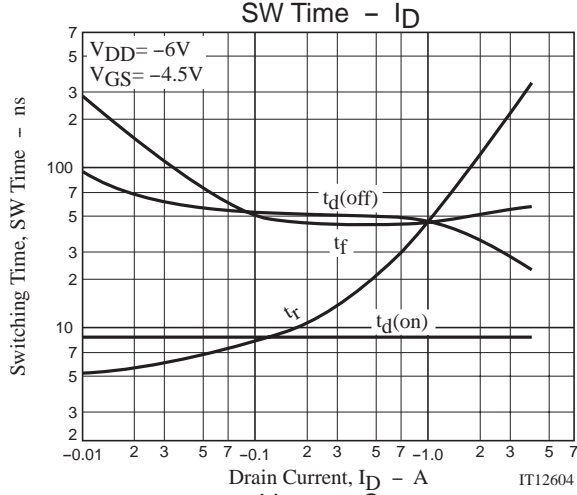
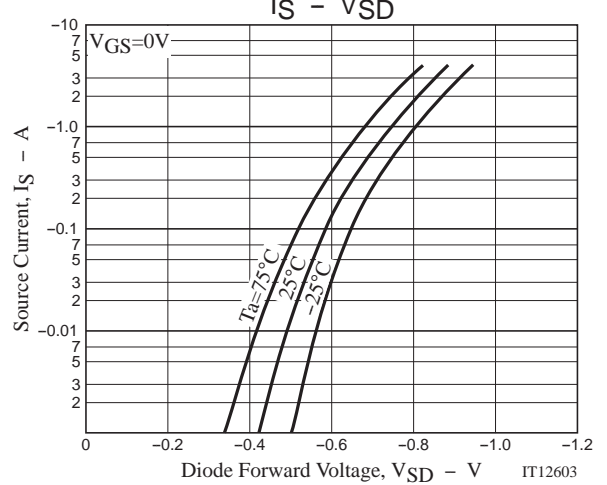
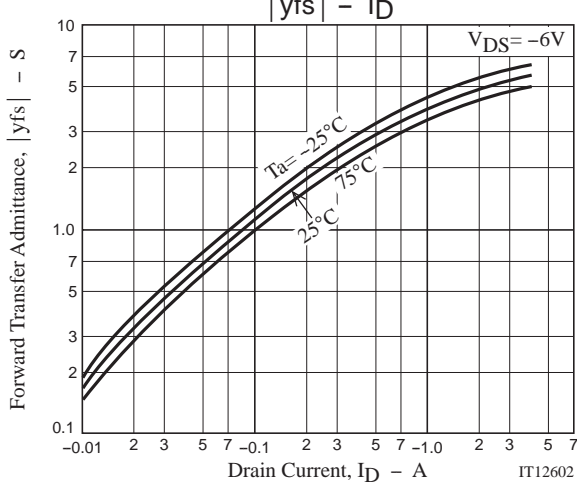
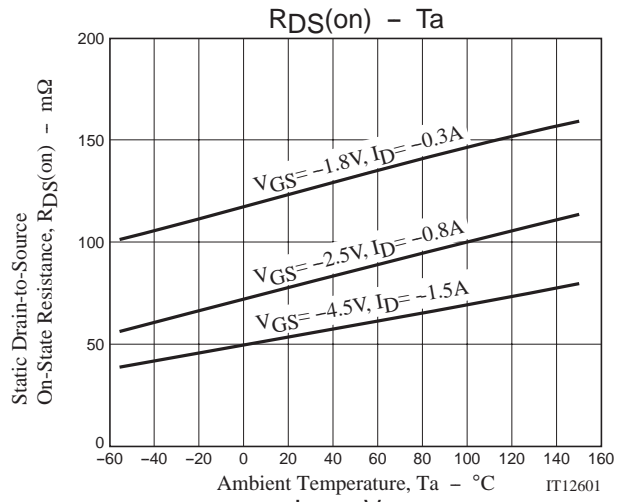
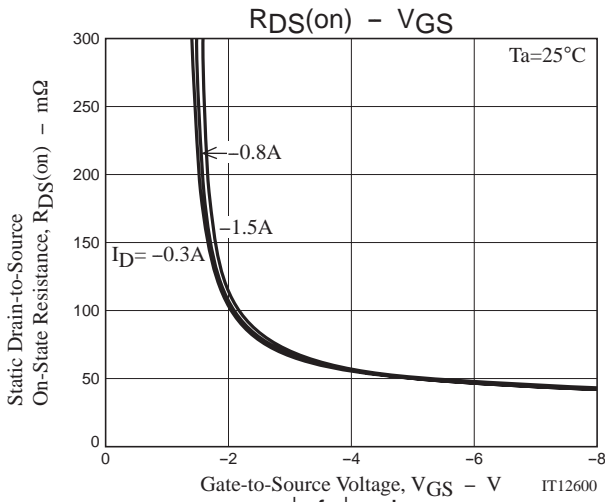
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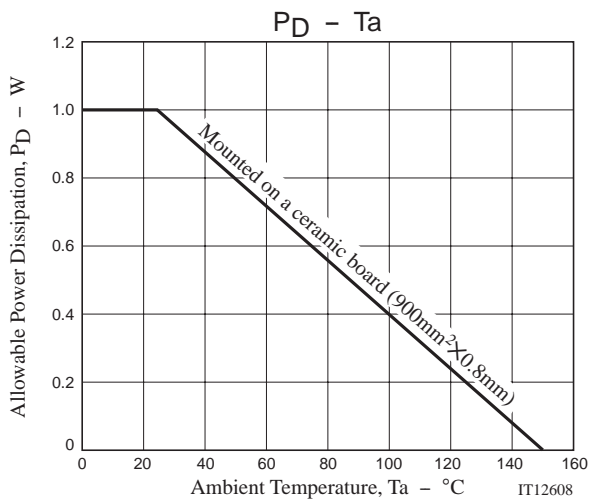


Switching Time Test Circuit



MCH3374





Note on usage : Since the MCH3374 is a MOSFET product, please avoid using this device in the vicinity of highly charged objects.

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