



SANYO Semiconductors

DATA SHEET

An ON Semiconductor Company

P-Channel Silicon MOSFET

MCH6337 — 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}		-20	V
Gate-to-Source Voltage	V _{GSS}		±10	V
Drain Current (DC)	I _D		-4.5	A
Drain Current (Pulse)	I _{DP}	PW≤10μs, duty cycle≤1%	-18	A
Allowable Power Dissipation	P _D	When mounted on ceramic substrate (1200mm²×0.8mm)	1.5	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	-20			V
Zero-Gate Voltage Drain Current	I _{DSS}	V _D =-20V, V _{GS} =0V			-1	μA
Gate-to-Source Leakage Current	I _{GSS}	V _{GS} =±8V, V _D =0V			±10	μA
Cutoff Voltage	V _{GS(off)}	V _D =-10V, I _D =-1mA	-0.4		-1.3	V
Forward Transfer Admittance	y _{fs}	V _D =-10V, I _D =-3A	3.5	5.9		S
Static Drain-to-Source On-State Resistance	R _{DS(on)1}	I _D =-3A, V _{GS} =-4.5V		37	49	mΩ
	R _{DS(on)2}	I _D =-1.5A, V _{GS} =-2.5V		53	75	mΩ
	R _{DS(on)3}	I _D =-0.5A, V _{GS} =-1.8V		85	130	mΩ

Marking : YL

Continued on next page.

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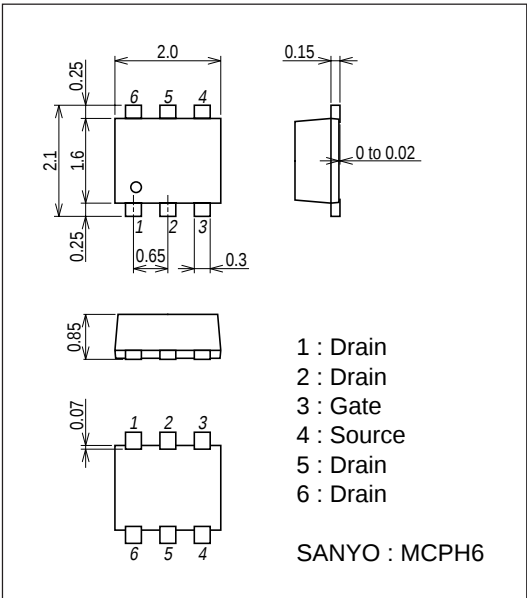
MCH6337

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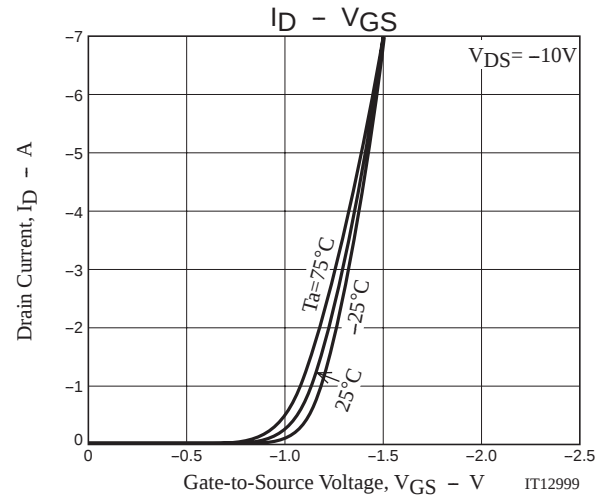
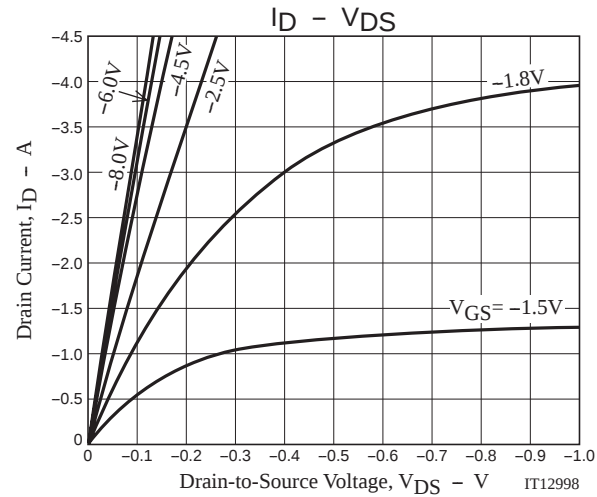
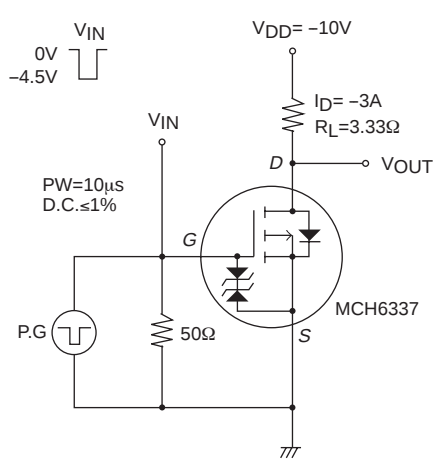
Parameter	Symbol	Conditions	Ratings			Unit
			min	typ	max	
Input Capacitance	Ciss	$V_{DS}=-10V, f=1MHz$		670		pF
Output Capacitance	Coss	$V_{DS}=-10V, f=1MHz$		130		pF
Reverse Transfer Capacitance	Crss	$V_{DS}=-10V, f=1MHz$		94		pF
Turn-ON Delay Time	$t_d(on)$	See specified Test Circuit.		8.4		ns
Rise Time	t_r	See specified Test Circuit.		45		ns
Turn-OFF Delay Time	$t_d(off)$	See specified Test Circuit.		69		ns
Fall Time	t_f	See specified Test Circuit.		63		ns
Total Gate Charge	Qg	$V_{DS}=-10V, V_{GS}=-4.5V, I_D=-4.5A$		7.3		nC
Gate-to-Source Charge	Qgs	$V_{DS}=-10V, V_{GS}=-4.5V, I_D=-4.5A$		1.3		nC
Gate-to-Drain "Miller" Charge	Qgd	$V_{DS}=-10V, V_{GS}=-4.5V, I_D=-4.5A$		2.1		nC
Diode Forward Voltage	V_{SD}	$I_S=-4.5A, V_{GS}=0V$		-0.82	-1.2	V

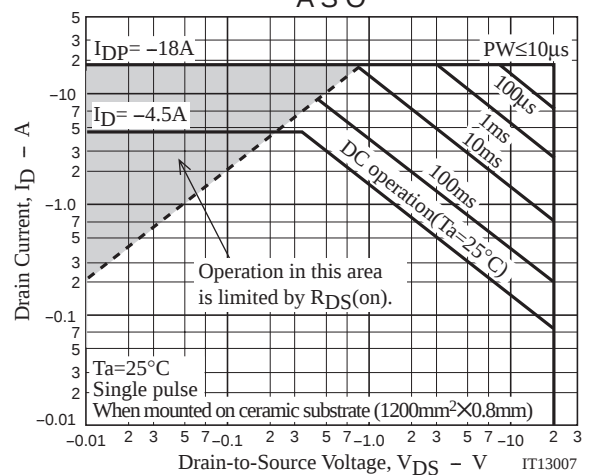
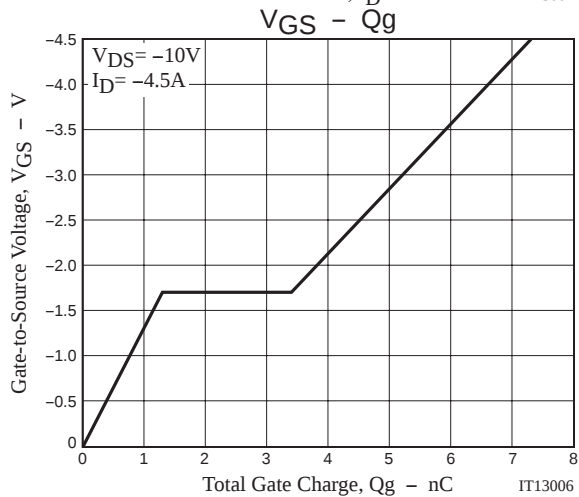
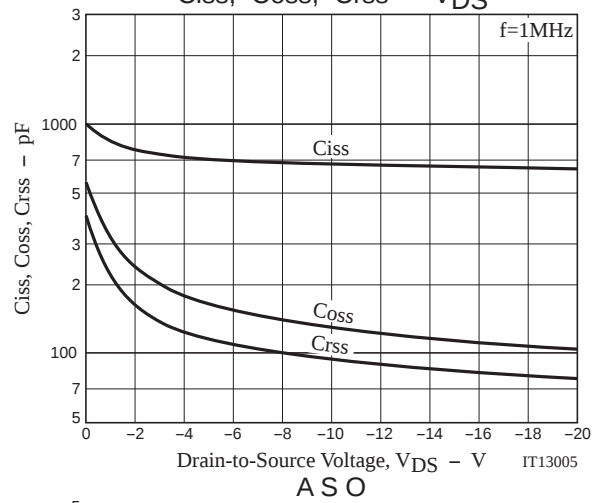
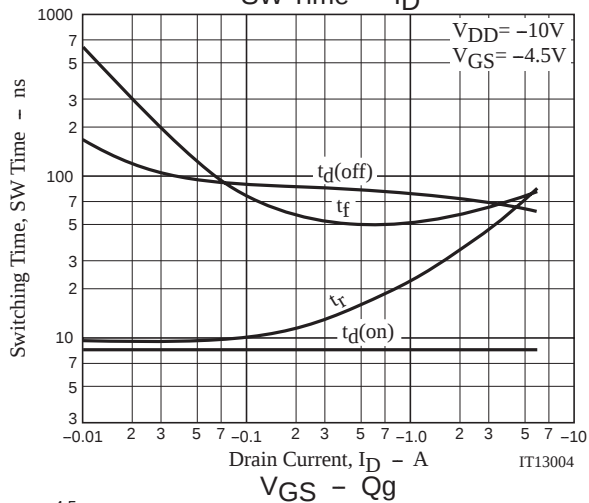
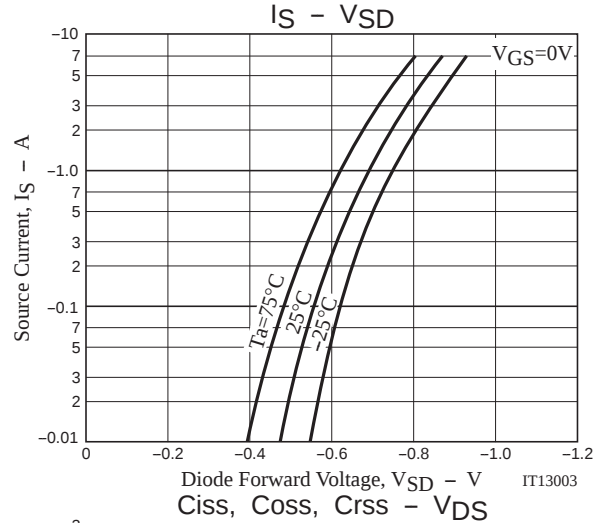
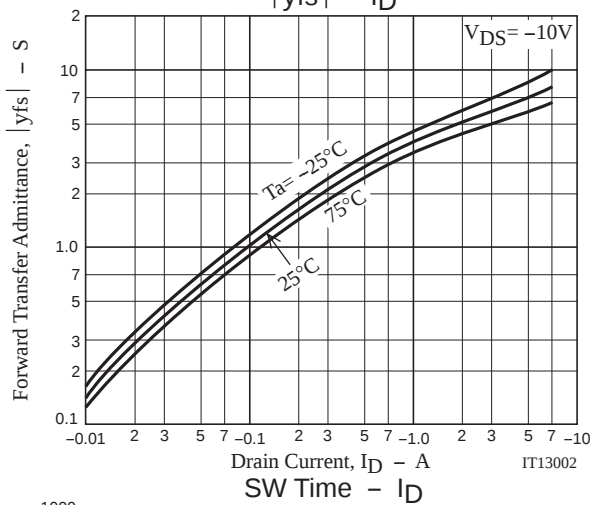
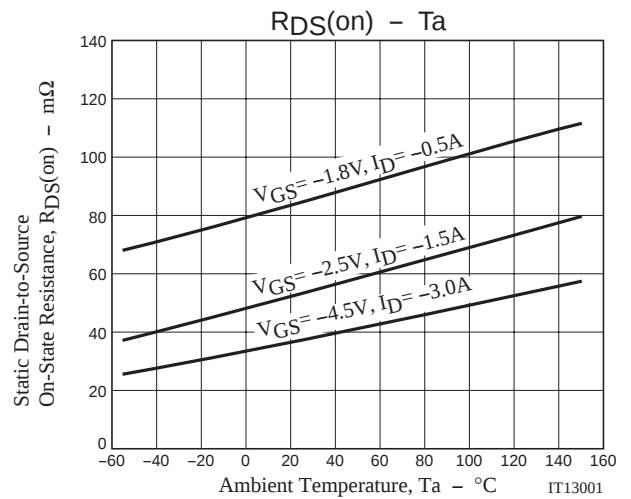
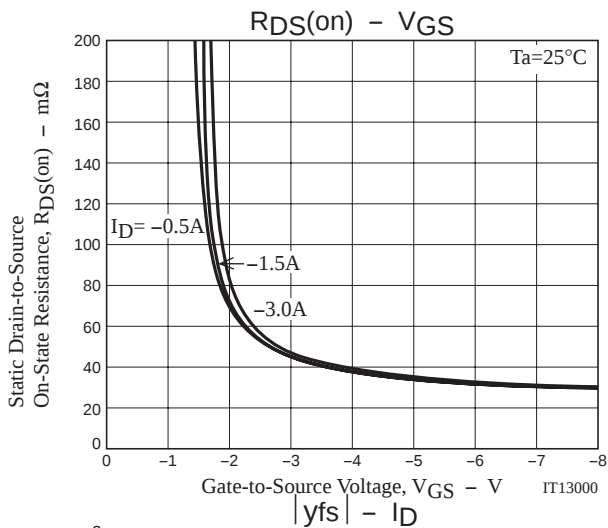
Package Dimensions

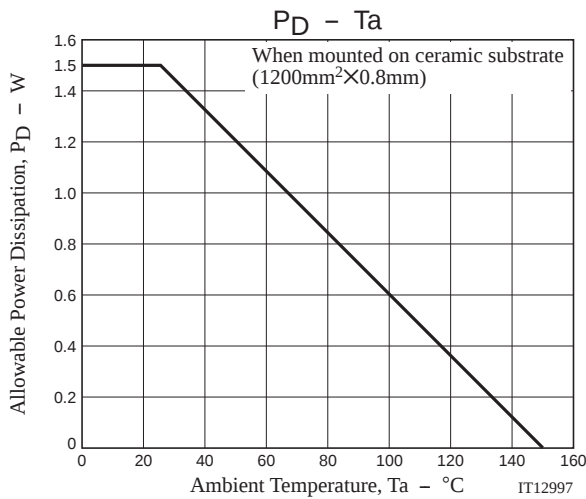
unit : mm (typ)
7022A-009



Switching Time Test Circuit







Note on usage : Since the MCH6337 is a MOSFET product, please avoid using this device in the vicinity of highly charged objects.

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