Ordering number : ENA1199

SANYO Semiconductors

DATA SHEET

P-Channel Silicon MOSFET

CPH6339 — General-Purpose Switching Device Applications

Features

- Low ON-resistance.
- High-speed switching.
- 4V drive

Specifications

Absolute Maximum Ratings at Ta=25°C

Parameter	Symbol	Conditions	Ratings	Unit
Drain-to-Source Voltage	V_{DSS}		−45	V
Gate-to-Source Voltage	V_{GSS}		±20	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	When mounted on ceramic substrate (900mm²×0.8mm)	1.6	W
Channel Temperature	Tch		150	°C
Storage Temperature	Tstg		−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	−45			V
Zero-Gate Voltage Drain Current	I_{DSS}	V_{DS}=−45V, V_{GS}=0V			−1	μA
Gate-to-Source Leakage Current	I_{GSS}	V_{GS}=±16V, V_{DS}=0V			±10	μA
Cutoff Voltage	$V_{GS(off)}$	V_{DS}=−10V, I_D=−1mA	−1.2		−2.6	V
Forward Transfer Admittance	$\|yfs\|$	V_{DS}=−10V, I_D=−1.5A	2.0	3.4		S
Static Drain-to-Source On-State Resistance	$R_{DS(on)1}$	I_D=−1.5A, V_{GS}=−10V		82	107	mΩ
	$R_{DS(on)2}$	I_D=−1A, V_{GS}=−4.5V		128	180	mΩ
	$R_{DS(on)3}$	I_D=−1A, V_{GS}=−4V		140	196	mΩ

Marking : YR

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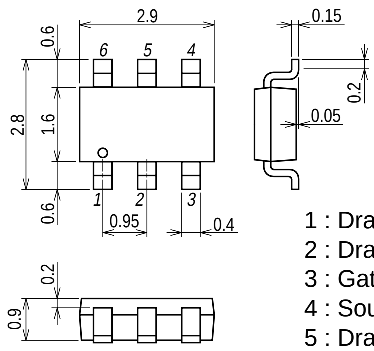
Parameter	Symbol	Conditions	Ratings			Unit
			min	typ	max	
Input Capacitance	Ciss	V_{DS}=−20V, f=1MHz		680		pF
Output Capacitance	Coss	V_{DS}=−20V, f=1MHz		75		pF
Reverse Transfer Capacitance	Crss	V_{DS}=−20V, f=1MHz		50		pF
Turn-ON Delay Time	t_d(on)	See specified Test Circuit.		10		ns
Rise Time	t_r	See specified Test Circuit.		12		ns
Turn-OFF Delay Time	t_d(off)	See specified Test Circuit.		54		ns
Fall Time	t_f	See specified Test Circuit.		27		ns
Total Gate Charge	Qg	V_{DS}=−24V, V_{GS}=−10V, I_D=−3A		14		nC
Gate-to-Source Charge	Qgs	V_{DS}=−24V, V_{GS}=−10V, I_D=−3A		2.2		nC
Gate-to-Drain "Miller" Charge	Qgd	V_{DS}=−24V, V_{GS}=−10V, I_D=−3A		2.9		nC
Diode Forward Voltage	V_{SD}	I_S=−3A, V_{GS}=0V		−0.85	−1.2	V

Package Dimensions

unit : mm (typ)

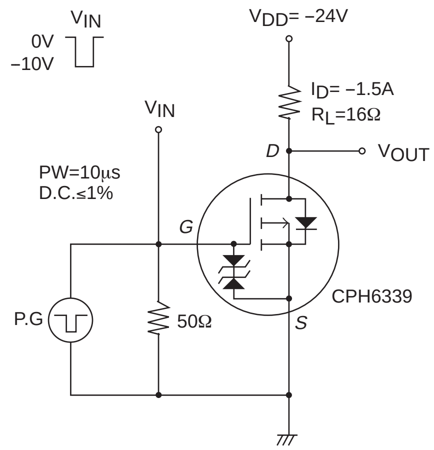
7018A-003

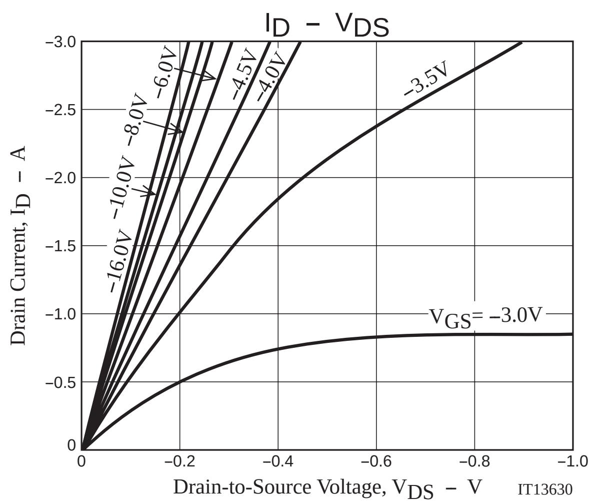


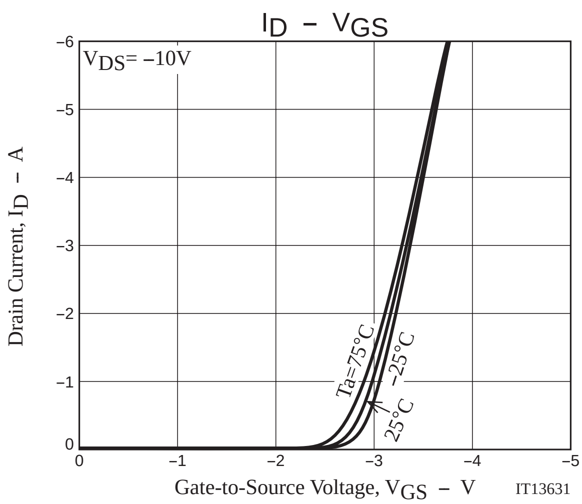
1 : Drain
2 : Drain
3 : Gate
4 : Source
5 : Drain
6 : Drain

SANYO : CPH6

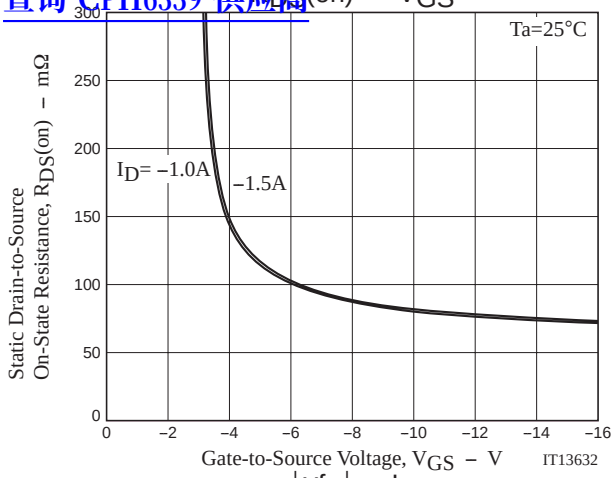
Switching Time Test Circuit



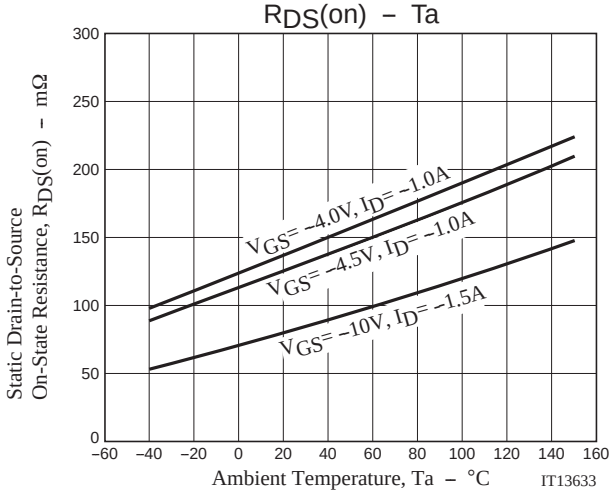




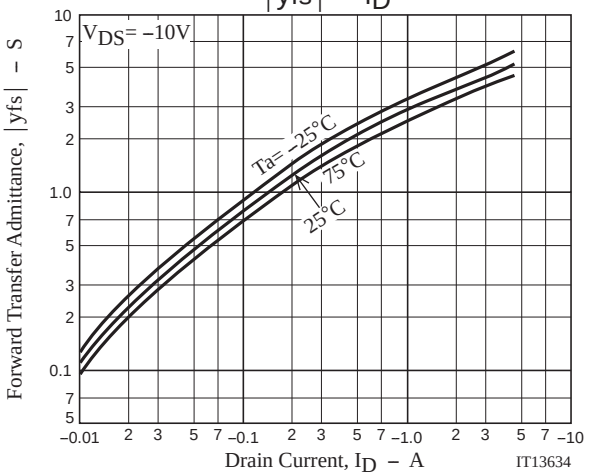
RDS(on) – VGS



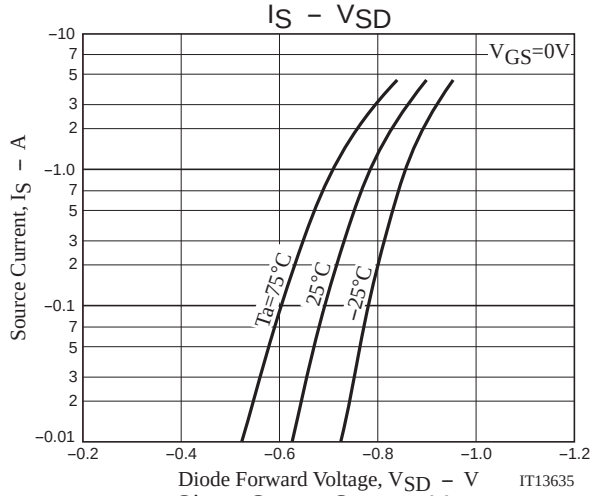
RDS(on) – Ta



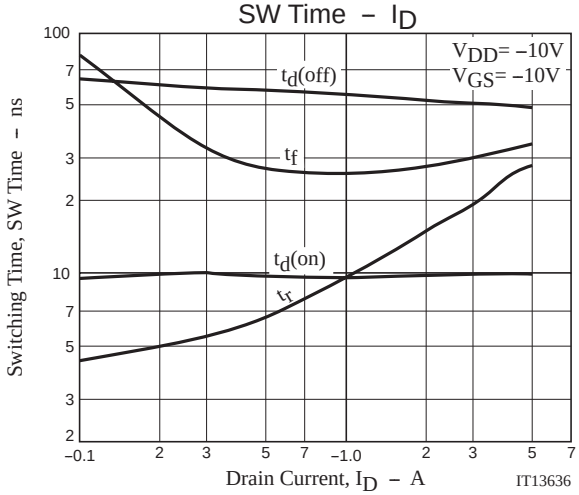
|yfs| – ID



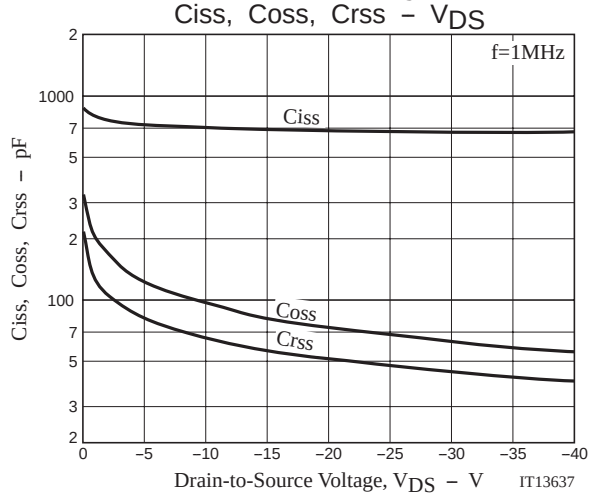
IS – VSD



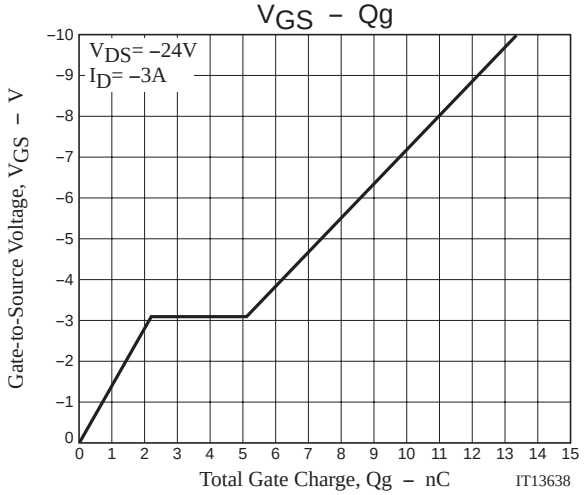
SW Time – ID



Ciss, Coss, Crss – VDS



VGS – Qg



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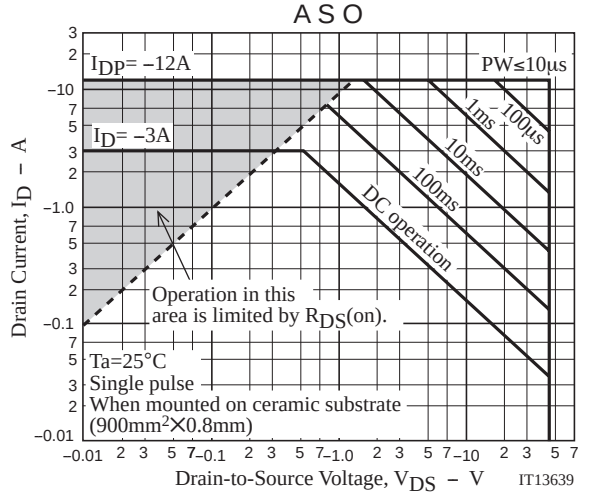

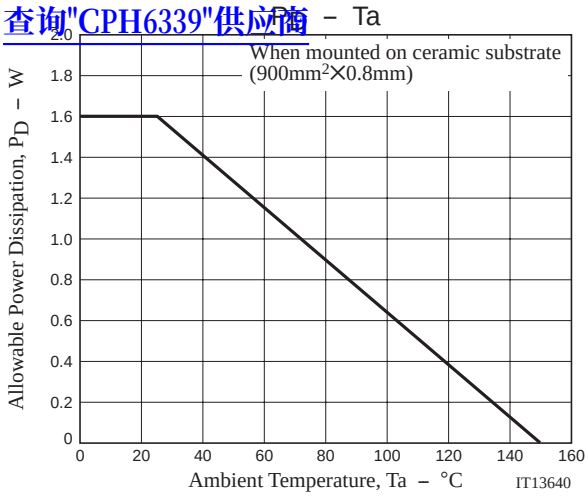

Note on usage : Since the CPH6339 is a MOSFET product, please avoid using this device in the vicinity of highly charged objects.

This catalog provides information as of June, 2008. Specifications and information herein are subject to change without notice.