



SANYO Semiconductors

# DATA SHEET

An ON Semiconductor Company

## CPH3356 — P-Channel Silicon MOSFET General-Purpose Switching Device Applications

### Features

- 1.8V drive
- Halogen free compliance
- Protection diode in

### Specifications

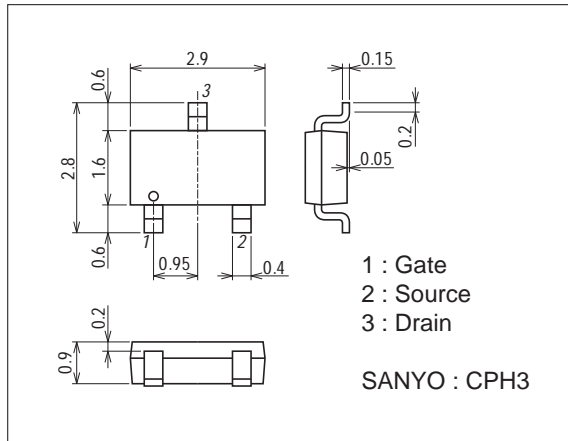
Absolute Maximum Ratings at Ta=25°C

Parameter	Symbol	Conditions	Ratings	Unit
Drain-to-Source Voltage	V <sub>DSS</sub>		-20	V
Gate-to-Source Voltage	V <sub>GSS</sub>		±10	V
Drain Current (DC)	I <sub>D</sub>		-2.5	A
Drain Current (Pulse)	I <sub>DP</sub>	PW≤10μs, duty cycle≤1%	-10	A
Allowable Power Dissipation	P <sub>D</sub>	When mounted on ceramic substrate (900mm <sup>2</sup> ×0.8mm)	1.0	W
Channel Temperature	T <sub>ch</sub>		150	°C
Storage Temperature	T <sub>stg</sub>		-55 to +150	°C

### Package Dimensions

unit : mm (typ)

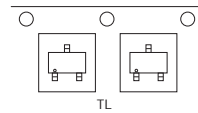
7015A-004



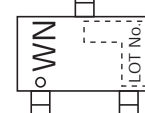
### Product & Package Information

- Package : CPH3
- JEITA, JEDEC : SC-59, TO-236, SOT-23
- Minimum Packing Quantity : 3,000 pcs./reel

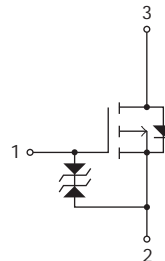
### Packing Type: TL



### Marking



### Electrical Connection

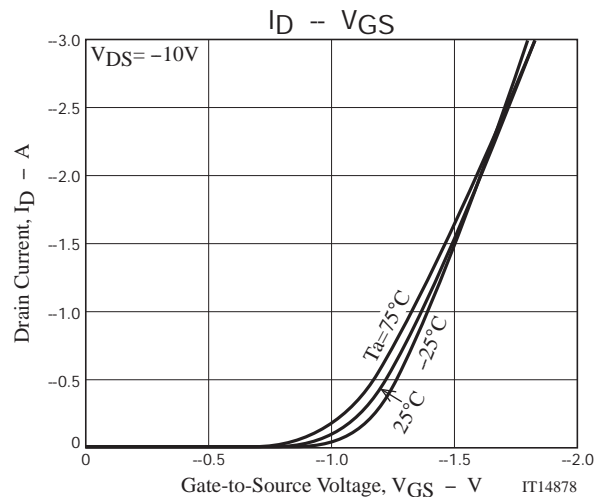
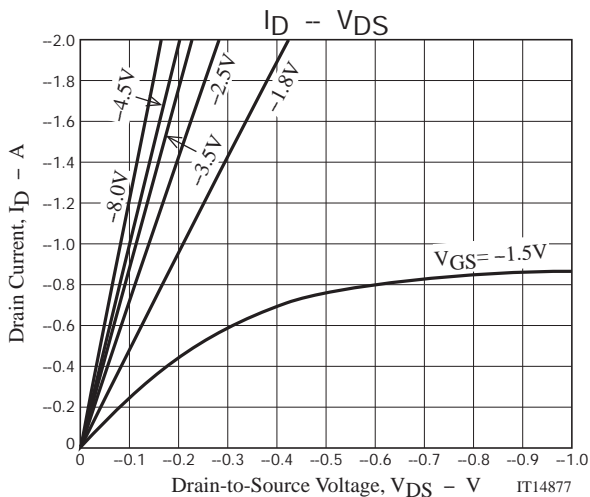
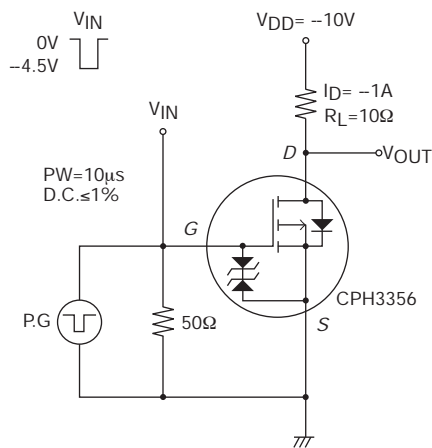


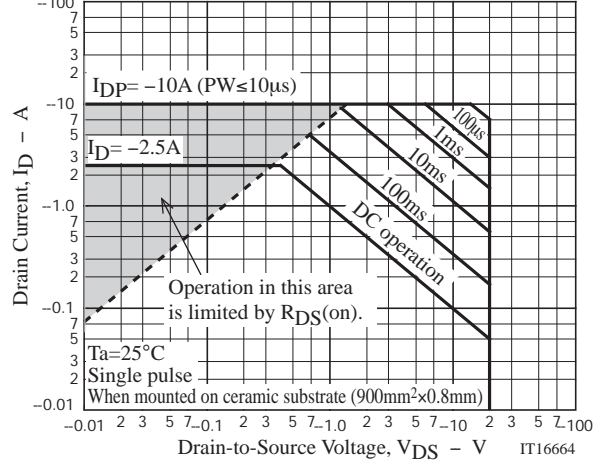
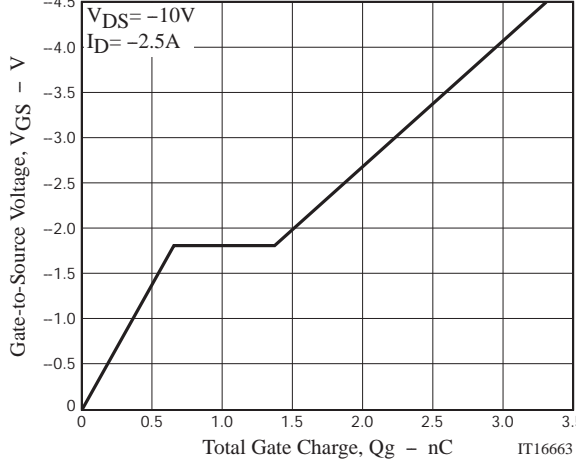
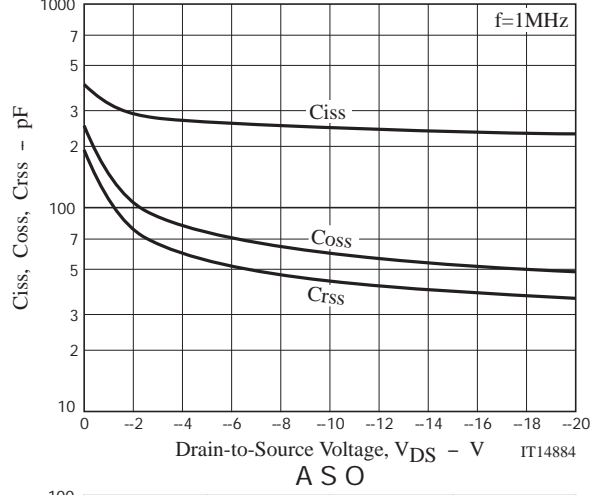
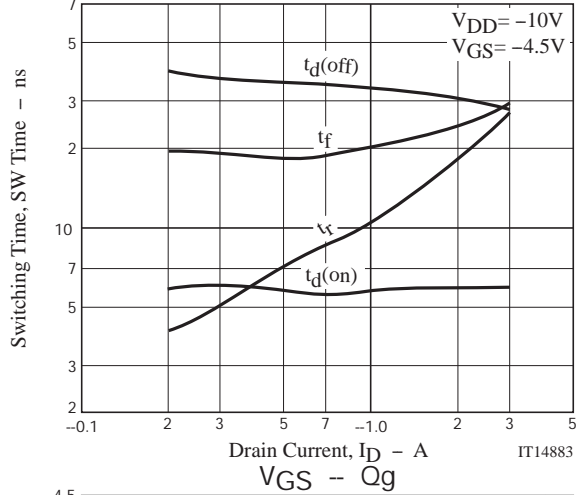
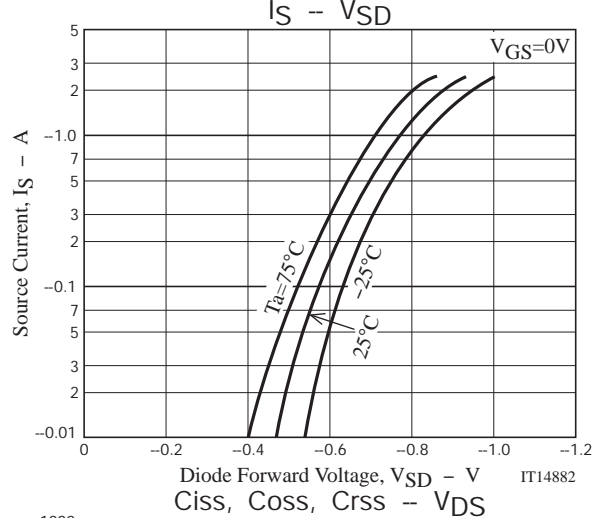
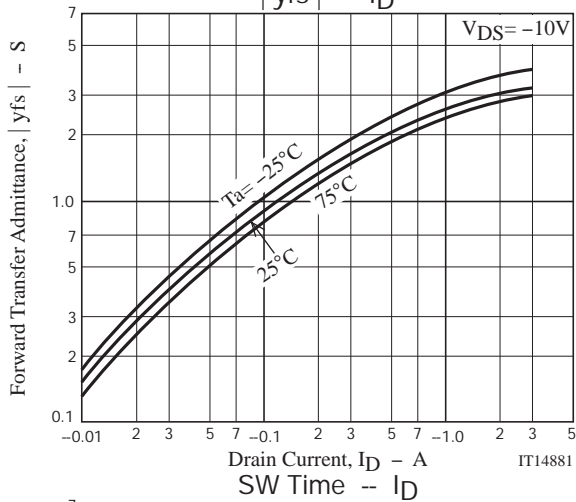
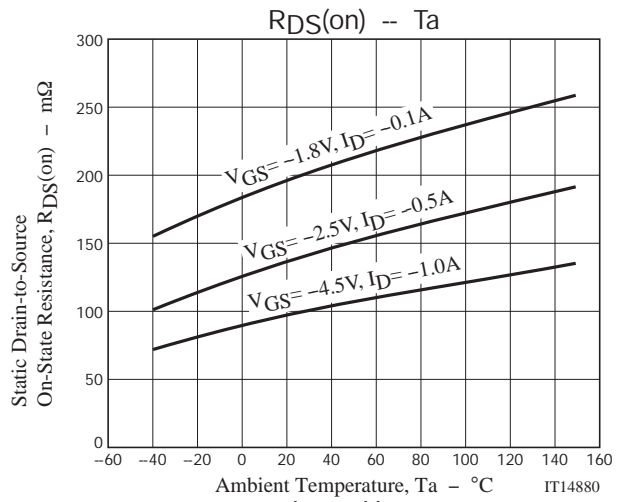
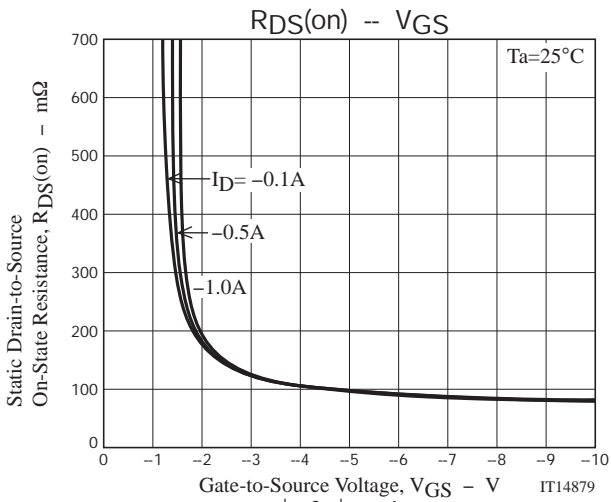
# CPH3356

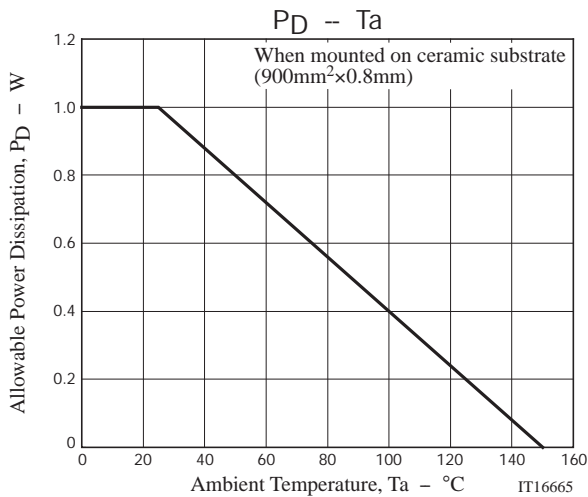
## Electrical Characteristics at $T_a=25^\circ\text{C}$

Parameter	Symbol	Conditions	Ratings			Unit
			min	typ	max	
Drain-to-Source Breakdown Voltage	$V_{(BR)DSS}$	$I_D=-1\text{mA}, V_{GS}=0\text{V}$	-20			V
Zero-Gate Voltage Drain Current	$I_{DSS}$	$V_{DS}=-20\text{V}, V_{GS}=0\text{V}$			-1	$\mu\text{A}$
Gate-to-Source Leakage Current	$I_{GSS}$	$V_{GS}=\pm 8\text{V}, V_{DS}=0\text{V}$			$\pm 10$	$\mu\text{A}$
Cutoff Voltage	$V_{GS(off)}$	$V_{DS}=-10\text{V}, I_D=-1\text{mA}$	-0.4		-1.4	V
Forward Transfer Admittance	$ y_{fs} $	$V_{DS}=-10\text{V}, I_D=-1\text{A}$		2.7		S
Static Drain-to-Source On-State Resistance	$R_{DS(on)1}$	$I_D=-1\text{A}, V_{GS}=-4.5\text{V}$		105	137	$\text{m}\Omega$
	$R_{DS(on)2}$	$I_D=-0.5\text{A}, V_{GS}=-2.5\text{V}$		145	203	$\text{m}\Omega$
	$R_{DS(on)3}$	$I_D=-0.1\text{A}, V_{GS}=-1.8\text{V}$		215	323	$\text{m}\Omega$
Input Capacitance	$C_{iss}$	$V_{DS}=-10\text{V}, f=1\text{MHz}$		250		pF
Output Capacitance	$C_{oss}$			60		pF
Reverse Transfer Capacitance	$C_{rss}$			45		pF
Turn-ON Delay Time	$t_d(on)$			5.7		ns
Rise Time	$t_r$	See specified Test Circuit.		11		ns
Turn-OFF Delay Time	$t_d(off)$			34		ns
Fall Time	$t_f$			20		ns
Total Gate Charge	$Q_g$	$V_{DS}=-10\text{V}, V_{GS}=-4.5\text{V}, I_D=-2.5\text{A}$		3.3		nC
Gate-to-Source Charge	$Q_{gs}$			0.65		nC
Gate-to-Drain "Miller" Charge	$Q_{gd}$			0.72		nC
Diode Forward Voltage	$V_{SD}$		$I_S=-2.5\text{A}, V_{GS}=0\text{V}$		-0.87	-1.5

## Switching Time Test Circuit







Note on usage : Since the CPH3356 is a MOSFET product, please avoid using this device in the vicinity of highly charged objects.

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