Ordering number : ENA1124

SANYO Semiconductors

DATA SHEET

An ON Semiconductor Company

P-Channel Silicon MOSFET

CPH3356 — General-Purpose Switching Device Applications

Features

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

Specifications

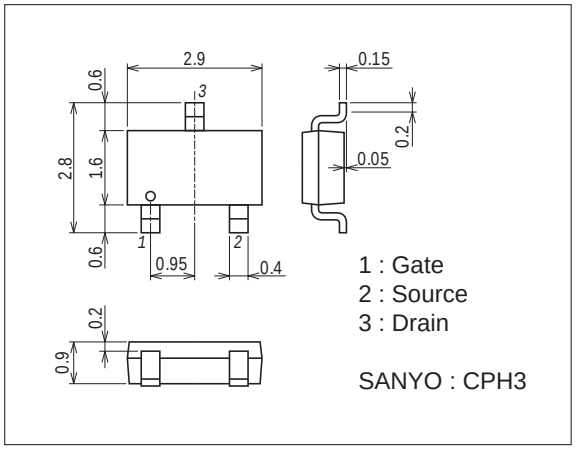
Absolute Maximum Ratings at Ta=25°C

Parameter	Symbol	Conditions	Ratings	Unit
Drain-to-Source Voltage	V_{DSS}		−20	V
Gate-to-Source Voltage	V_{GSS}		±10	V
Drain Current (DC)	I_D		−2.5	A
Drain Current (Pulse)	I_{DP}	PW≤10μs, duty cycle≤1%	−10	A
Allowable Power Dissipation	P_D	When mounted on ceramic substrate (900mm²×0.8mm)	1.0	W
Channel Temperature	Tch		150	°C
Storage Temperature	Tstg		−55 to +150	°C

Package Dimensions

unit : mm (typ)

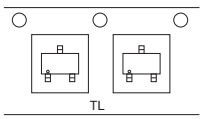
7015A-004



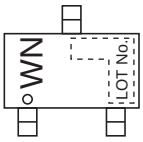
Product & Package Information

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

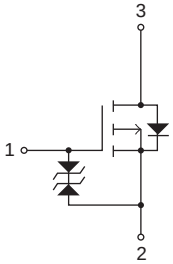
Packing Type: TL



Marking



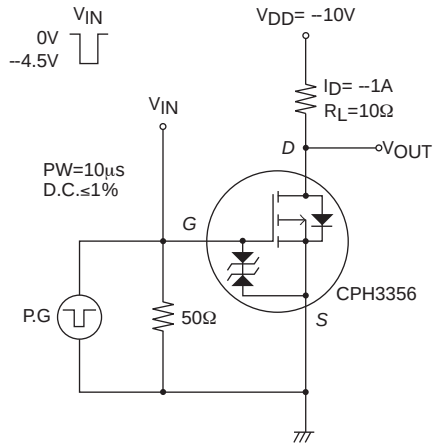
Electrical Connection

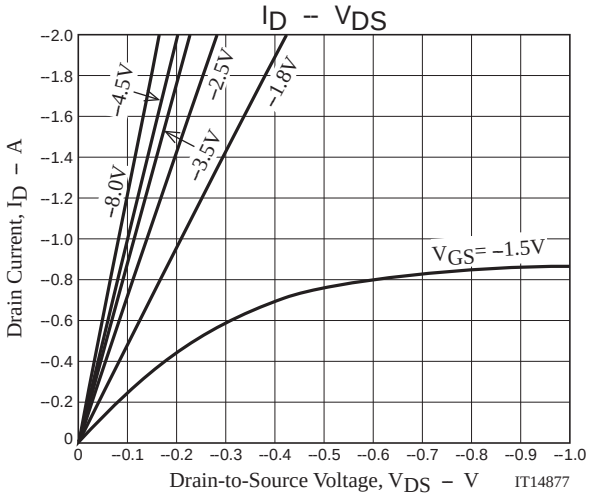


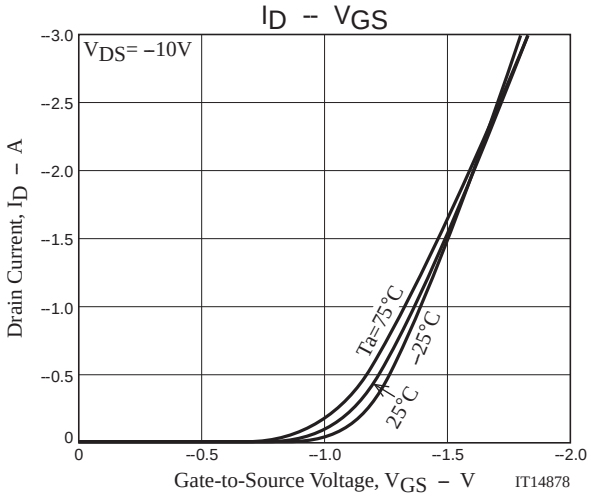
Electrical Characteristics at Ta=25°C

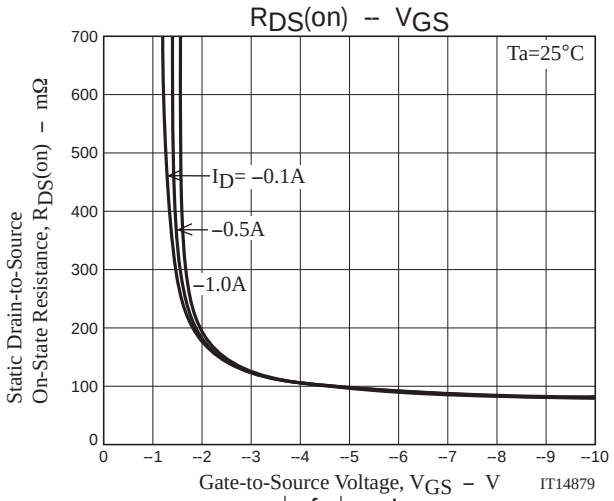
Parameter	Symbol	Conditions	Ratings			Unit
			min	typ	max	
Drain-to-Source Breakdown Voltage	$V_{(BR)DSS}$	I_D=−1mA, V_{GS}=0V	−20			V
Zero-Gate Voltage Drain Current	I_{DSS}	V_{DS}=−20V, V_{GS}=0V			−1	μA
Gate-to-Source Leakage Current	I_{GSS}	V_{GS}=±8V, V_{DS}=0V			±10	μA
Cutoff Voltage	V_{GS}(off)	V_{DS}=−10V, I_D=−1mA	−0.4		−1.4	V
Forward Transfer Admittance	| yfs |	V_{DS}=−10V, I_D=−1A		2.7		S
Static Drain-to-Source On-State Resistance	R_{DS}(on)1	I_D=−1A, V_{GS}=−4.5V		105	137	mΩ
	R_{DS}(on)2	I_D=−0.5A, V_{GS}=−2.5V		145	203	mΩ
	R_{DS}(on)3	I_D=−0.1A, V_{GS}=−1.8V		215	323	mΩ
Input Capacitance	Ciss	V_{DS}=−10V, f=1MHz		250		pF
Output Capacitance	Coss			60		pF
Reverse Transfer Capacitance	Crss			45		pF
Turn-ON Delay Time	$t_{d(on)}$	See specified Test Circuit.		5.7		ns
Rise Time	t_r			11		ns
Turn-OFF Delay Time	$t_{d(off)}$			34		ns
Fall Time	t_f			20		ns
Total Gate Charge	Qg	V_{DS}=−10V, V_{GS}=−4.5V, I_D=−2.5A		3.3		nC
Gate-to-Source Charge	Qgs			0.65		nC
Gate-to-Drain “Miller” Charge	Qgd			0.72		nC
Diode Forward Voltage	V_{SD}	I_S=−2.5A, V_{GS}=0V		−0.87	−1.5	V

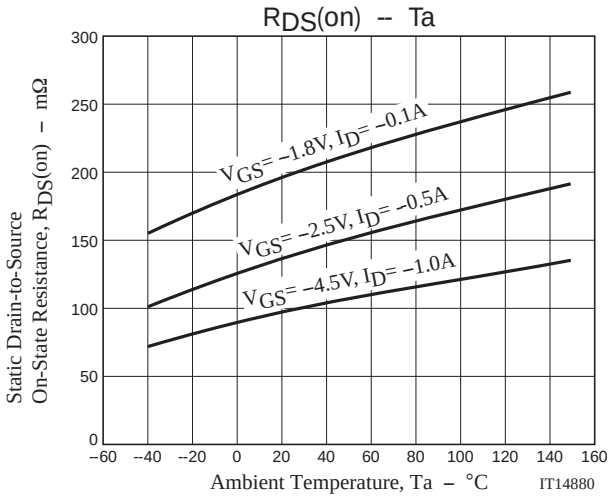
Switching Time Test Circuit

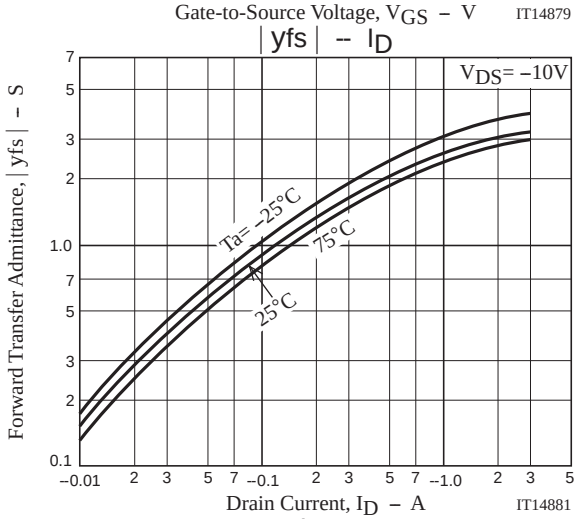


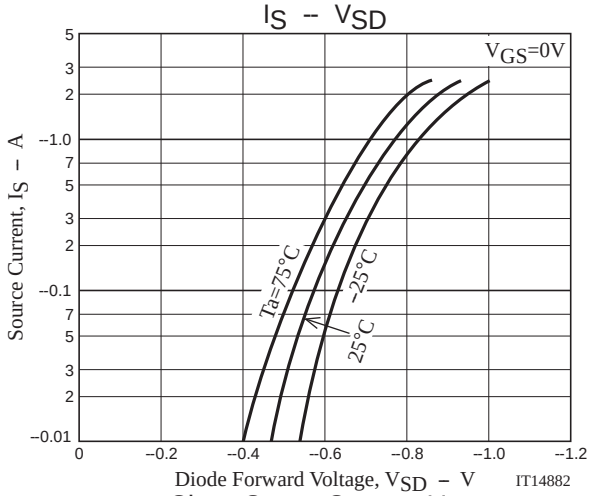


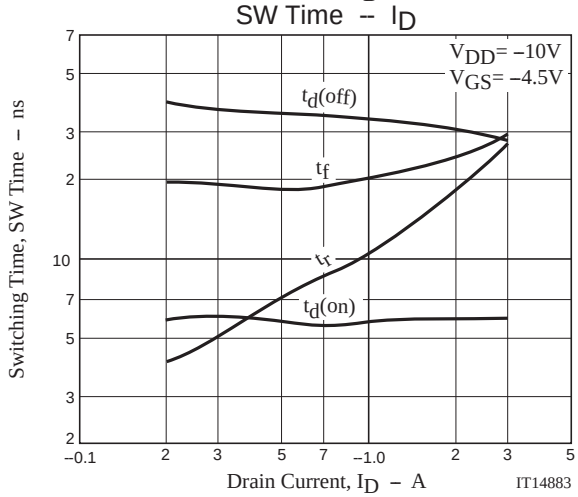


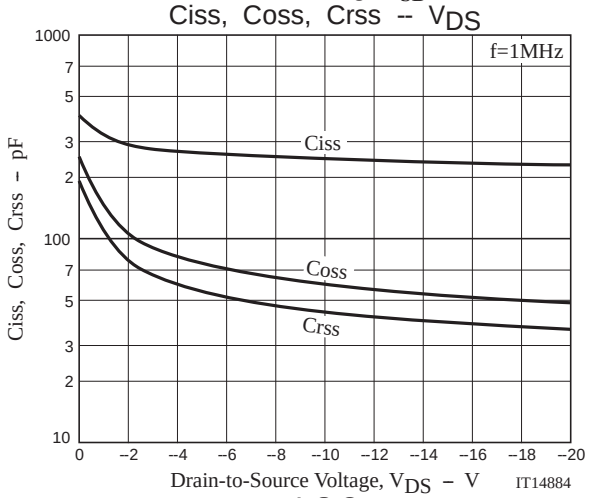

RDS(on) -- VGS
Ta=25°C
ID= –0.1A
–0.5A
–1.0A
Static Drain-to-Source On-State Resistance, RDS(on) – mΩ
Gate-to-Source Voltage, VGS – V
IT14879

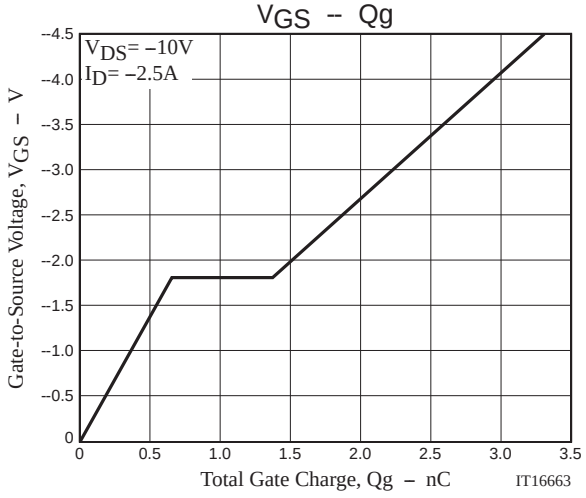

RDS(on) -- Ta
VGS= –1.8V, ID= –0.1A
VGS= –2.5V, ID= –0.5A
VGS= –4.5V, ID= –1.0A
Static Drain-to-Source On-State Resistance, RDS(on) – mΩ
Ambient Temperature, Ta – °C
IT14880

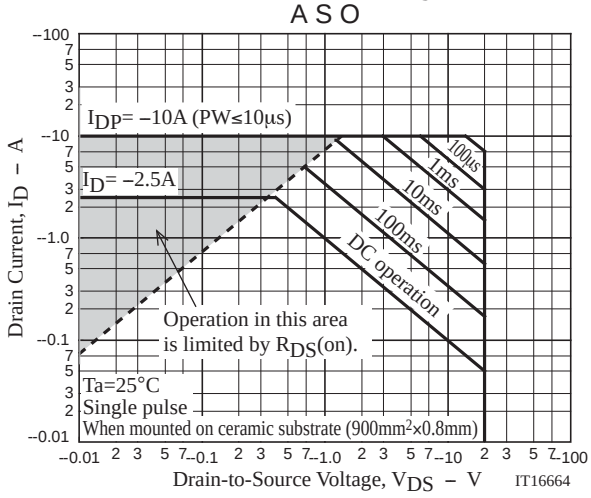

| yfs | -- ID
VDS= –10V
Ta= –25°C
75°C
25°C
Forward Transfer Admittance, | yfs | – S
Drain Current, ID – A
IT14881

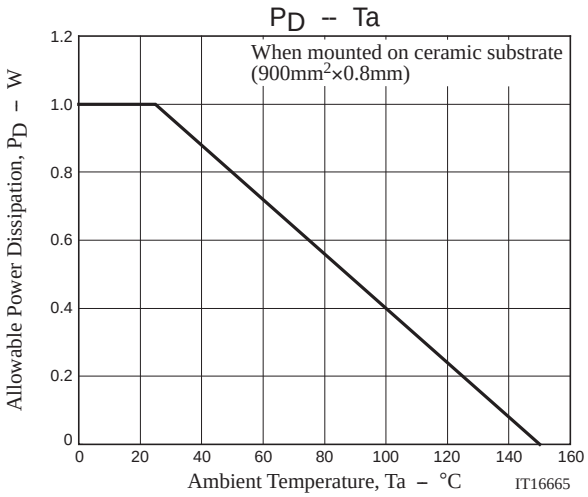

IS -- VSD
VGS=0V
Ta=75°C
–25°C
25°C
Source Current, IS – A
Diode Forward Voltage, VSD – V
IT14882


SW Time -- ID
VDD= –10V
VGS= –4.5V
td(off)
tf
tr
td(on)
Switching Time, SW Time – ns
Drain Current, ID – A
IT14883


Ciss, Coss, Crss -- VDS
f=1MHz
Ciss
Coss
Crss
Ciss, Coss, Crss – pF
Drain-to-Source Voltage, VDS – V
IT14884


VGS -- Qg
VDS= –10V
ID= –2.5A
Gate-to-Source Voltage, VGS – V
Total Gate Charge, Qg – nC
IT16663


ASO
IDP= –10A (PW≤10μs)
ID= –2.5A
100μs
1ms
10ms
100ms
DC operation
Operation in this area is limited by RDS(on).
Ta=25°C
Single pulse
When mounted on ceramic substrate (900mm²×0.8mm)
Drain Current, ID – A
Drain-to-Source Voltage, VDS – V
IT16664



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

This catalog provides information as of November, 2011. Specifications and information herein are subject to change without notice.