



SANYO Semiconductors

# DATA SHEET

An ON Semiconductor Company

## CPH3455 — N-Channel Silicon MOSFET General-Purpose Switching Device Applications

### Features

- ON-resistance  $R_{DS(on)1}=80m\Omega$ (typ.)
- 4V drive
- Halogen free compliance

### Specifications

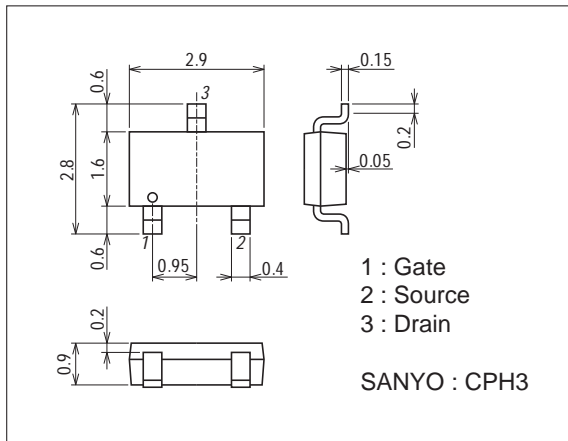
Absolute Maximum Ratings at  $T_a=25^\circ C$

Parameter	Symbol	Conditions	Ratings	Unit
Drain-to-Source Voltage	$V_{DSS}$		35	V
Gate-to-Source Voltage	$V_{GSS}$		$\pm 20$	V
Drain Current (DC)	$I_D$		3	A
Drain Current (Pulse)	$I_{DP}$	$PW \leq 10\mu s$ , duty cycle $\leq 1\%$	12	A
Allowable Power Dissipation	$P_D$	When mounted on ceramic substrate (900mm <sup>2</sup> ×0.8mm)	1	W
Channel Temperature	$T_{ch}$		150	°C
Storage Temperature	$T_{stg}$		-55 to +150	°C

### Package Dimensions

unit : mm (typ)

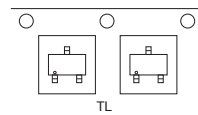
7015A-004



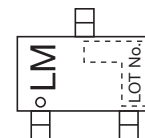
### Product & Package Information

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

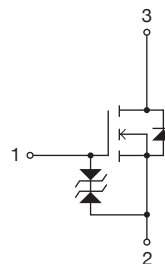
### Packing Type: TL



### Marking



### Electrical Connection

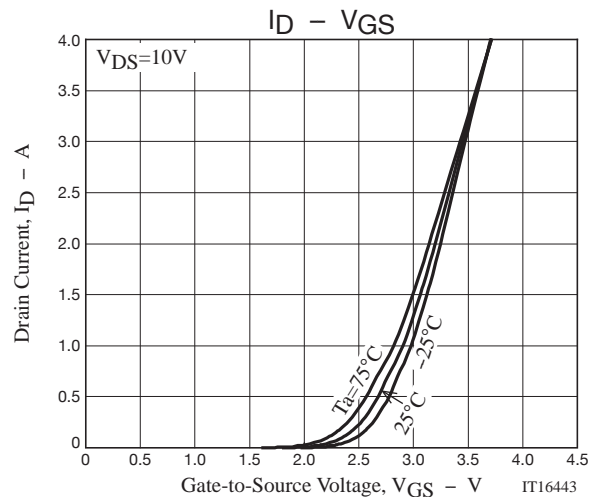
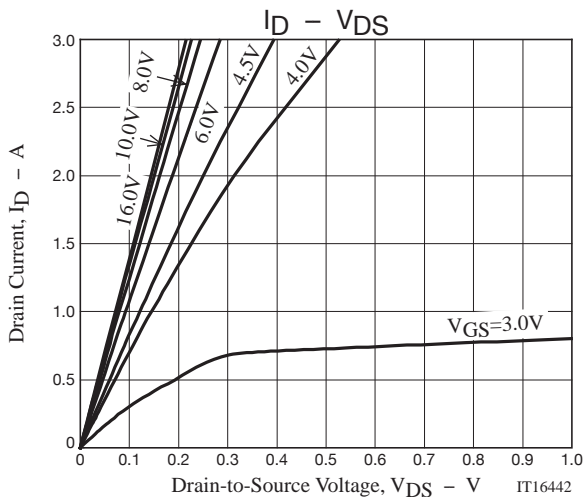
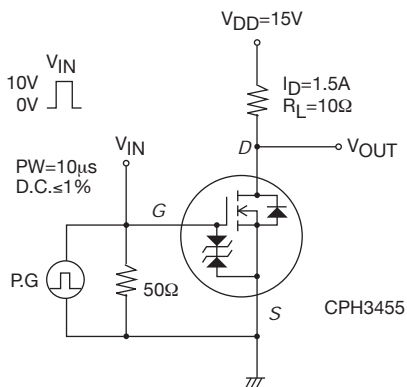


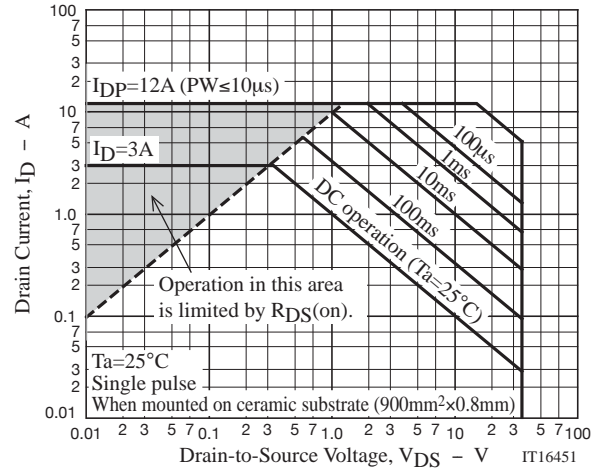
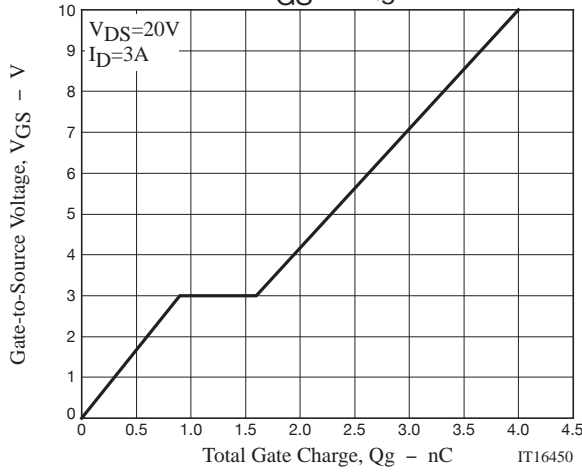
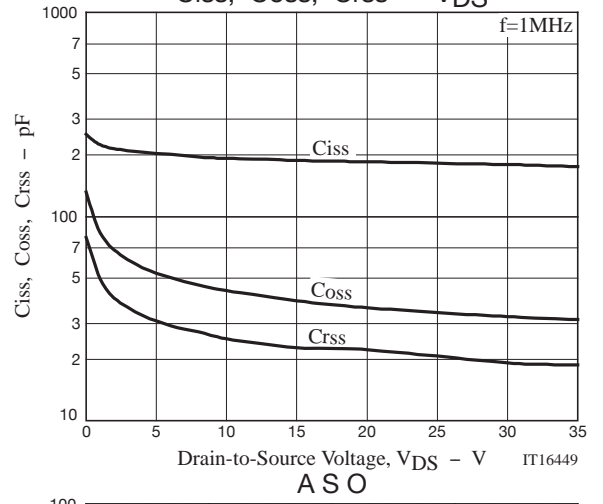
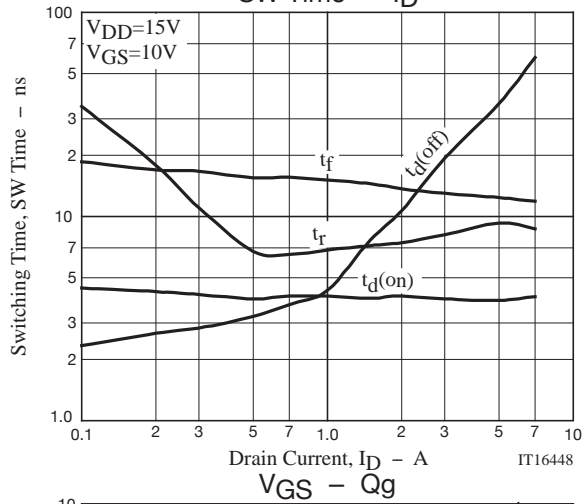
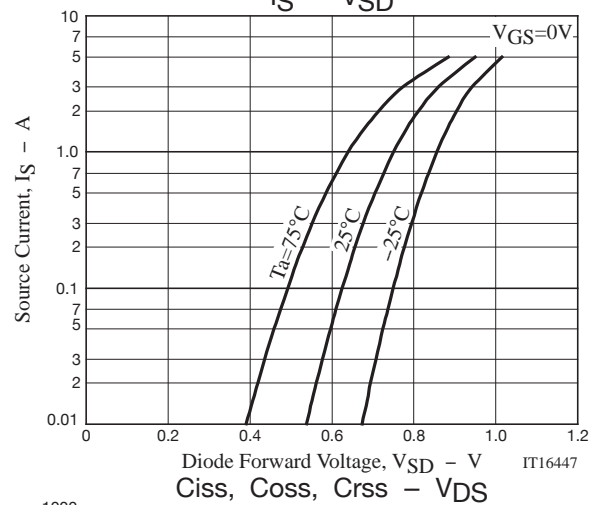
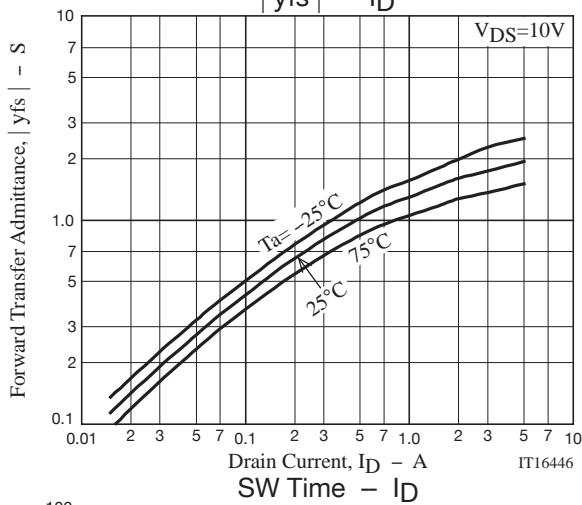
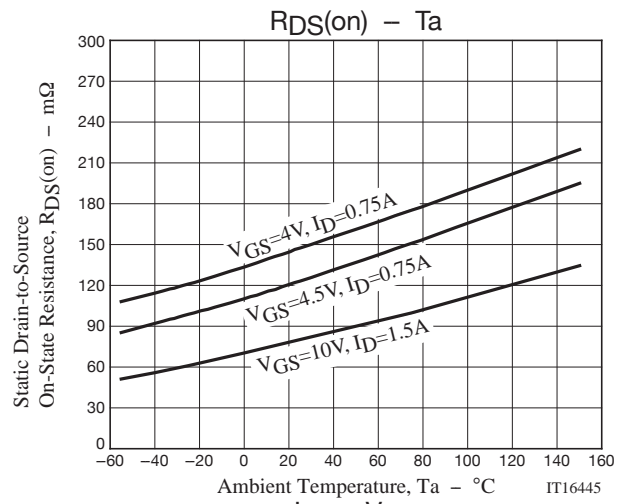
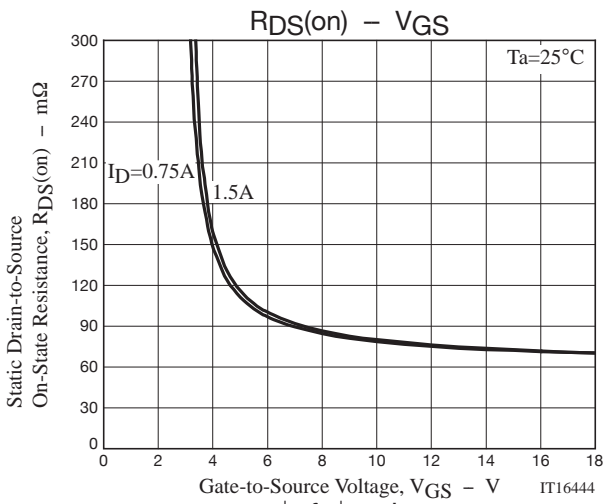
# CPH3455

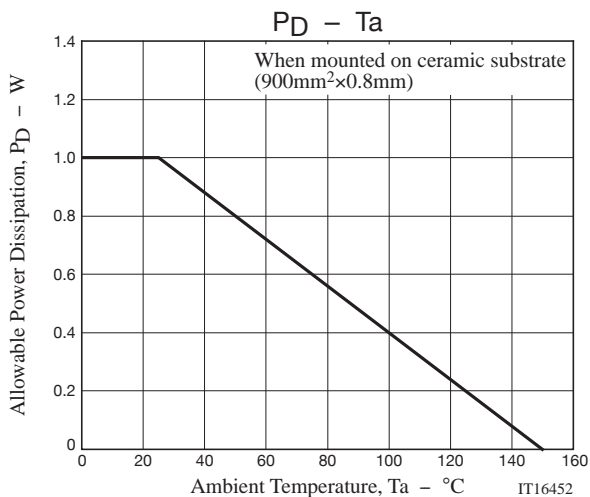
## Electrical Characteristics at Ta=25°C

Parameter	Symbol	Conditions	Ratings			Unit
			min	typ	max	
Drain-to-Source Breakdown Voltage	$V_{(BR)DSS}$	$I_D=1mA, V_{GS}=0V$	35			V
Zero-Gate Voltage Drain Current	$I_{DSS}$	$V_{DS}=35V, V_{GS}=0V$			1	$\mu A$
Gate-to-Source Leakage Current	$I_{GSS}$	$V_{GS}=\pm 16V, V_{DS}=0V$			$\pm 10$	$\mu A$
Cutoff Voltage	$V_{GS(off)}$	$V_{DS}=10V, I_D=1mA$	1.2		2.6	V
Forward Transfer Admittance	$ y_{fs} $	$V_{DS}=10V, I_D=1.5A$		1.7		S
Static Drain-to-Source On-State Resistance	$R_{DS(on)1}$	$I_D=1.5A, V_{GS}=10V$		80	104	$m\Omega$
	$R_{DS(on)2}$	$I_D=0.75A, V_{GS}=4.5V$		123	173	$m\Omega$
	$R_{DS(on)3}$	$I_D=0.75A, V_{GS}=4V$		148	208	$m\Omega$
Input Capacitance	$C_{iss}$	$V_{DS}=20V, f=1MHz$		186		pF
Output Capacitance	$C_{oss}$	$V_{DS}=20V, f=1MHz$		36		pF
Reverse Transfer Capacitance	$C_{rss}$	$V_{DS}=20V, f=1MHz$		22		pF
Turn-ON Delay Time	$t_{d(on)}$	See specified Test Circuit.		4.2		ns
Rise Time	$t_r$	See specified Test Circuit.		4.7		ns
Turn-OFF Delay Time	$t_{d(off)}$	See specified Test Circuit.		15		ns
Fall Time	$t_f$	See specified Test Circuit.		5.7		ns
Total Gate Charge	$Q_g$	$V_{DS}=20V, V_{GS}=10V, I_D=3A$		4		nC
Gate-to-Source Charge	$Q_{gs}$	$V_{DS}=20V, V_{GS}=10V, I_D=3A$		0.9		nC
Gate-to-Drain "Miller" Charge	$Q_{gd}$	$V_{DS}=20V, V_{GS}=10V, I_D=3A$		0.7		nC
Diode Forward Voltage	$V_{SD}$	$I_S=3A, V_{GS}=0V$		0.86	1.2	V

## Switching Time Test Circuit







Note on usage : Since the CPH3455 is a MOSFET product, please avoid using this device in the vicinity of highly charged objects.

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