



# CPH6341

## P-Channel Power MOSFET -30V, -5A, 59mΩ, Single CPH6

ON Semiconductor®

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### Features

- Low ON-resistance
- High-speed switching
- 4V drive
- Protection diode in

### Specifications

#### Absolute Maximum Ratings at Ta=25°C

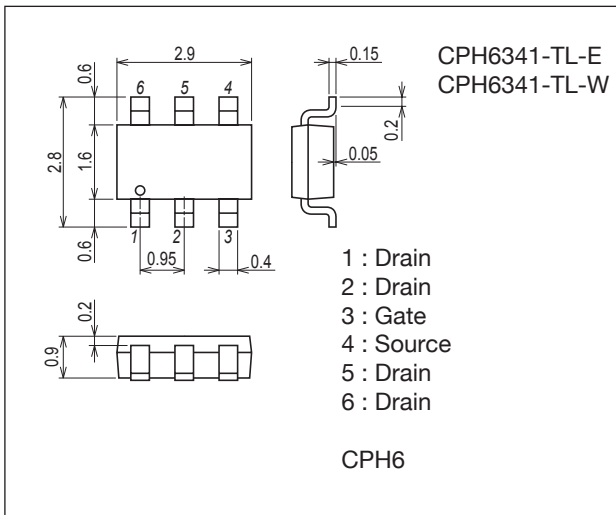
Parameter	Symbol	Conditions	Ratings	Unit
Drain-to-Source Voltage	V <sub>DSS</sub>		-30	V
Gate-to-Source Voltage	V <sub>GSS</sub>		±20	V
Drain Current (DC)	I <sub>D</sub>		-5	A
Drain Current (Pulse)	I <sub>DP</sub>	PW≤10μs, duty cycle≤1%	-20	A
Allowable Power Dissipation	P <sub>D</sub>	When mounted on ceramic substrate (900mm <sup>2</sup> ×0.8mm)	1.6	W
Channel Temperature	T <sub>ch</sub>		150	°C
Storage Temperature	T <sub>stg</sub>		-55 to +150	°C

Stresses exceeding Maximum Ratings may damage the device. Maximum Ratings are stress ratings only. Functional operation above the Recommended Operating Conditions is not implied. Extended exposure to stresses above the Recommended Operating Conditions may affect device reliability.

### Package Dimensions

unit : mm (typ)

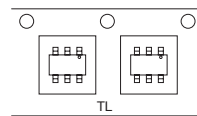
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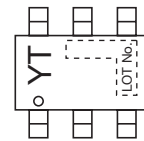
### Product & Package Information

- Package : CPH6
- JEITA, JEDEC : SC-74, SOT-26, SOT-457
- Minimum Packing Quantity : 3,000 pcs./reel

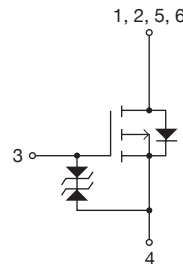
### Packing Type: TL



### Marking



### Electrical Connection



### ORDERING INFORMATION

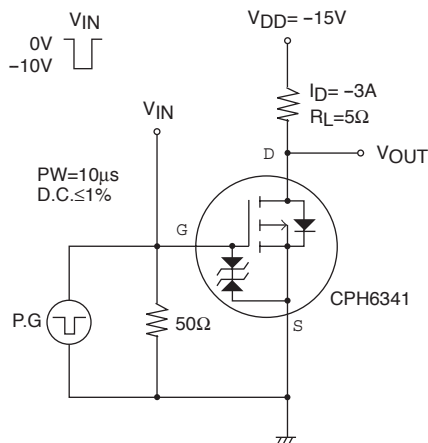
See detailed ordering and shipping information on page 2 of this data sheet.

# CPH6341

## Electrical Characteristics at Ta=25°C

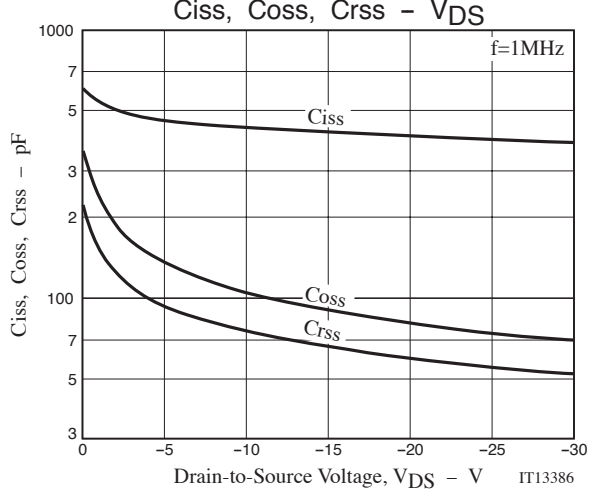
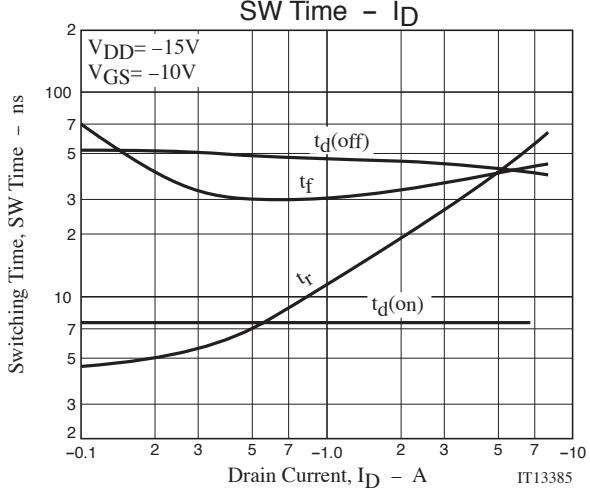
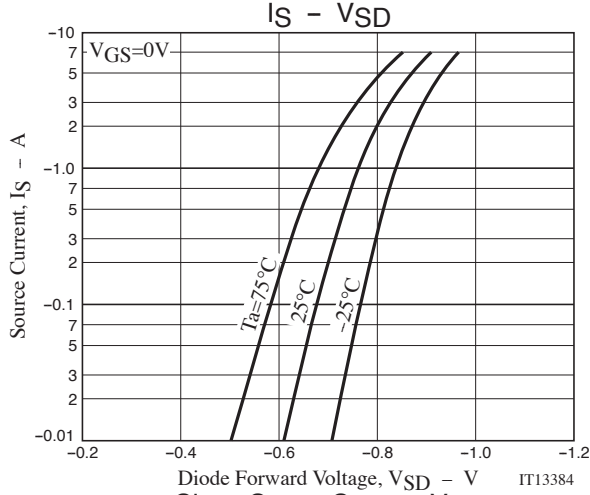
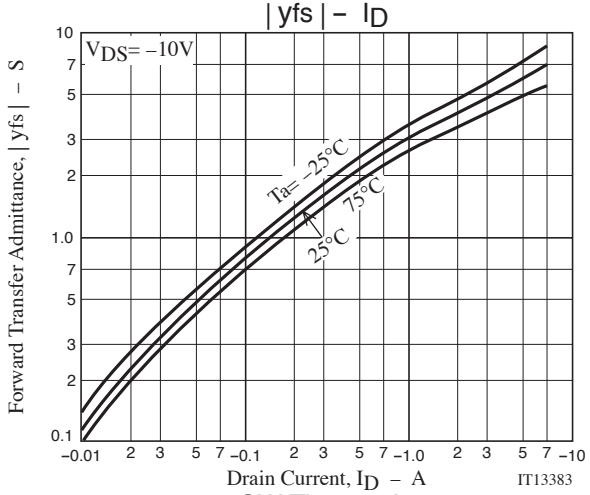
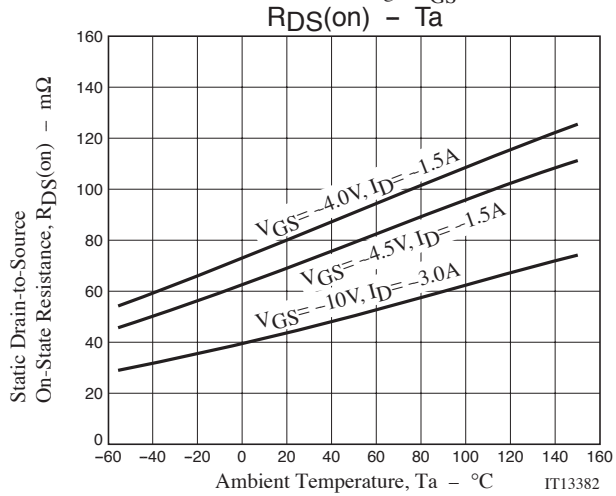
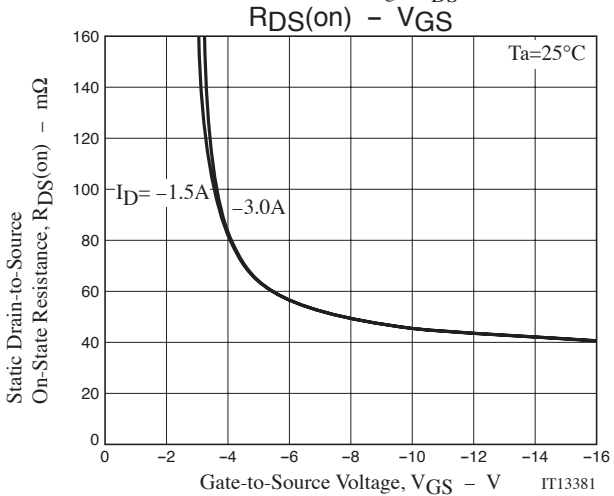
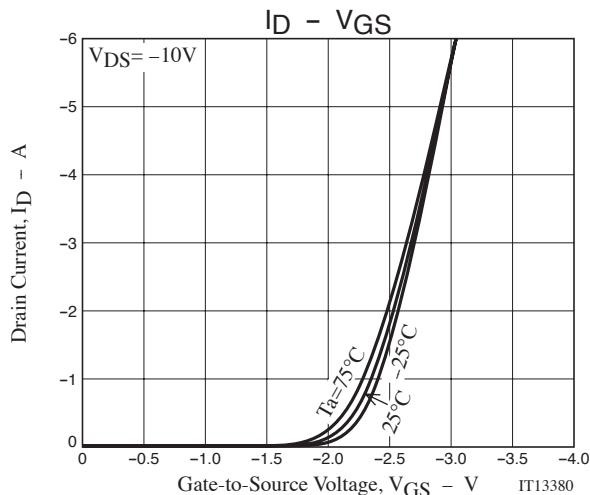
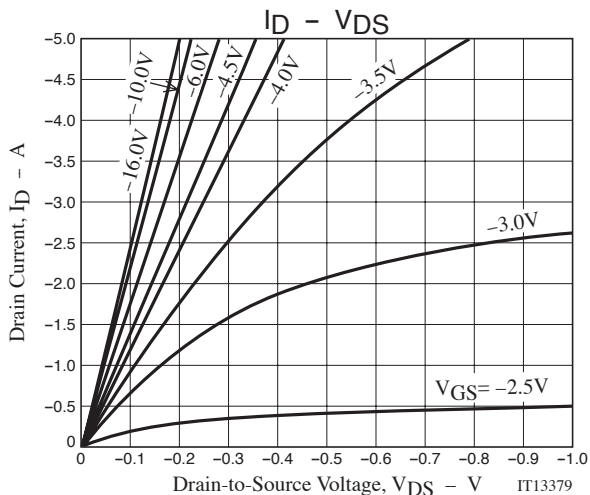
Parameter	Symbol	Conditions	Ratings			Unit
			min	typ	max	
Drain-to-Source Breakdown Voltage	$V_{(BR)DSS}$	$I_D = -1mA, V_{GS} = 0V$	-30			V
Zero-Gate Voltage Drain Current	$I_{DSS}$	$V_{DS} = -30V, V_{GS} = 0V$			-1	$\mu A$
Gate-to-Source Leakage Current	$I_{GSS}$	$V_{GS} = \pm 16V, V_{DS} = 0V$			$\pm 10$	$\mu A$
Cutoff Voltage	$V_{GS(off)}$	$V_{DS} = -10V, I_D = -1mA$	-1.2		-2.6	V
Forward Transfer Admittance	$ y_{fs} $	$V_{DS} = -10V, I_D = -3A$	2.8	4.8		S
Static Drain-to-Source On-State Resistance	$R_{DS(on)1}$	$I_D = -3A, V_{GS} = -10V$		45	59	$m\Omega$
	$R_{DS(on)2}$	$I_D = -1.5A, V_{GS} = -4.5V$		71	100	$m\Omega$
	$R_{DS(on)3}$	$I_D = -1.5A, V_{GS} = -4V$		82	115	$m\Omega$
Input Capacitance	$C_{iss}$			430		pF
Output Capacitance	$C_{oss}$	$V_{DS} = -10V, f = 1MHz$		105		pF
Reverse Transfer Capacitance	$C_{rss}$			75		pF
Turn-ON Delay Time	$t_{d(on)}$	See specified Test Circuit.		7.5		ns
Rise Time	$t_r$			26		ns
Turn-OFF Delay Time	$t_{d(off)}$			45		ns
Fall Time	$t_f$			35		ns
Total Gate Charge	$Q_g$				10	
Gate-to-Source Charge	$Q_{gs}$	$V_{DS} = -15V, V_{GS} = -10V, I_D = -5A$		2.0		nC
Gate-to-Drain "Miller" Charge	$Q_{gd}$			2.5		nC
Diode Forward Voltage	$V_{SD}$	$I_S = -5A, V_{GS} = 0V$		-0.87	-1.2	V

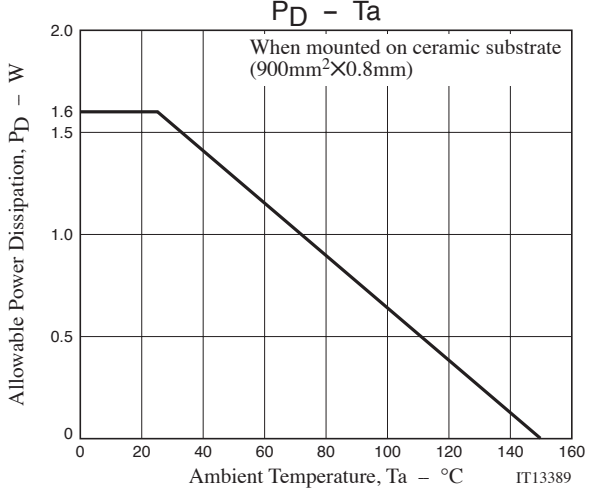
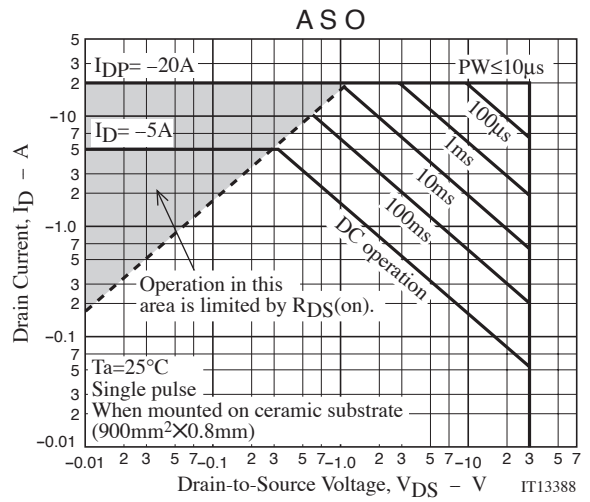
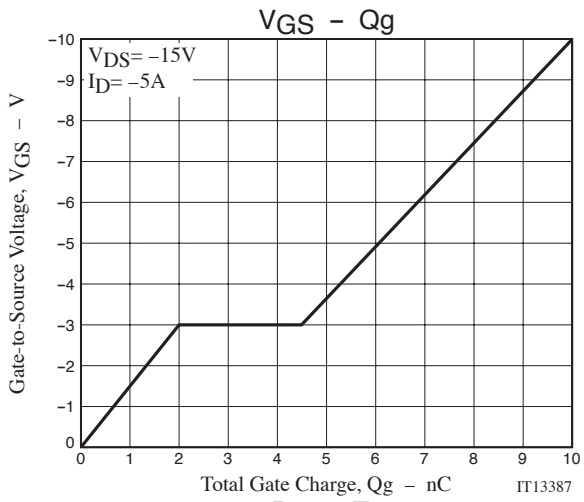
## Switching Time Test Circuit



## Ordering Information

Device	Package	Shipping	memo
CPH6341-TL-E	CPH6	3,000pcs./reel	Pb-Free
CPH6341-TL-W			Pb-Free and Halogen Free

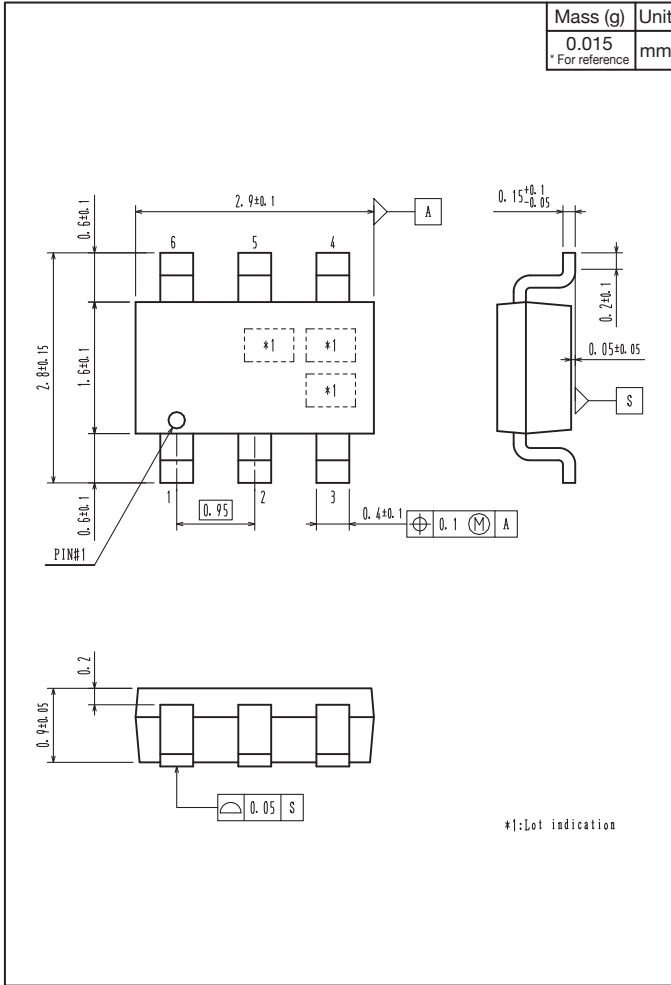




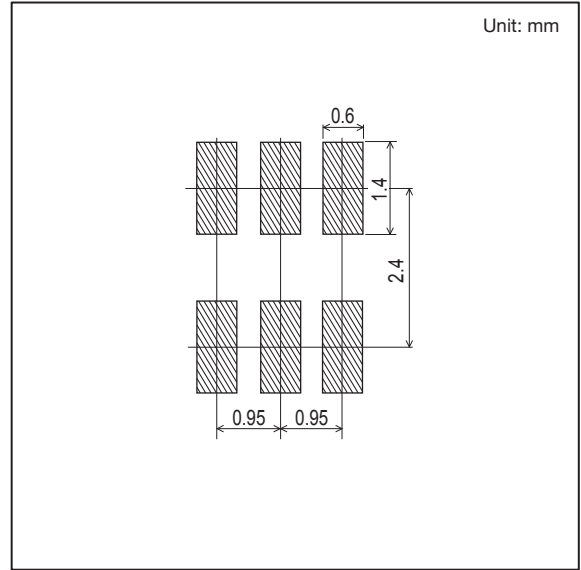
# CPH6341

## Outline Drawing

CPH6341-TL-E, CPH6341-TL-W



## Land Pattern Example



Note on usage : Since the CPH6341 is a MOSFET product, please avoid using this device in the vicinity of highly charged objects.

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