



CPH5617

N-Channel Power MOSFET 30V, 150mA, 3.7Ω, Dual CPH5

ON Semiconductor®

<http://onsemi.com>

Features

- Low ON-resistance
- Ultrahigh-speed switching
- 1.5V drive
- Composite type with 2 MOSFETs contained in the one package, improving the mounting efficiency greatly

Specifications

Absolute Maximum Ratings at Ta=25°C

Parameter	Symbol	Conditions	Ratings	Unit
Drain to Source Voltage	V_{DS}		30	V
Gate to Source Voltage	V_{GS}		±10	V
Drain Current (DC)	I_D		150	mA
Drain Current (Pulse)	I_{DP}	$PW \leq 10\mu s$, duty cycle $\leq 1\%$	600	mA
Allowable Power Dissipation	P_D		0.25	W
Channel Temperature	T_{ch}		150	°C
Storage Temperature	T_{stg}		-55 to +150	°C

This product is designed to "ESD immunity < 200V**", so please take care when handling.

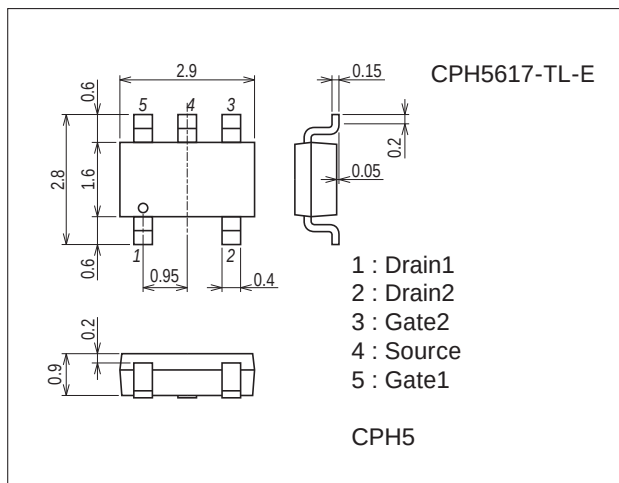
* Machine Model

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)

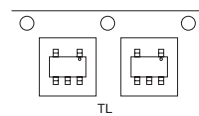
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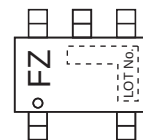
Product & Package Information

- Package : CPH5
- JEITA, JEDEC : SC-74A, SOT-25
- Minimum Packing Quantity : 3,000 pcs./reel

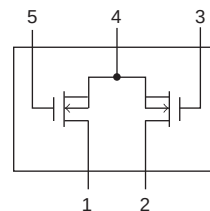
Packing Type : TL



Marking



Electrical Connection

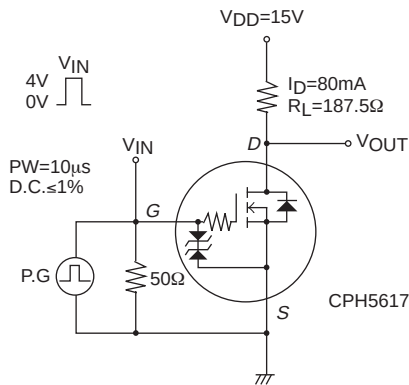


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Electrical Characteristics at Ta=25°C

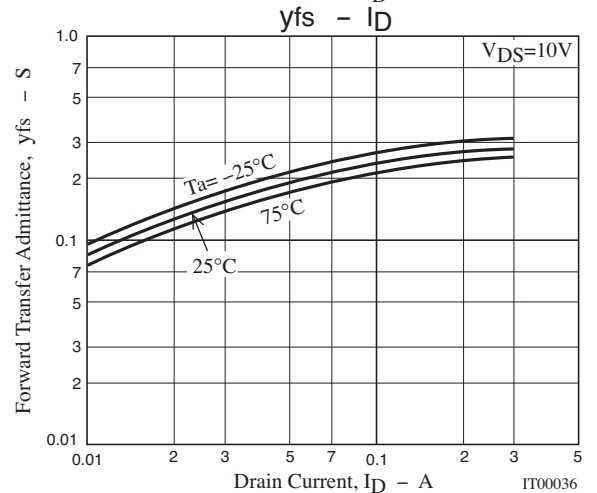
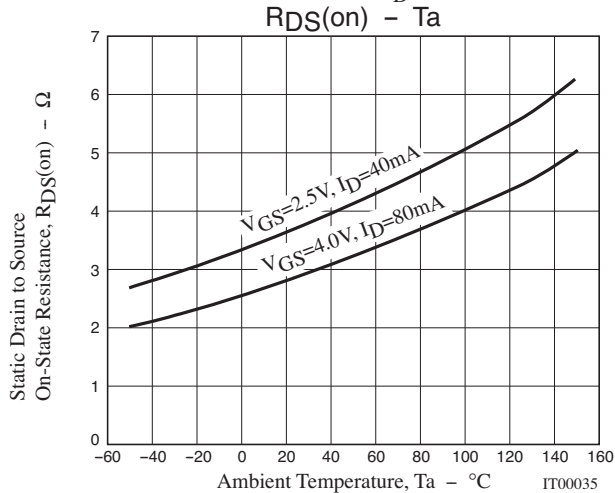
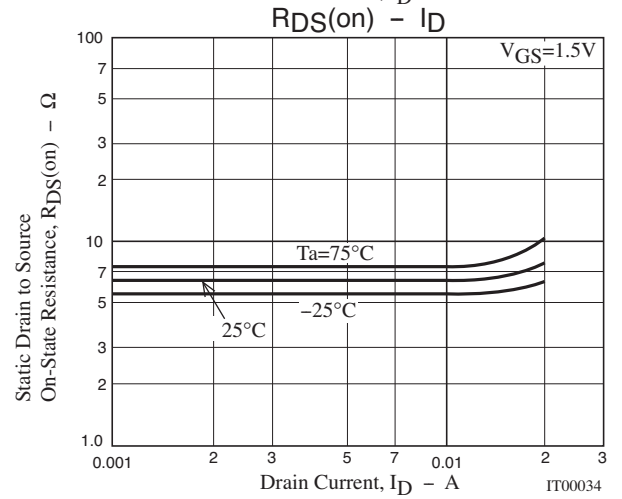
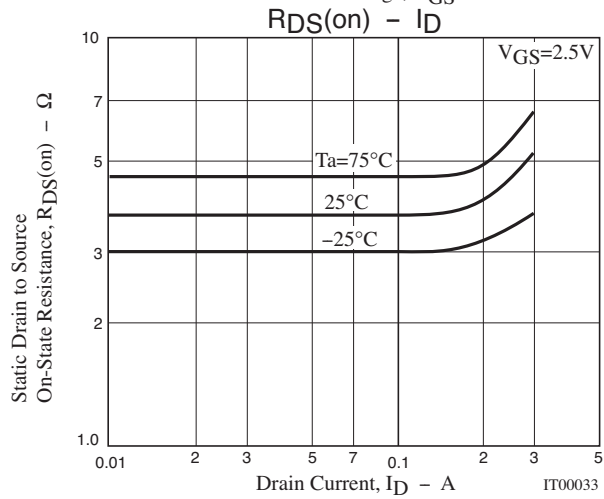
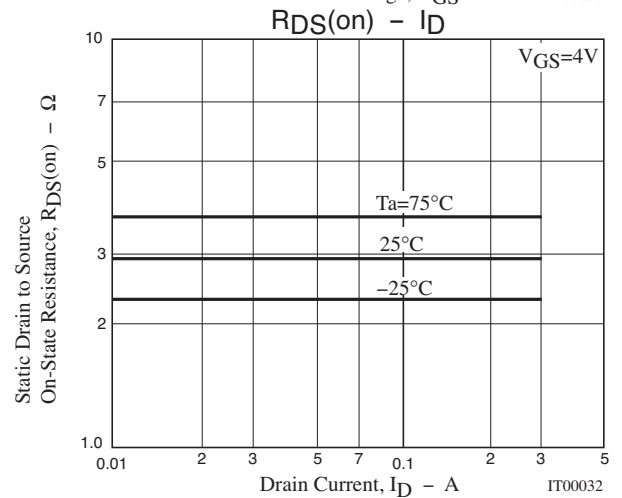
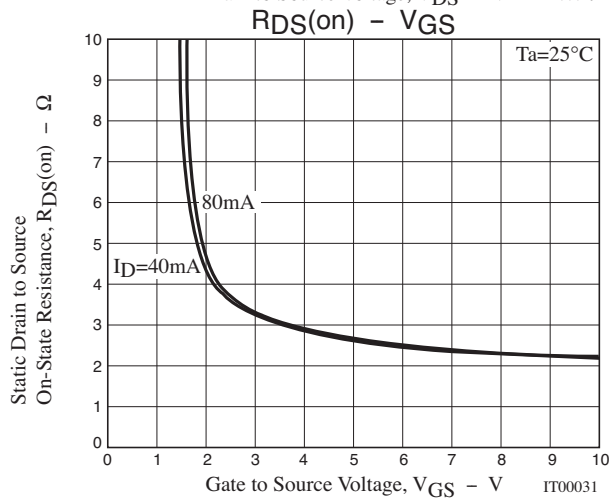
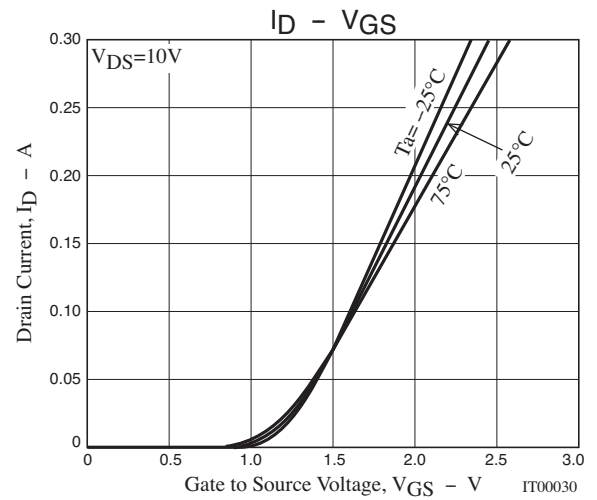
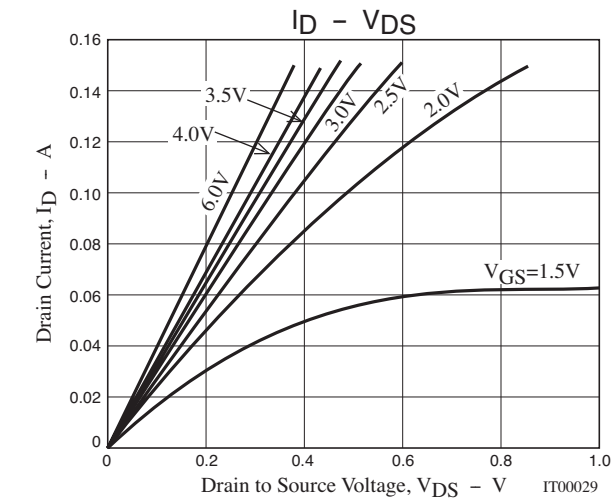
Parameter	Symbol	Conditions	Ratings			Unit
			min	typ	max	
Drain to Source Breakdown Voltage	$V_{(BR)DSS}$	$I_D=1mA, V_{GS}=0V$	30			V
Zero-Gate Voltage Drain Current	I_{DSS}	$V_{DS}=30V, V_{GS}=0V$			10	μA
Gate to Source Leakage Current	I_{GSS}	$V_{GS}=\pm 8V, V_{DS}=0V$			± 10	μA
Cutoff Voltage	$V_{GS(off)}$	$V_{DS}=10V, I_D=100\mu A$	0.4		1.3	V
Forward Transfer Admittance	$ y_{fs} $	$V_{DS}=10V, I_D=80mA$	0.15	0.22		S
Static Drain to Source On-State Resistance	$R_{DS(on)1}$	$I_D=80mA, V_{GS}=4V$		2.9	3.7	Ω
	$R_{DS(on)2}$	$I_D=40mA, V_{GS}=2.5V$		3.7	5.2	Ω
	$R_{DS(on)3}$	$I_D=10mA, V_{GS}=1.5V$		6.4	12.8	Ω
Input Capacitance	C_{iss}	$V_{DS}=10V, f=1MHz$		7.0		pF
Output Capacitance	C_{oss}			5.9		pF
Reverse Transfer Capacitance	C_{rss}			2.3		pF
Turn-ON Delay Time	$t_{d(on)}$	See specified Test Circuit.		19		ns
Rise Time	t_r			65		ns
Turn-OFF Delay Time	$t_{d(off)}$			155		ns
Fall Time	t_f			120		ns
Total Gate Charge	Q_g	$V_{DS}=10V, V_{GS}=10V, I_D=150mA$		1.58		nC
Gate to Source Charge	Q_{gs}			0.26		nC
Gate to Drain "Miller" Charge	Q_{gd}			0.31		nC
Diode Forward Voltage	V_{SD}	$I_S=150mA, V_{GS}=0V$		0.87	1.2	V

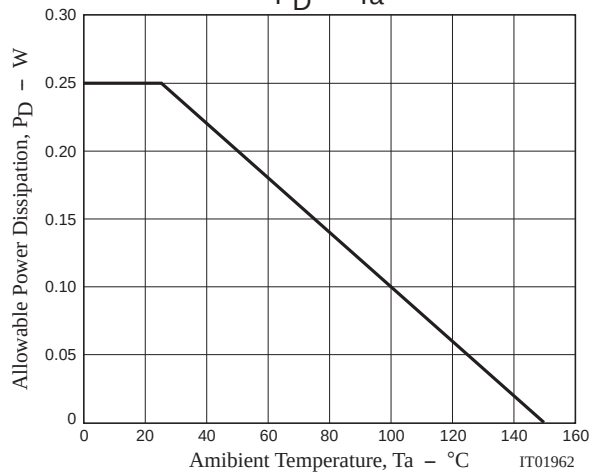
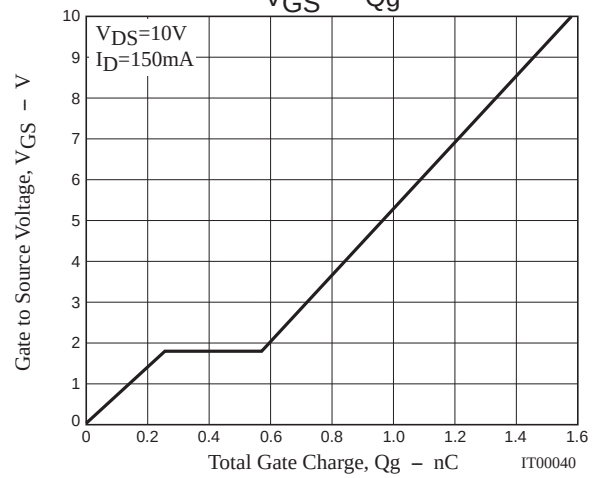
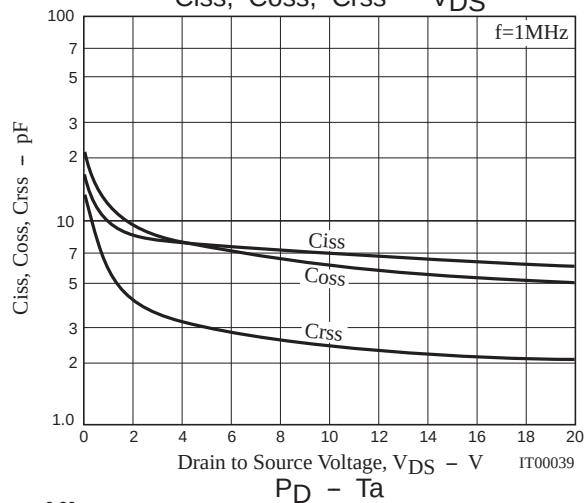
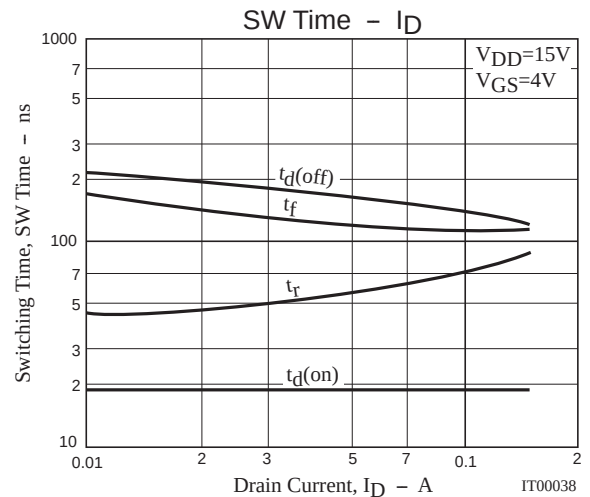
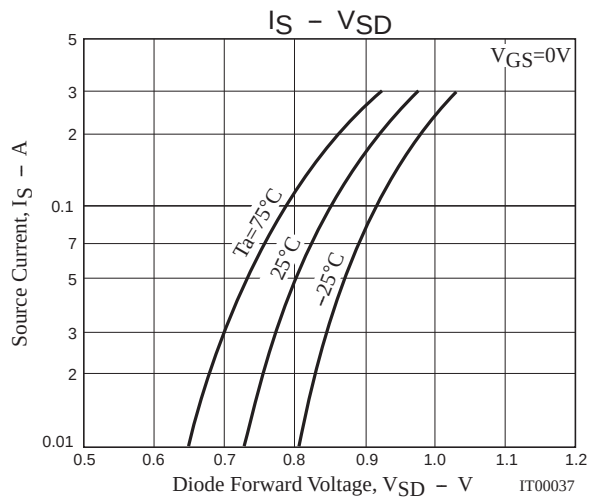
Switching Time Test Circuit



Ordering Information

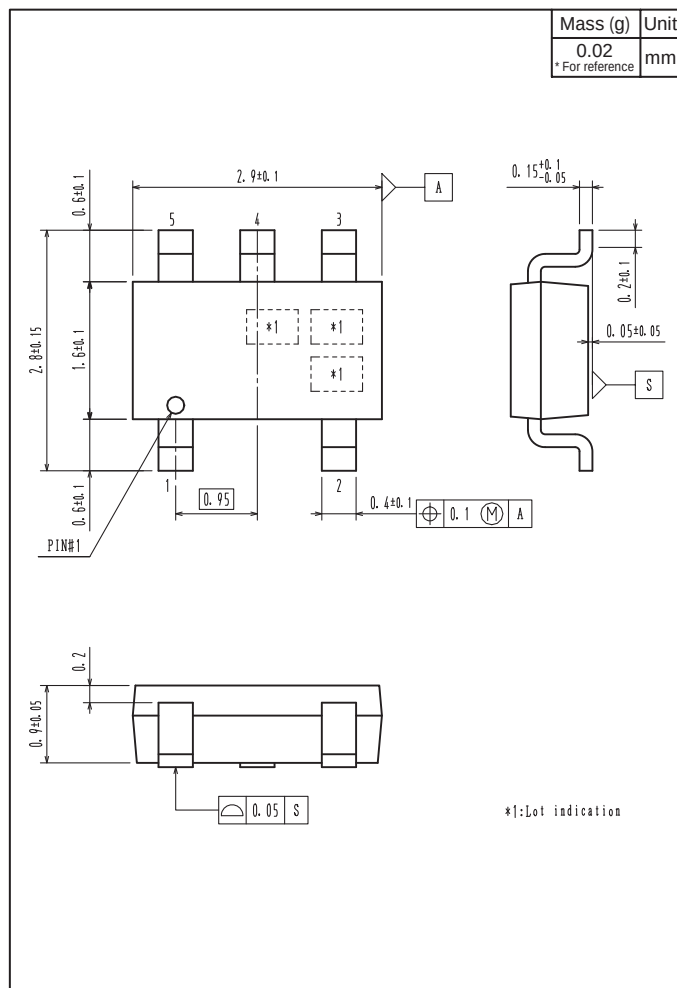
Device	Package	Shipping	memo
CPH5617-TL-E	CPH5	3,000pcs./reel	Pb Free



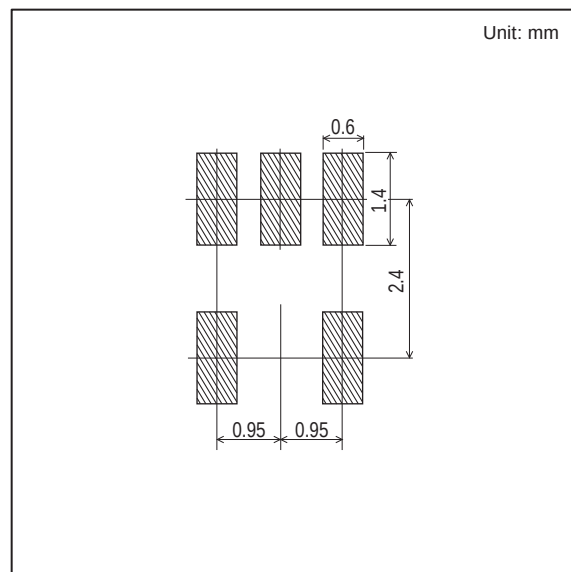


Outline Drawing

CPH5617-TL-E



Land Pattern Example



Note on usage : Since the CPH5617 is a MOSFET product, please avoid using this device in the vicinity of highly charged objects.

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