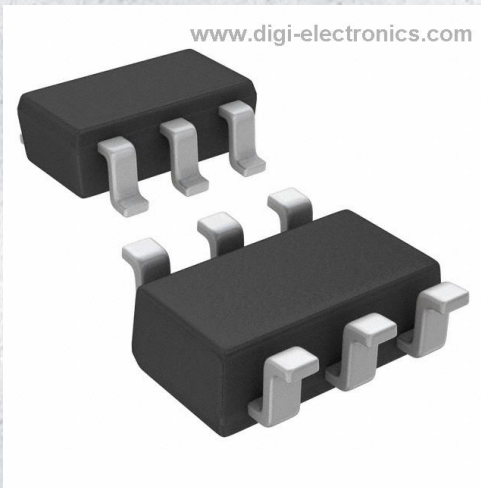


CPH6444-TL-E Datasheet



<https://www.DiGi-Electronics.com>

DiGi Electronics Part Number	CPH6444-TL-E-DG
Manufacturer	onsemi
Manufacturer Product Number	CPH6444-TL-E
Description	MOSFET N-CH 60V 4.5A 6CPH
Detailed Description	N-Channel 60 V 4.5A (Ta) 1.6W (Ta) Surface Mount 6-CPH



Tel: +00 852-30501935

RFQ Email: Info@DiGi-Electronics.com

DiGi is a global authorized distributor of electronic components.

Purchase and inquiry

Manufacturer Product Number:

CPH6444-TL-E

Series:

-

FET Type:

N-Channel

Drain to Source Voltage (Vdss):

60 V

Drive Voltage (Max Rds On, Min Rds On):

4V, 10V

Vgs(th) (Max) @ Id:

-

Vgs (Max):

±20V

FET Feature:

-

Operating Temperature:

150°C (TJ)

Supplier Device Package:

6-CPH

Base Product Number:

CPH6444

Manufacturer:

onsemi

Product Status:

Active

Technology:

MOSFET (Metal Oxide)

Current - Continuous Drain (Id) @ 25°C:

4.5A (Ta)

Rds On (Max) @ Id, Vgs:

78mOhm @ 2A, 10V

Gate Charge (Qg) (Max) @ Vgs:

10 nC @ 10 V

Input Capacitance (Ciss) (Max) @ Vds:

505 pF @ 20 V

Power Dissipation (Max):

1.6W (Ta)

Mounting Type:

Surface Mount

Package / Case:

SOT-23-6

Environmental & Export classification

RoHS Status:

ROHS3 Compliant

REACH Status:

REACH Unaffected

HTSUS:

8541.29.0095

Moisture Sensitivity Level (MSL):

1 (Unlimited)

ECCN:

EAR99

Ordering number : ENA1243C



CPH6444

N-Channel Power MOSFET 60V, 4.5A, 78mΩ, Single CPH6

ON Semiconductor®

<http://onsemi.com>

Features

- Low ON-resistance
- 4V drive
- Protection diode in
- Halogen free compliance

Specifications

Absolute Maximum Ratings at Ta=25°C

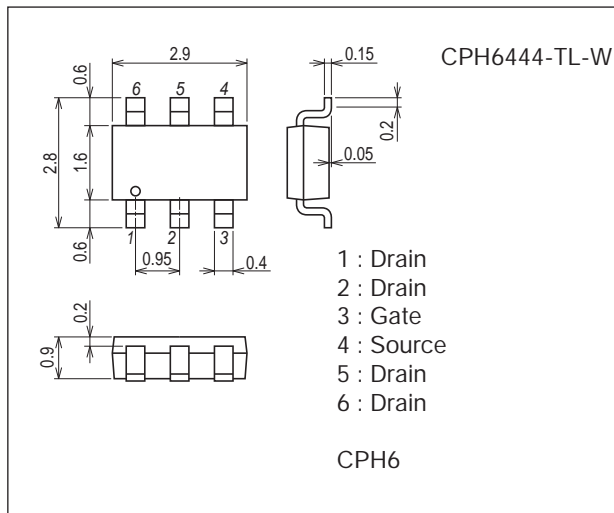
Parameter	Symbol	Conditions	Ratings	Unit
Drain to Source Voltage	V _{DSS}		60	V
Gate to Source Voltage	V _{GSS}		±20	V
Drain Current (DC)	I _D		4.5	A
Drain Current (Pulse)	I _{DP}	PW≤10μs, duty cycle≤1%	18	A
Allowable Power Dissipation	P _D	When mounted on ceramic substrate (900mm ² ×0.8mm)	1.6	W
Channel Temperature	T _{ch}		150	°C
Storage Temperature	T _{stg}		-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)

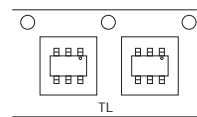
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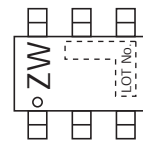
Ordering & Package Information

Device	Package	Shipping	memo
CPH6444-TL-W	CPH6 SC-74, SOT-26, SOT-457	3,000 pcs./reel	Pb-Free and Halogen Free

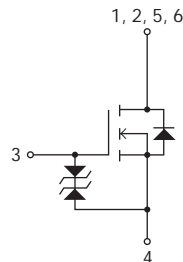
Packing Type: TL



Marking



Electrical Connection

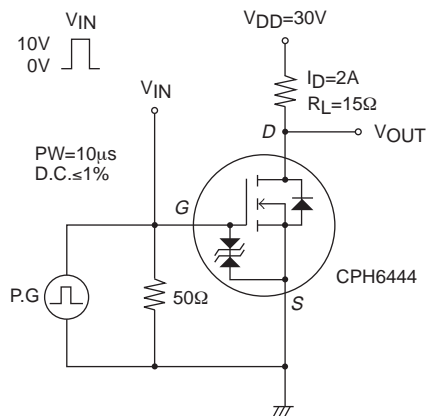


CPH6444

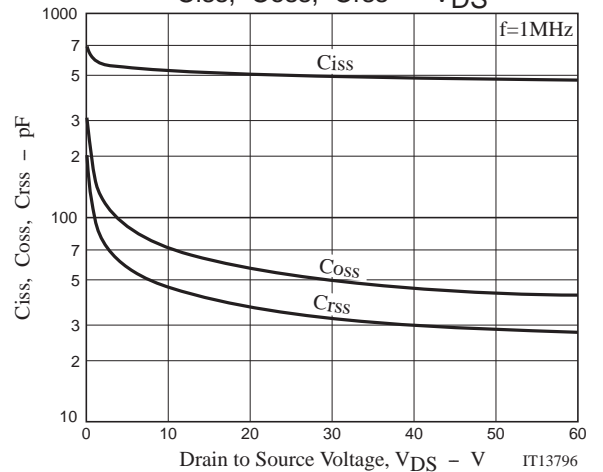
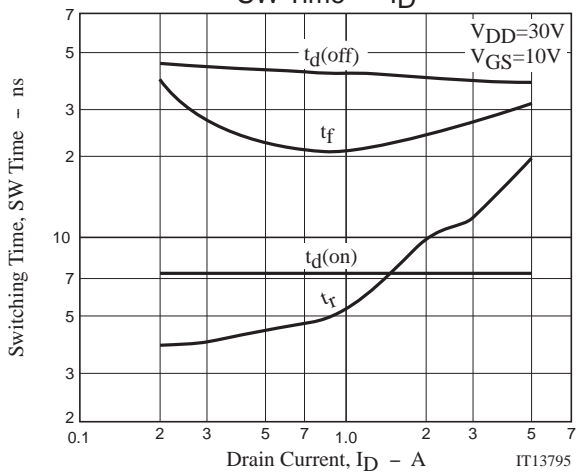
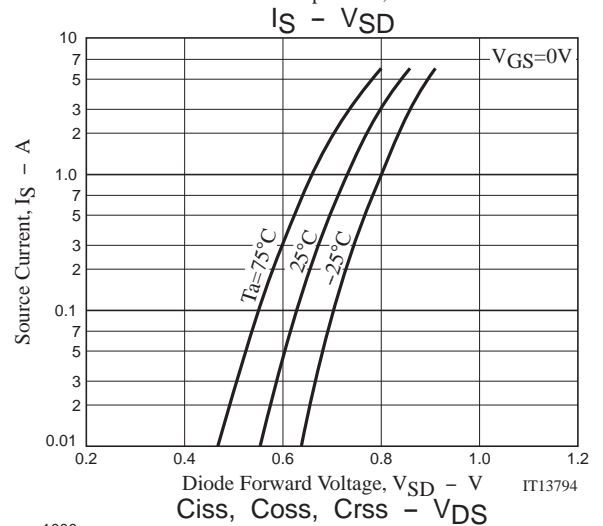
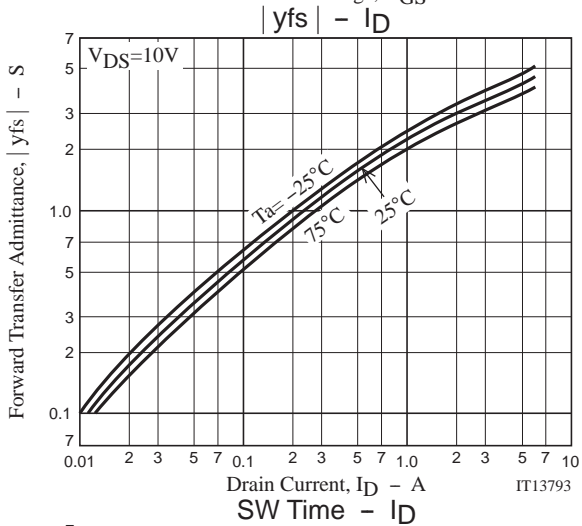
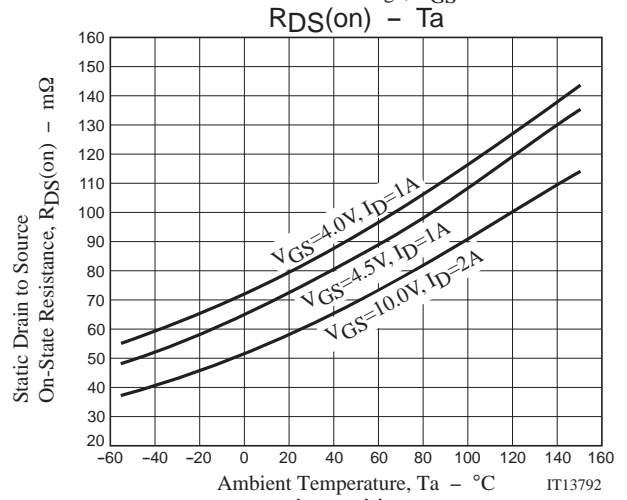
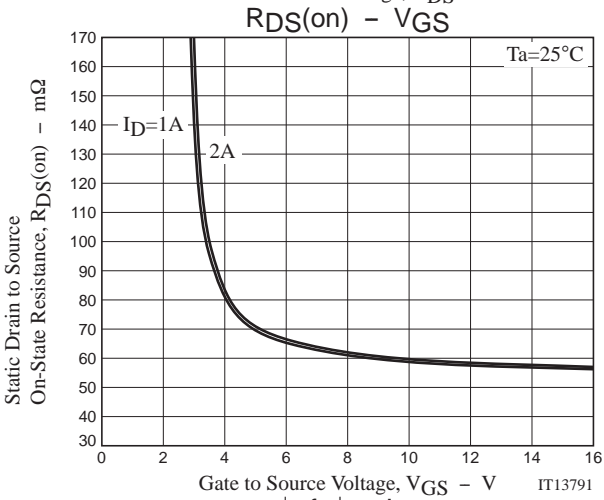
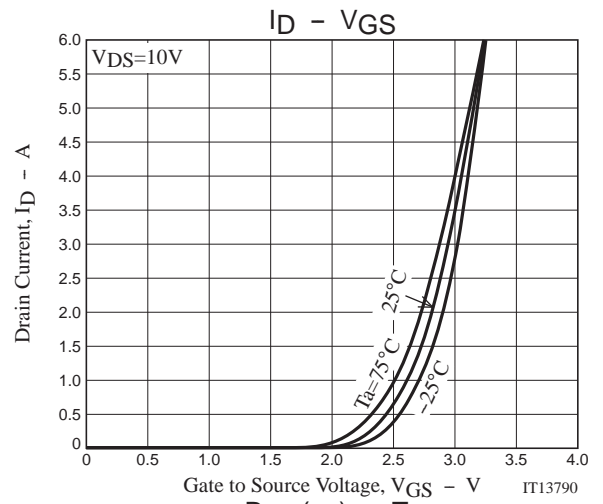
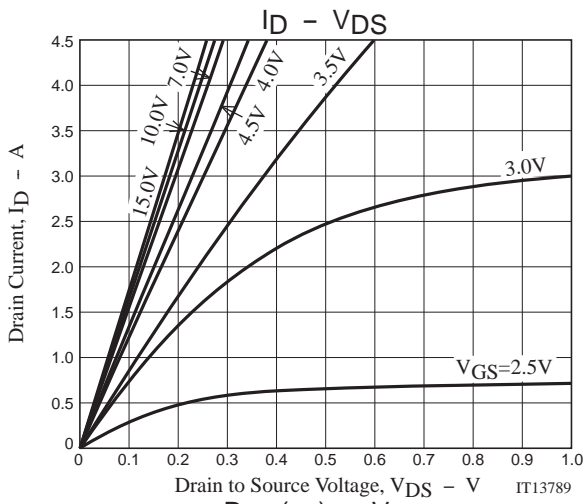
Electrical Characteristics at $T_a=25^\circ\text{C}$

Parameter	Symbol	Conditions	Ratings			Unit
			min	typ	max	
Drain to Source Breakdown Voltage	$V_{(BR)DSS}$	$I_D=1\text{mA}$, $V_{GS}=0\text{V}$	60			V
Zero-Gate Voltage Drain Current	I_{DSS}	$V_{DS}=60\text{V}$, $V_{GS}=0\text{V}$			1	μA
Gate to Source Leakage Current	I_{GSS}	$V_{GS}=\pm 16\text{V}$, $V_{DS}=0\text{V}$			± 10	μA
Cutoff Voltage	$V_{GS(off)}$	$V_{DS}=10\text{V}$, $I_D=1\text{mA}$	1.2		2.6	V
Forward Transfer Admittance	$ y_{fs} $	$V_{DS}=10\text{V}$, $I_D=2\text{A}$	1.8	3		S
Static Drain to Source On-State Resistance	$R_{DS(on)1}$	$I_D=2\text{A}$, $V_{GS}=10\text{V}$		60	78	$\text{m}\Omega$
	$R_{DS(on)2}$	$I_D=1\text{A}$, $V_{GS}=4.5\text{V}$		74	104	$\text{m}\Omega$
	$R_{DS(on)3}$	$I_D=1\text{A}$, $V_{GS}=4\text{V}$		81	114	$\text{m}\Omega$
Input Capacitance	C_{iss}			505		pF
Output Capacitance	C_{oss}	$V_{DS}=20\text{V}$, $f=1\text{MHz}$		57		pF
Reverse Transfer Capacitance	C_{rss}			37		pF
Turn-ON Delay Time	$t_{d(on)}$	See specified Test Circuit.		7.3		ns
Rise Time	t_r			9.8		ns
Turn-OFF Delay Time	$t_{d(off)}$			40		ns
Fall Time	t_f			24		ns
Total Gate Charge	Q_g				10	
Gate to Source Charge	Q_{gs}	$V_{DS}=30\text{V}$, $V_{GS}=10\text{V}$, $I_D=4.5\text{A}$		1.6		nC
Gate to Drain "Miller" Charge	Q_{gd}			2.1		nC
Diode Forward Voltage	V_{SD}	$I_S=4.5\text{A}$, $V_{GS}=0\text{V}$		0.83	1.2	V

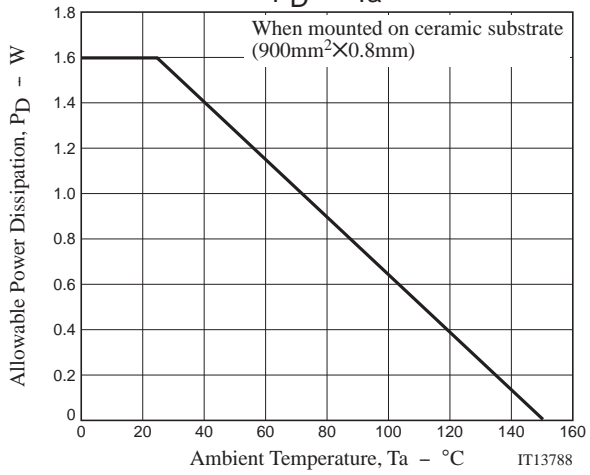
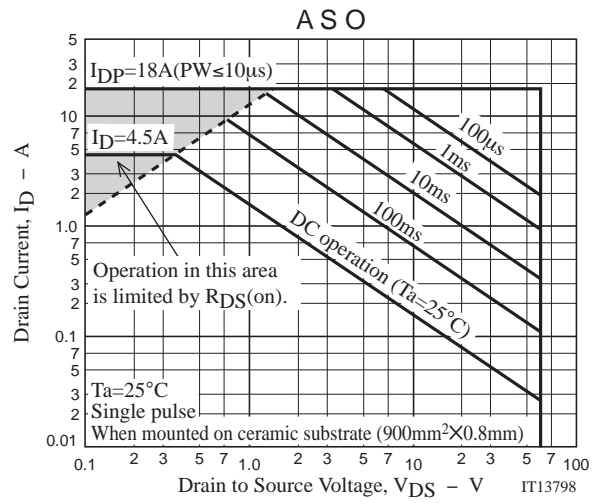
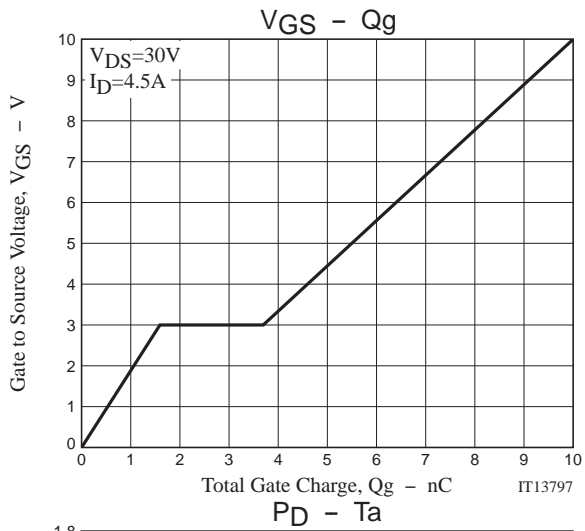
Switching Time Test Circuit



CPH6444



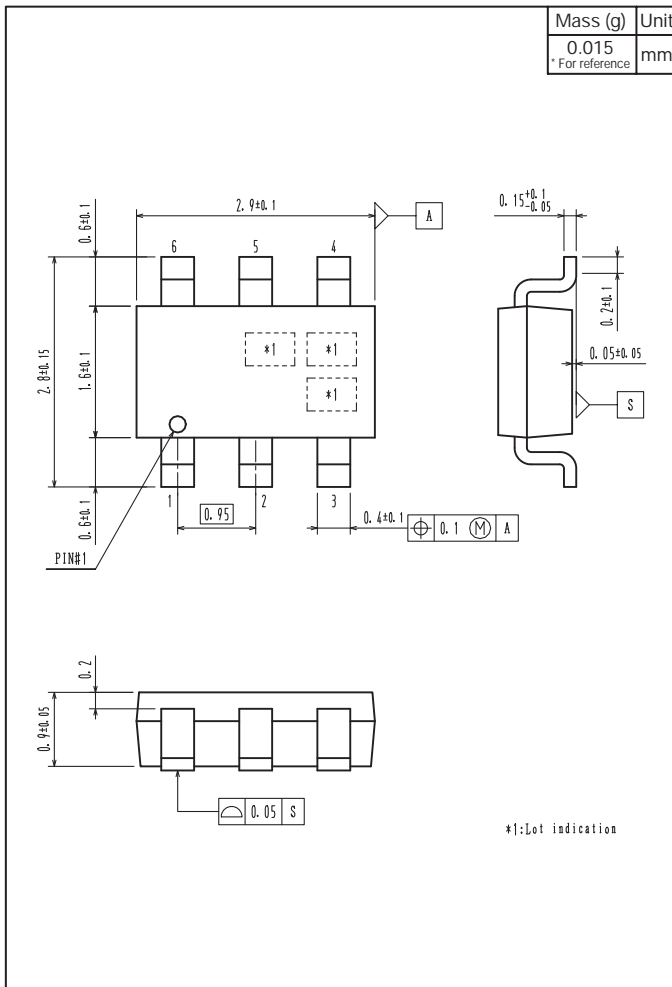
CPH6444



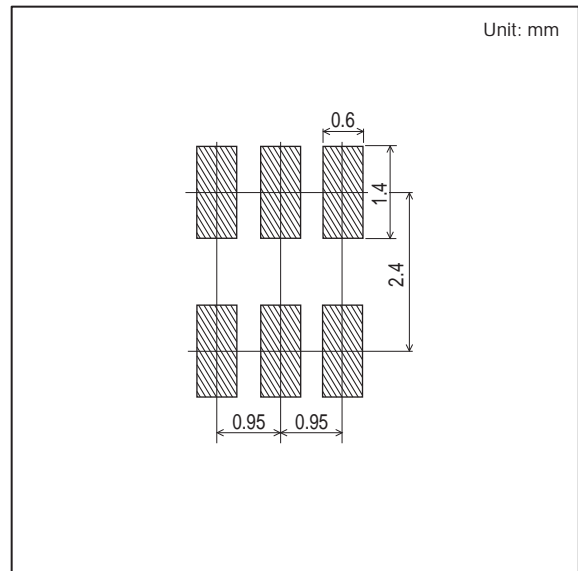
CPH6444

Outline Drawing

CPH6444-TL-W



Land Pattern Example



CPH6444

Note on usage : Since the CPH6444 is a MOSFET product, please avoid using this device in the vicinity of highly charged objects.

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