



CPH6350

P-Channel Power MOSFET -30V, -6A, 43mΩ, Single CPH6

ON Semiconductor®

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Features

- 4V drive
- Low ON-resistance
- Protection diode in

Specifications

Absolute Maximum Ratings at Ta=25°C

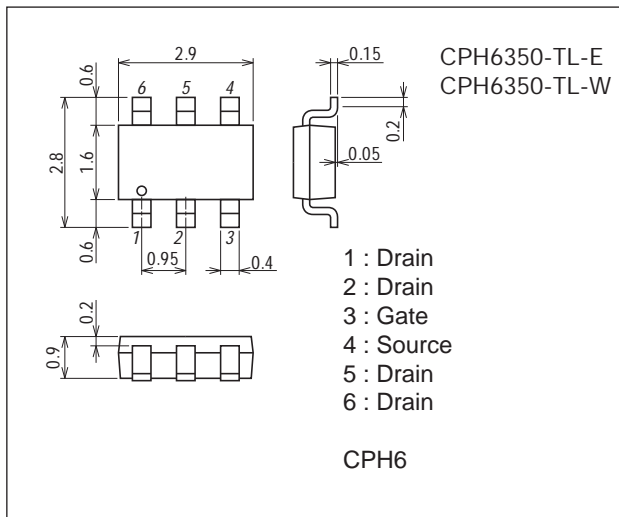
Parameter	Symbol	Conditions	Ratings	Unit
Drain to Source Voltage	V _{DSS}		-30	V
Gate to Source Voltage	V _{GSS}		±20	V
Drain Current (DC)	I _D		-6	A
Drain Current (Pulse)	I _{DP}	PW≤10μs, duty cycle≤1%	-24	A
Allowable Power Dissipation	P _D	When mounted on ceramic substrate (900mm ² ×0.8mm)	1.6	W
Channel 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)

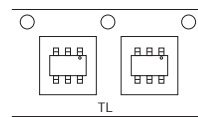
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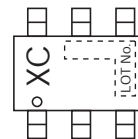
Ordering & Package Information

Device	Package	Shipping	memo
CPH6350-TL-E	CPH6 SC-74, SOT-26, SOT-457	3,000pcs./reel	Pb-Free
CPH6350-TL-W	CPH6 SC-74, SOT-26, SOT-457	3,000pcs./reel	Pb-Free and Halogen Free

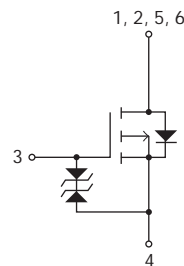
Packing Type: TL



Marking



Electrical Connection

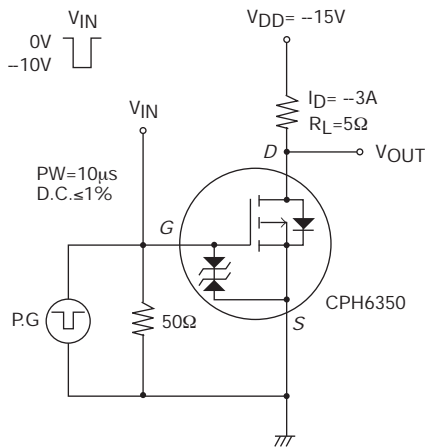


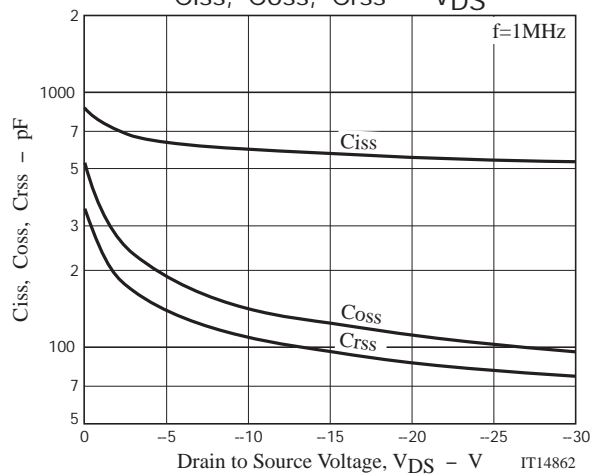
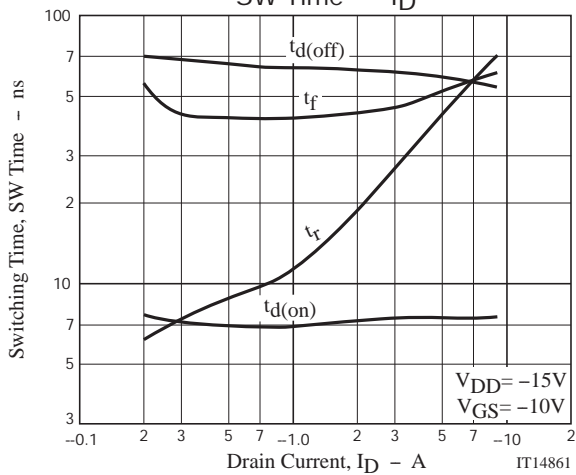
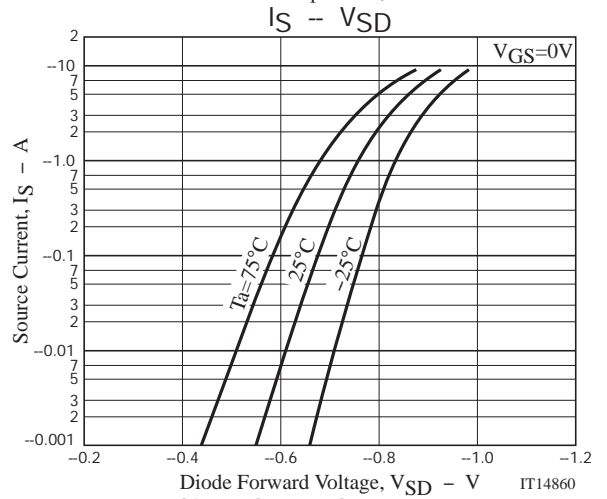
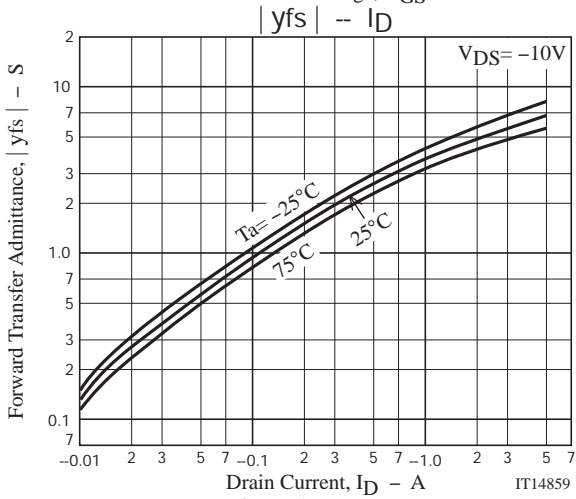
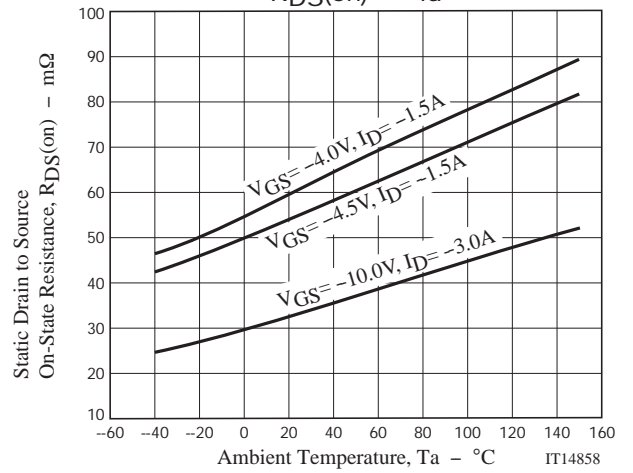
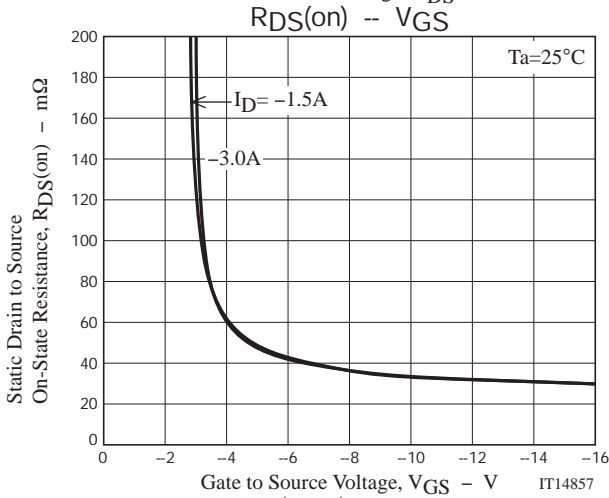
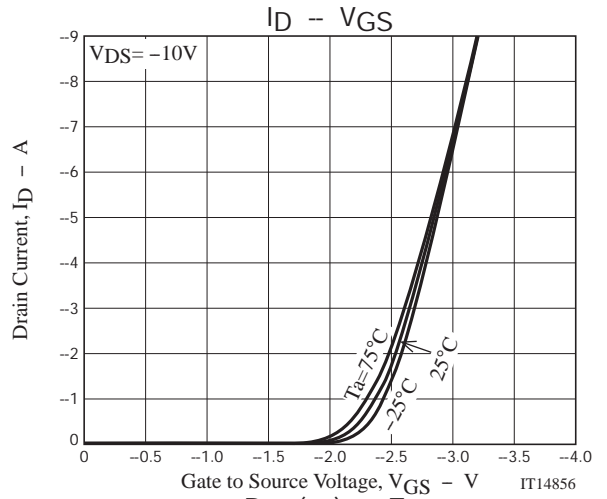
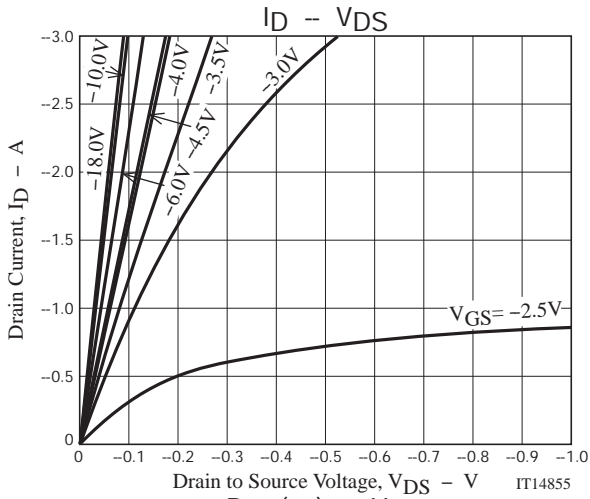
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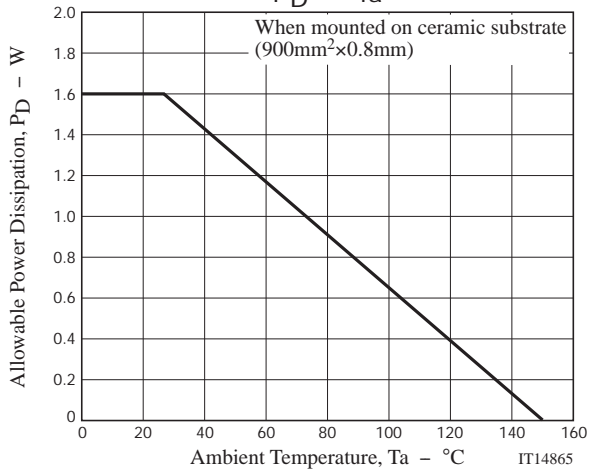
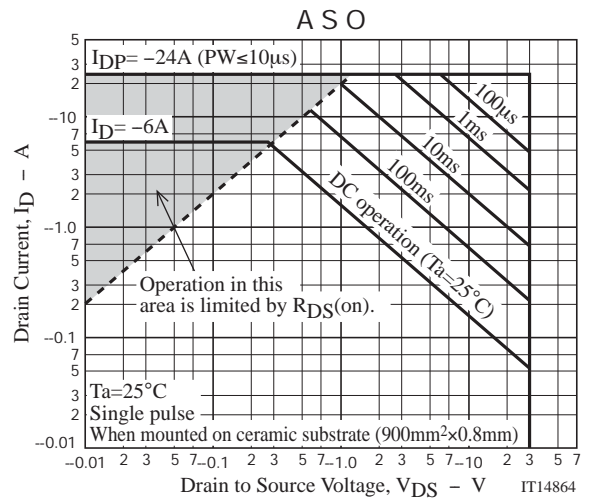
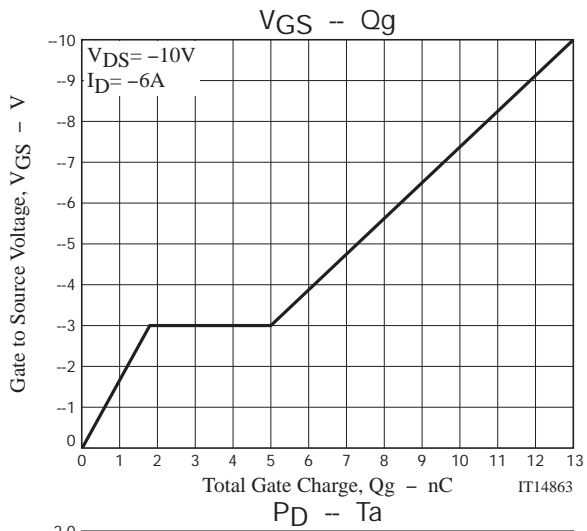
Electrical Characteristics at $T_a=25^\circ\text{C}$

Parameter	Symbol	Conditions	Ratings			Unit
			min	typ	max	
Drain to Source Breakdown Voltage	$V_{(BR)DSS}$	$I_D=-1\text{mA}, V_{GS}=0\text{V}$	-30			V
Zero-Gate Voltage Drain Current	I_{DSS}	$V_{DS}=-30\text{V}, V_{GS}=0\text{V}$			-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} $	$V_{DS}=-10\text{V}, I_D=-3\text{A}$		5.4		S
Static Drain to Source On-State Resistance	$R_{DS(on)1}$	$I_D=-3\text{A}, V_{GS}=-10\text{V}$		33	43	$\text{m}\Omega$
	$R_{DS(on)2}$	$I_D=-1.5\text{A}, V_{GS}=-4.5\text{V}$		58	82	$\text{m}\Omega$
	$R_{DS(on)3}$	$I_D=-1.5\text{A}, V_{GS}=-4\text{V}$		61	86	$\text{m}\Omega$
Input Capacitance	C_{iss}			600		pF
Output Capacitance	C_{oss}	$V_{DS}=-10\text{V}, f=1\text{MHz}$		145		pF
Reverse Transfer Capacitance	C_{rss}			110		pF
Turn-ON Delay Time	$t_{d(on)}$	See specified Test Circuit.		7.4		ns
Rise Time	t_r			27		ns
Turn-OFF Delay Time	$t_{d(off)}$			62		ns
Fall Time	t_f			45		ns
Total Gate Charge	Q_g				13	
Gate to Source Charge	Q_{gs}	$V_{DS}=-15\text{V}, V_{GS}=-10\text{V}, I_D=-6\text{A}$		1.8		nC
Gate to Drain "Miller" Charge	Q_{gd}			3.2		nC
Diode Forward Voltage	V_{SD}	$I_S=-6\text{A}, V_{GS}=0\text{V}$		-0.87	-1.2	V

Switching Time Test Circuit



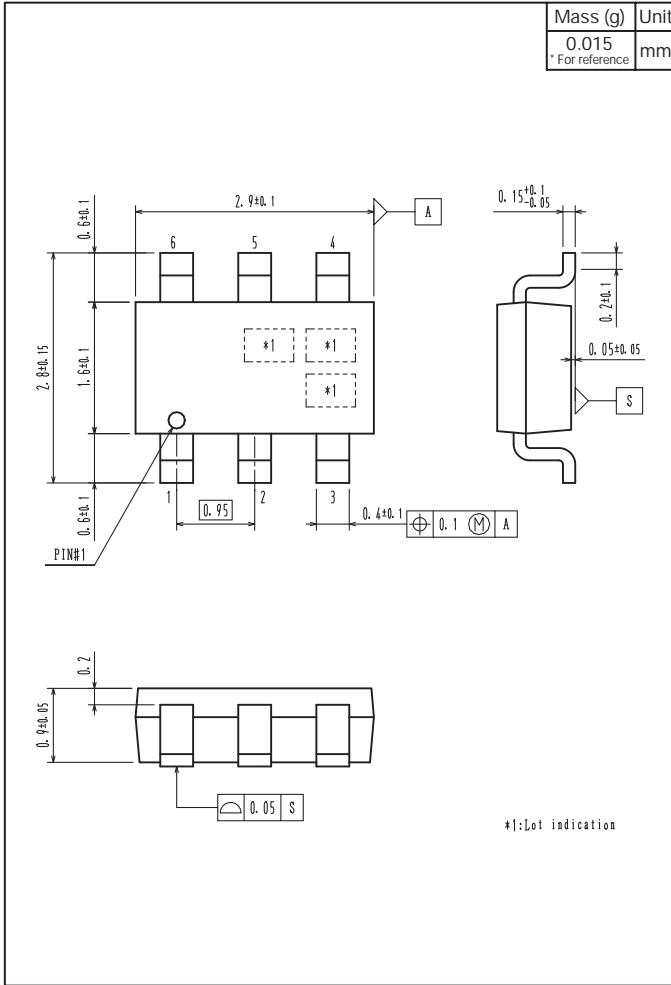




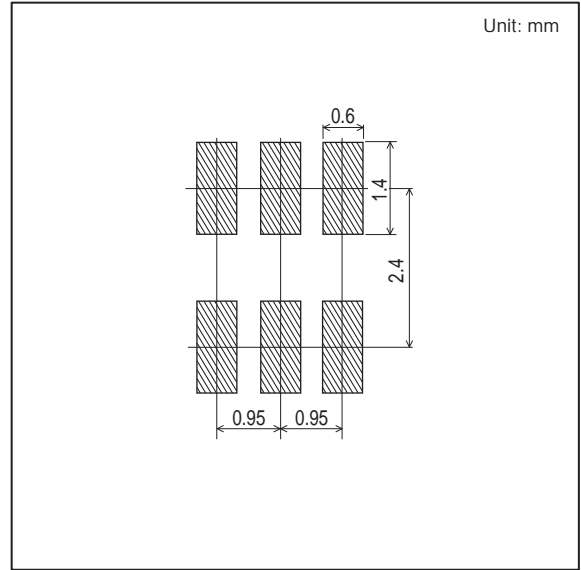
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Outline Drawing

CPH6350-TL-E, CPH6350-TL-W



Land Pattern Example



Note on usage : Since the CPH6350 is a MOSFET product, please avoid using this device in the vicinity of highly charged objects.

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