CPH3351



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Power MOSFET

-60V, 250m Ω , -1.8A, Single P-Channel

Features

- Low On-Resistance

Thermal Resistance Ratings

-60V 330mΩ@ -4.5V -1.8A • 4V Drive 350mΩ@ -4V • ESD Diode-Protected Gate • Pb-Free, Halogen Free and RoHS Compliance

Specifications

Absolute Maximum Ratings at Ta = 25°C

Parameter	Symbol	Value	Unit
Drain to Source Voltage	V _{DSS}	-60	V
Gate to Source Voltage	VGSS	±20	V
Drain Current (DC)	ID	-1.8	Α
Drain Current (Pulse) PW ≤ 10μs, duty cycle ≤ 1%	I _{DP}	-7.2	А
Power Dissipation When mounted on ceramic substrate (900mm² × 0.8mm)	PD	1.0	W
Junction Temperature	Tj	150	°C
Storage Temperature	Tstg	-55 to +150	°C

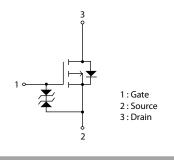
Electrical Connection P-Channel

R_{DS}(on) Max

250mΩ@ -10V

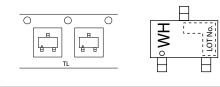
ID Max

VDSS



<u> </u>			
Parameter	Symbol	Value	Unit
Junction to Ambient			
When mounted on ceramic substrate	$R_{\theta JA}$	125	°C/W
(900mm ² × 0.8mm)			

Packing Type: TL Marking



Stresses exceeding those listed in the Maximum Ratings table may damage the device. If any of these limits are exceeded, device functionality should not be assumed, damage may occur and reliability may be affected.

ORDERING INFORMATION

See detailed ordering and shipping information on page 5 of this data sheet.

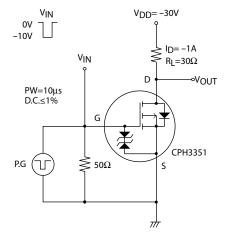
CPH3351

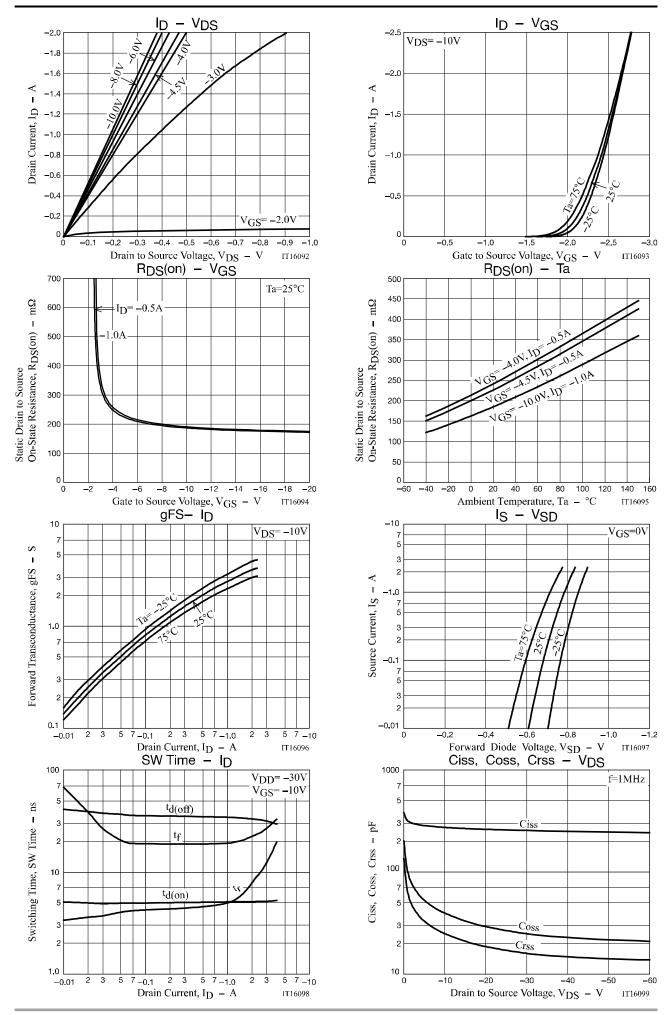
Electrical Characteristics at Ta = 25°C

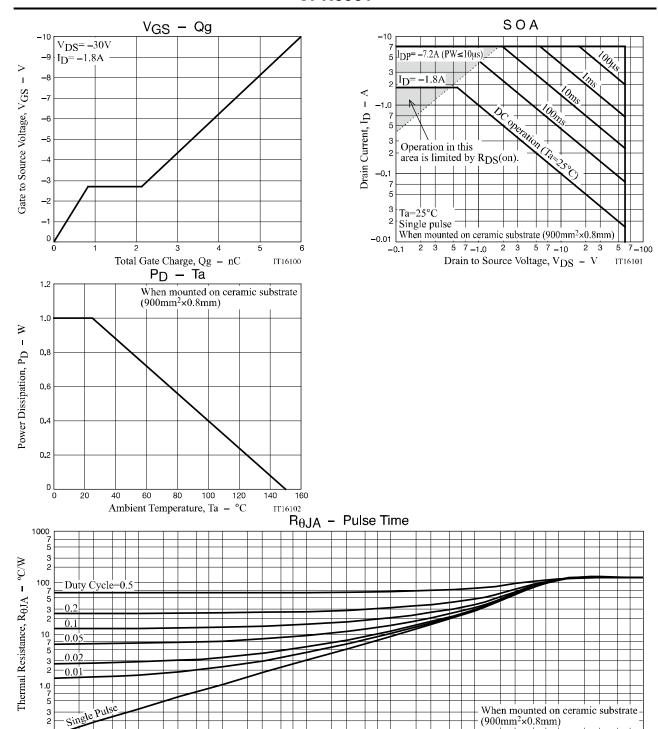
Description	0	Conditions	Value			11.2
Parameter	Symbol		min	typ	max	Unit
Drain to Source Breakdown Voltage	V(BR)DSS	I _D =-1mA, V _{GS} =0V	-60			V
Zero-Gate Voltage Drain Current	IDSS	V _{DS} =-60V, V _{GS} =0V			-1	μΑ
Gate to Source Leakage Current	IGSS	V _{GS} =±16V, V _{DS} =0V			±10	μΑ
Gate Threshold Voltage	V _{GS} (th)	V _{DS} =-10V, I _D =-1mA	-1.2		-2.6	V
Forward Transconductance	9FS	V _{DS} =-10V, I _D =-1A		2.7		S
Static Drain to Source On-State Resistance	R _{DS} (on)1	I _D =-1A, V _{GS} =-10V		190	250	mΩ
	R _{DS} (on)2	I _D =-0.5A, V _{GS} =-4.5V		235	330	mΩ
	R _{DS} (on)3	I _D =-0.5A, V _{GS} =-4V		250	350	mΩ
Input Capacitance	Ciss	V _{DS} =–20V, f=1MHz		262		pF
Output Capacitance	Coss			29		pF
Reverse Transfer Capacitance	Crss			19		pF
Turn-ON Delay Time	t _d (on)	See specified Test Circuit		5.1		ns
Rise Time	t _r			5.4		ns
Turn-OFF Delay Time	t _d (off)			34		ns
Fall Time	tf			19		ns
Total Gate Charge	Qg	V _{DS} =-30V, V _{GS} =-10V, I _D =-1.8A		6.0		nC
Gate to Source Charge	Qgs			0.83		nC
Gate to Drain "Miller" Charge	Qgd			1.3		nC
Forward Diode Voltage	V _{SD}	I _S =-1.8A, V _{GS} =0V		-0.82	-1.2	V

Product parametric performance is indicated in the Electrical Characteristics for the listed test conditions, unless otherwise noted. Product performance may not be indicated by the Electrical Characteristics if operated under different conditions.

Switching Time Test Circuit







5 7_{0.0001} 2 3 5 7_{0.001} 2 3 5 7_{0.01} Pulse Time, PT - s

5 70.00001 2 3

2 3 5 7 0.1

2 3 5 7 1.0

5 7 ₁₀ IT17862

Package Dimensions

CPH3351-TL-H / CPH3351-TL-W

CPH3

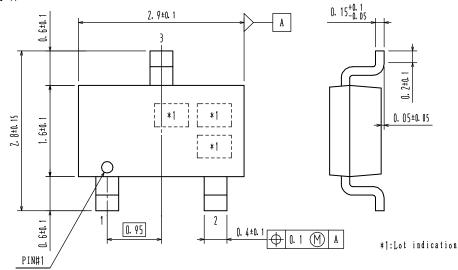
CASE 318BA ISSUE O

unit: mm

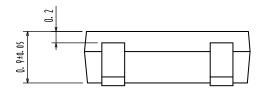
1: Gate

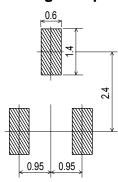
2: Source

3: Drain



Recommended Soldering Footprint





ORDERING INFORMATION

Device	Package	Shipping	Note
CPH3351-TL-H	CPH3, SC-59 SOT-23, TO-236	3,000 pcs. / Tape & Reel	Pb-Free and
CPH3351-TL-W		5,000 pcs. / Tape & Neel	Halogen Free

Note on usage: Since the CPH3351 is a MOSFET product, please avoid using this device in the vicinity of highly charged objects.

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