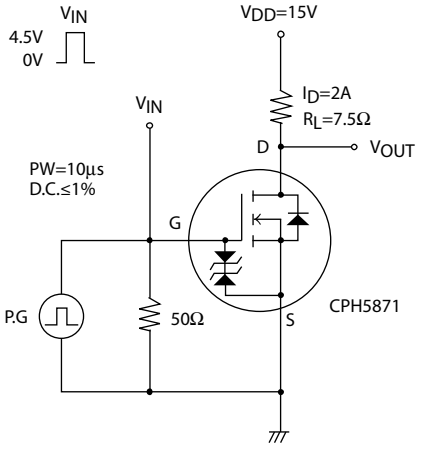
Electrical Characteristics at Ta = 25°C

Parameter	Symbol	Conditions	Value			Unit
			min	typ	max	
[MOSFET]						
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	μA
Gate to Source Leakage Current	I_{GSS}	V_{GS}=±8V, V_{DS}=0V			±10	μA
Gate Threshold Voltage	$V_{GS}(th)$	V_{DS}=10V, I_D=1mA	0.4		1.3	V
Forward Transconductance	g_{FS}	V_{DS}=10V, I_D=2A	2.0	3.4		S
Static Drain to Source On-State Resistance	$R_{DS}(on)1$	I_D=2A, V_{GS}=4.5V		40	52	mΩ
	$R_{DS}(on)2$	I_D=1A, V_{GS}=2.5V		53	74	mΩ
	$R_{DS}(on)3$	I_D=0.5A, V_{GS}=1.8V		82	132	mΩ
Input Capacitance	Ciss	V_{DS}=10V, f=1MHz		430		pF
Output Capacitance	Coss			59		pF
Reverse Transfer Capacitance	Crss			38		pF
Turn-ON Delay Time	$t_d(on)$	See specified Test Circuit		10		ns
Rise Time	t_r			41		ns
Turn-OFF Delay Time	$t_d(off)$			36		ns
Fall Time	t_f			37		ns
Total Gate Charge	Qg	V_{DS}=15V, V_{GS}=4.5V, I_D=3.5A		4.7		nC
Gate to Source Charge	Qgs			0.8		nC
Gate to Drain “Miller” Charge	Qgd			1.1		nC
Forward Diode Voltage	V_{SD}	I_S=3.5A, V_{GS}=0V		0.8	1.2	V
[SBD]						
Reverse Voltage	V_R	I_R=0.5mA	30			V
Forward Voltage	V_{F1}	I_F=0.7A		0.45	0.5	V
	V_{F2}	I_F=1A		0.48	0.53	V
Reverse Current	I_R	V_R=16V			15	μA
Interterminal Capacitance	C	V_R=10V, f=1MHz, 1cycle		27		pF
Reverse Recovery Time	t_{rr}	I_F= I_R=100mA, See specified Test Circuit			10	ns

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.

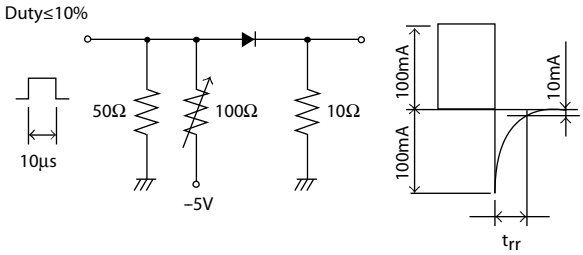
Switching Time Test Circuit

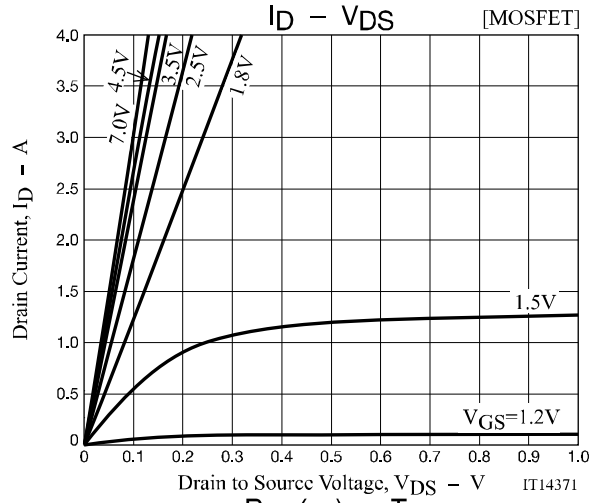
(MOSFET)

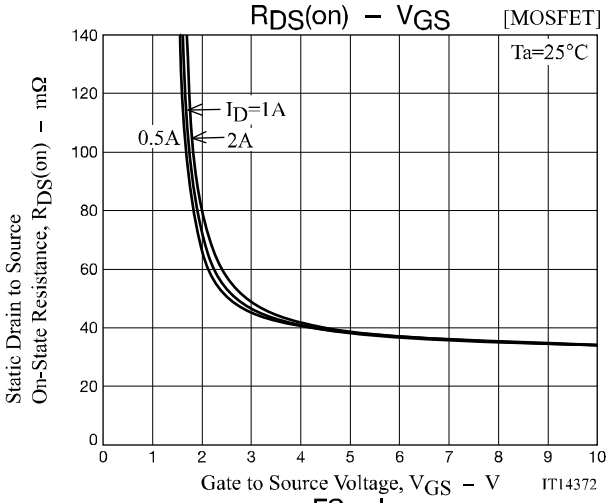


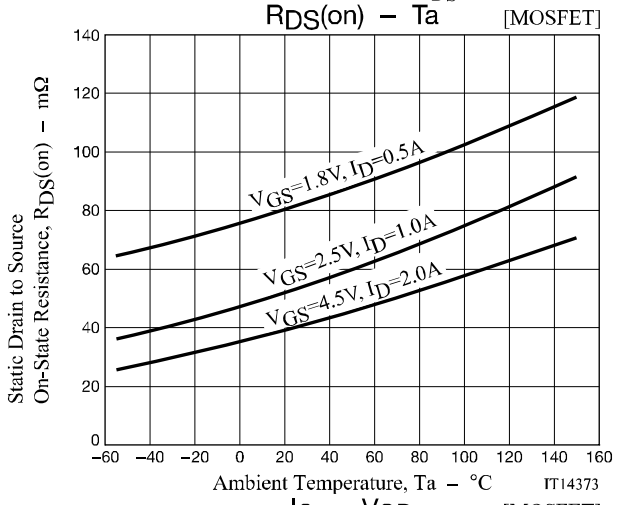
trr Test Circuit

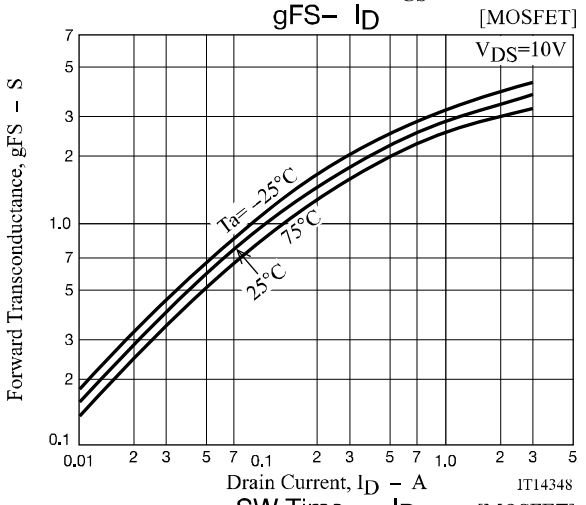
(SBD)

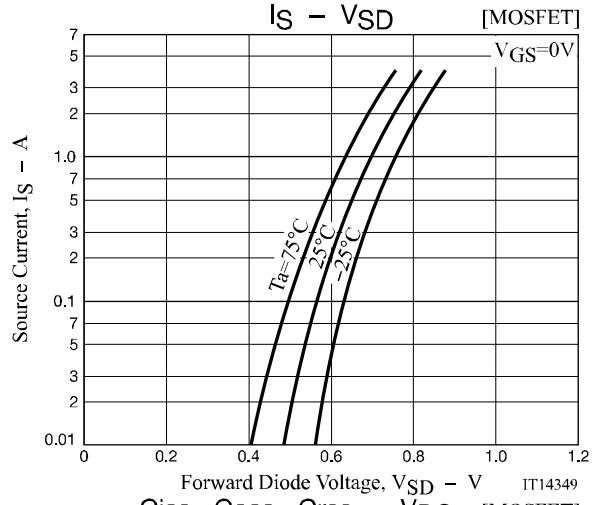


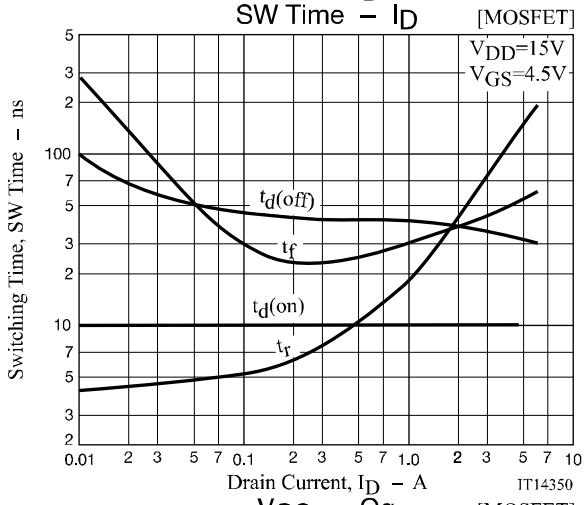


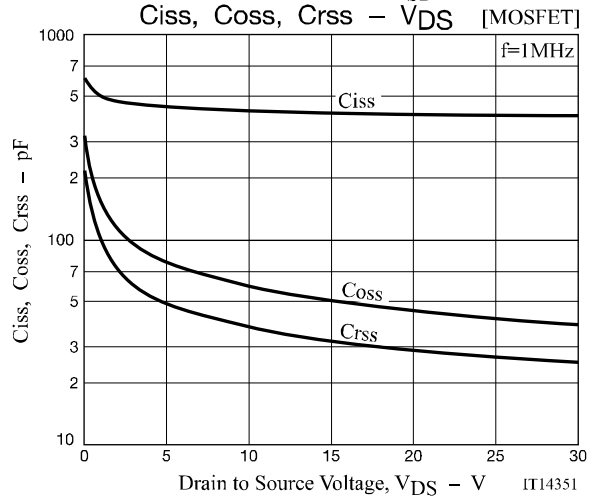


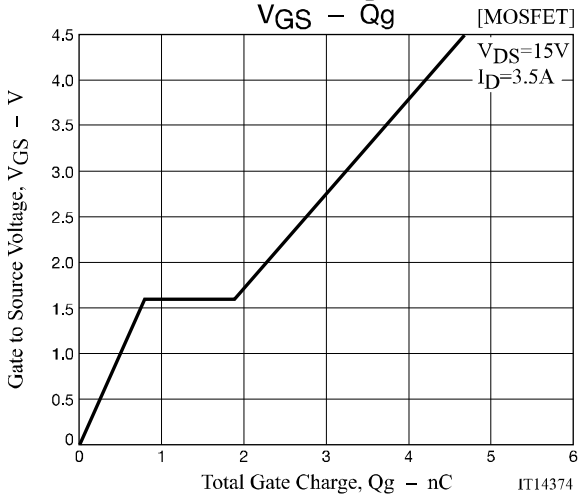




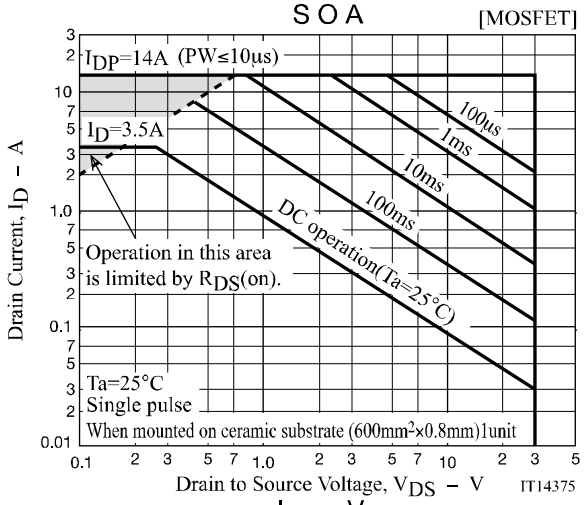




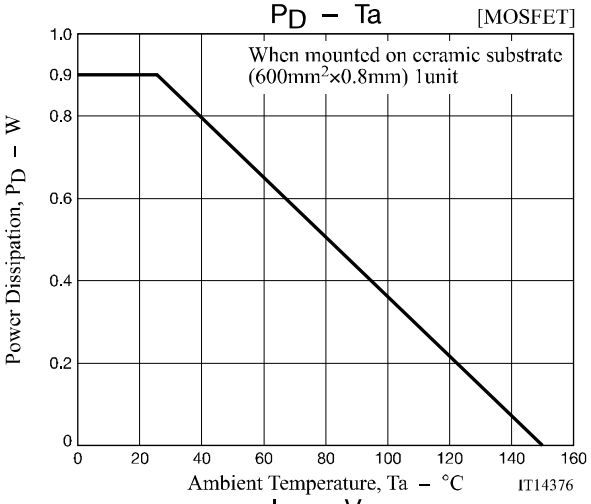




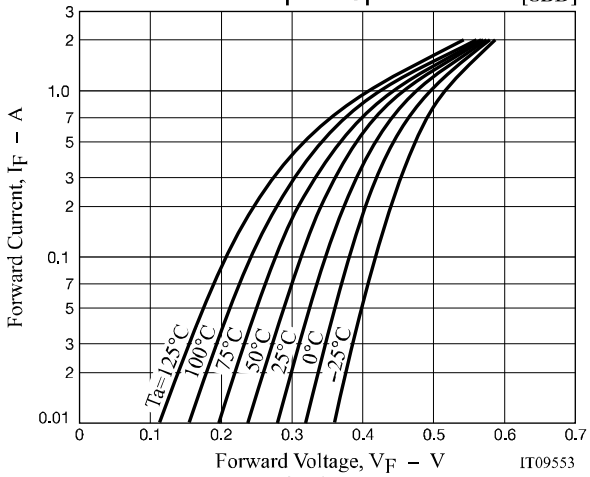
S O A [MOSFET]



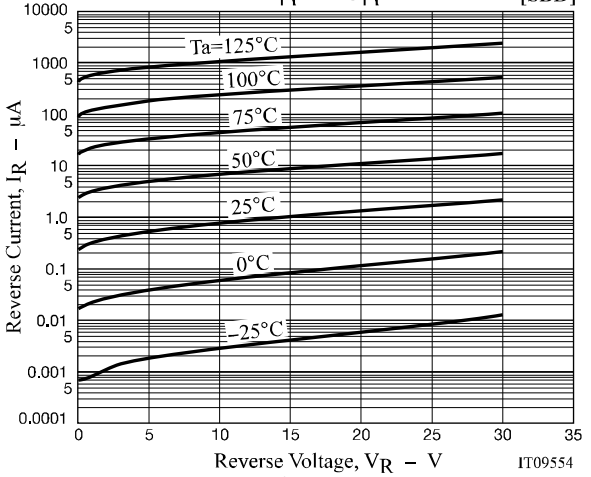
PD – Ta [MOSFET]



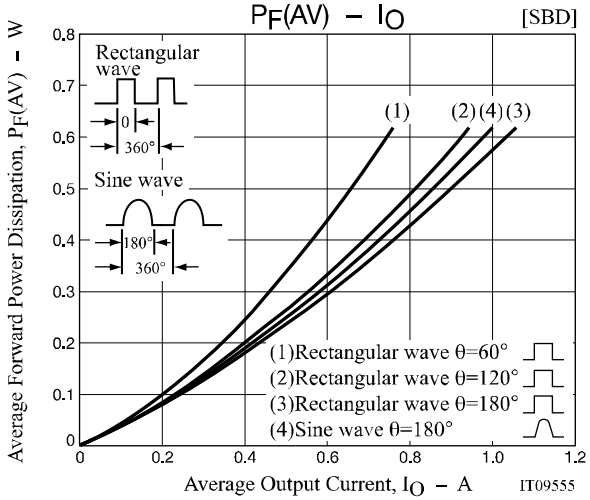
IF – VF [SBD]



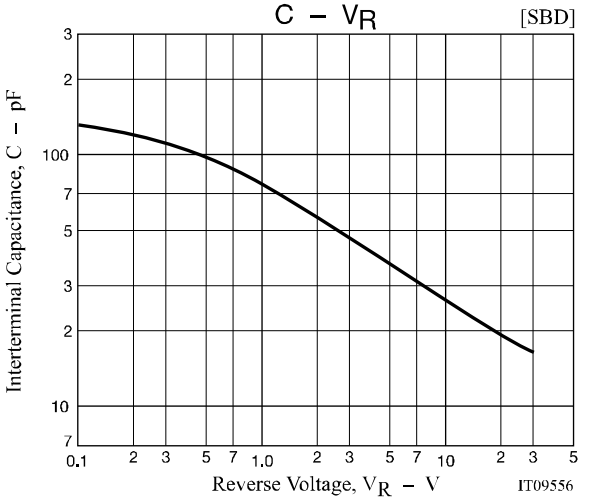
IR – VR [SBD]



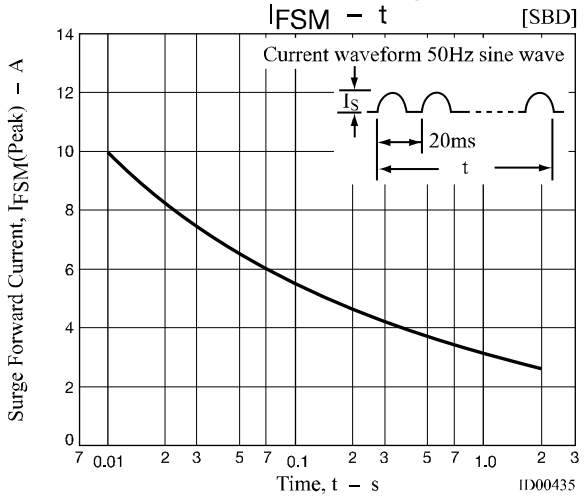
PF(AV) – IO [SBD]

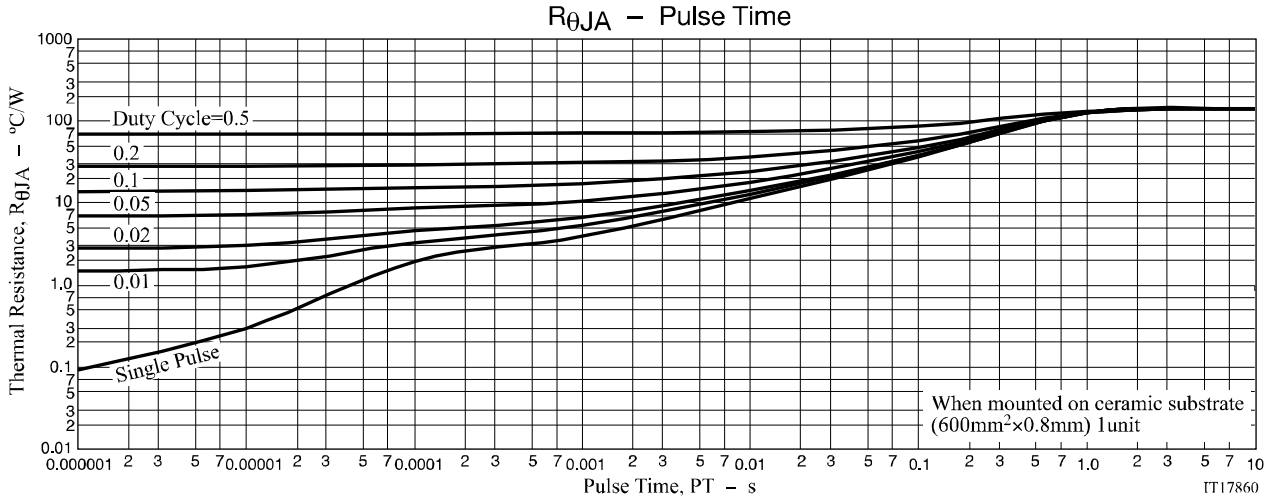


C – VR [SBD]



IFSM – t [SBD]





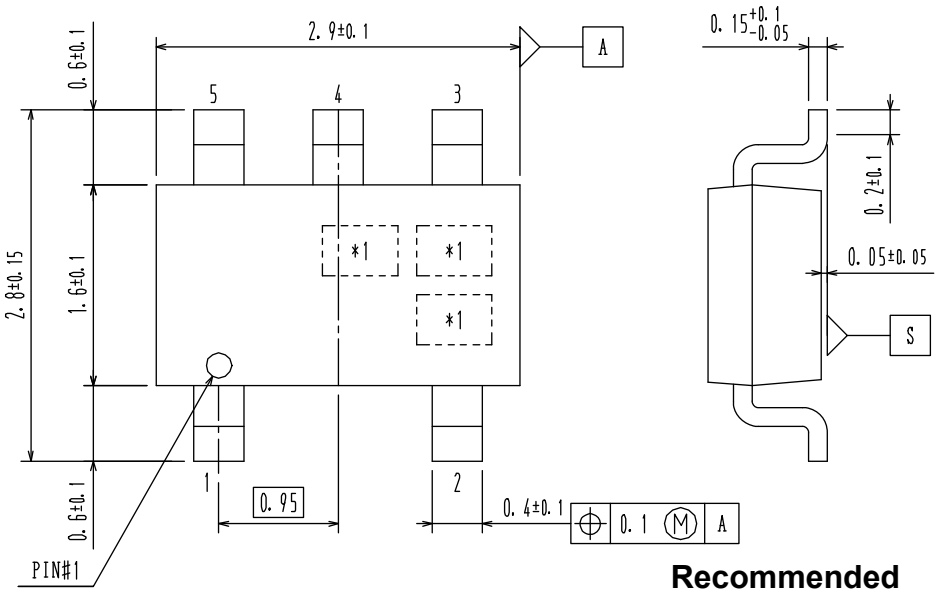
Package Dimensions

CPH5871-TL-H / CPH5871-TL-W

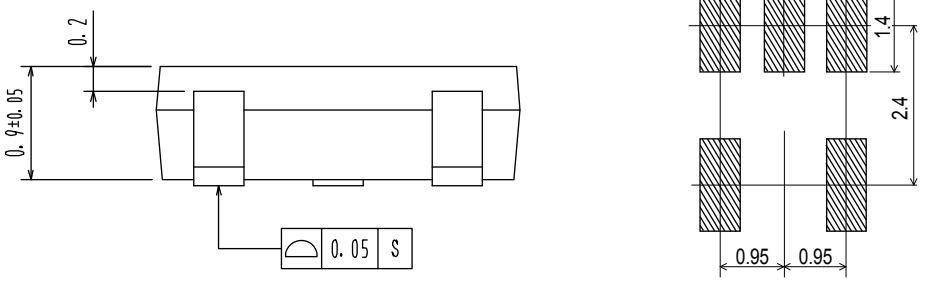
CPH5
CASE 318BC
ISSUE O

unit : mm

1 : Cathode
2 : Drain
3 : Gate
4 : Source
5 : Anode



Recommended Soldering Footprint



*1:Lot indication

ORDERING INFORMATION

Device	Package	Shipping	Note
CPH5871-TL-H	CPH5 SC-74A, SOT-25	3,000 pcs. / Tape & Reel	Pb-Free and Halogen Free
CPH5871-TL-W			

† For information on tape and reel specifications, including part orientation and tape sizes, please refer to our Tape and Reel Packaging Specifications Brochure, BRD8011/D. http://www.onsemi.com/pub_link/Collateral/BRD8011-D.PDF

Note on usage : Since the CPH5871 is a MOSFET product, please avoid using this device in the vicinity of highly charged objects.