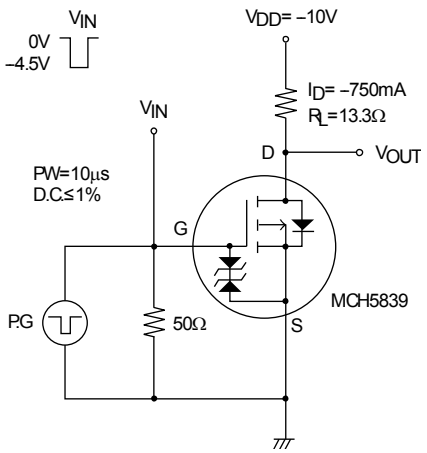
ELECTRICAL CHARACTERISTICS at Ta = 25°C (Note 2)

Parameter	Symbol	Conditions	Value			Unit
			min	typ	max	
[MOSFET]						
Drain to Source Breakdown Voltage	$V_{(BR)DSS}$	I_D=−1mA, V_{GS}=0V	−20			V
Zero-Gate Voltage Drain Current	I_{DSS}	V_{DS}=−20V, 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		−1.4	V
Forward Transconductance	g_{FS}	V_{DS}=−10V, I_D=−750mA		1.9		S
Static Drain to Source On-State Resistance	$R_{DS}(on)1$	I_D=−750mA, V_{GS}=−4.5V		205	266	mΩ
	$R_{DS}(on)2$	I_D=−300mA, V_{GS}=−2.5V		295	413	mΩ
	$R_{DS}(on)3$	I_D=−100mA, V_{GS}=−1.8V		430	645	mΩ
Input Capacitance	Ciss	V_{DS}=−10V, f=1MHz		120		pF
Output Capacitance	Coss			26		pF
Reverse Transfer Capacitance	Crss			20		pF
Turn-ON Delay Time	$t_d(on)$	See specified Test Circuit		5.3		ns
Rise Time	t_r			9.7		ns
Turn-OFF Delay Time	$t_d(off)$			16		ns
Fall Time	t_f			14		ns
Total Gate Charge	Qg	V_{DS}=−10V, V_{GS}=−4.5V, I_D=−1.5A		1.7		nC
Gate to Source Charge	Qgs			0.28		nC
Gate to Drain “Miller” Charge	Qgd			0.47		nC
Forward Diode Voltage	V_{SD}	I_S=−1.5A, V_{GS}=0V		−0.89	−1.2	V
[SBD]						
Reverse Voltage	V_R	I_R=0.5mA	15			V
Forward Voltage	V_F	I_F=0.5A		0.4	0.46	V
Reverse Current	I_R	V_R=6V			90	μA
Interterminal Capacitance	C	V_R=10V, f=1MHz		13		pF
Reverse Recovery Time	t_{rr}	I_F=I_R=100mA, See specified Test Circuit			10	ns

Note 2 : 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.

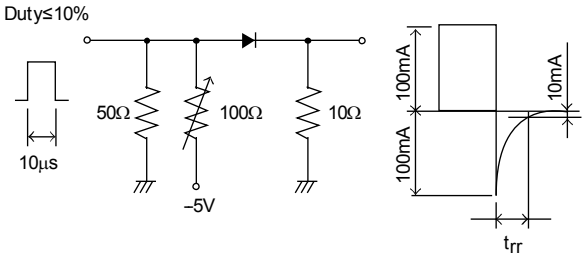
Switching Time Test Circuit

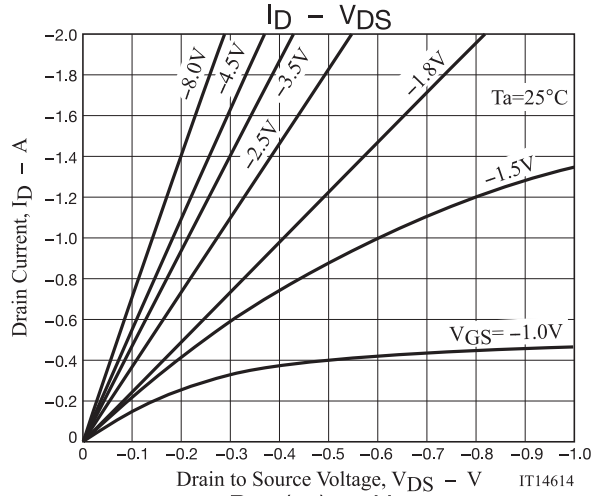
(MOSFET)

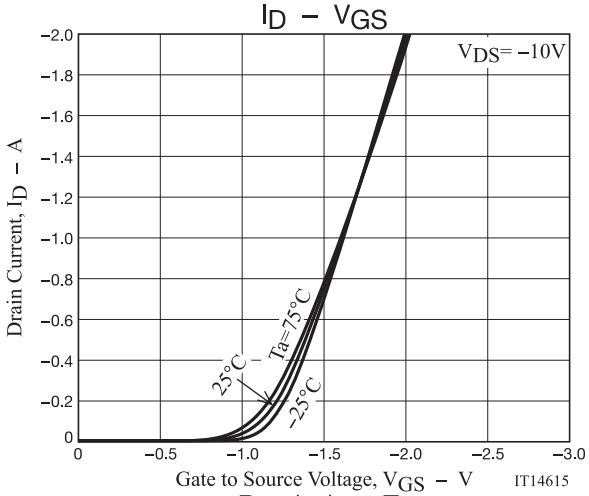


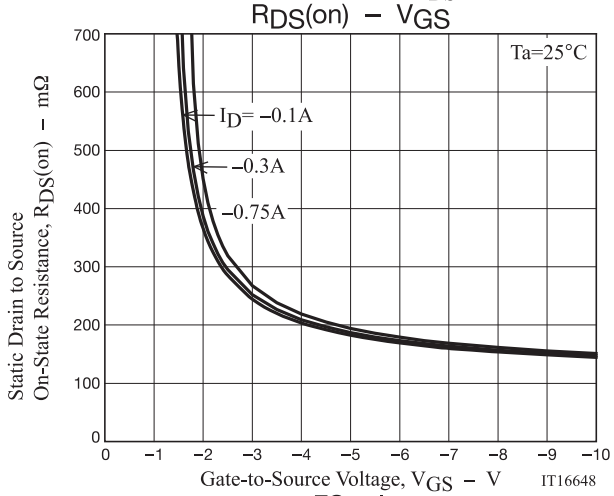
t_{rr} Test Circuit

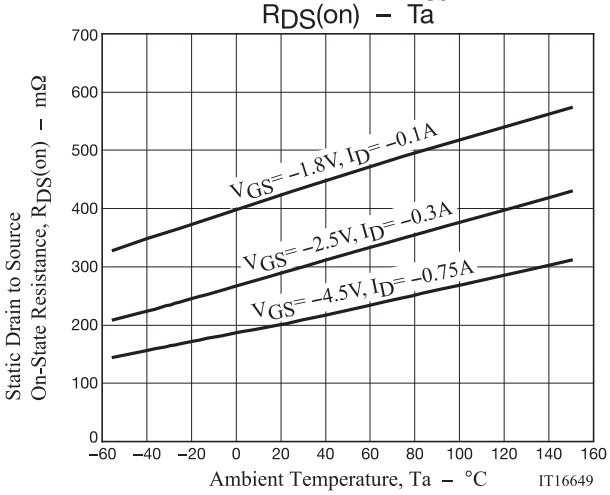
(SBD)

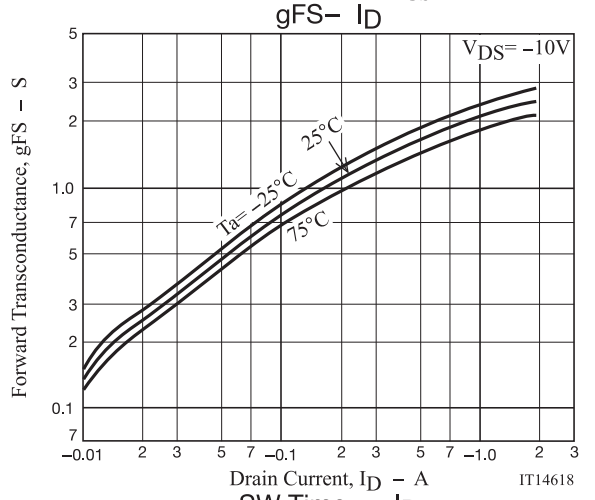


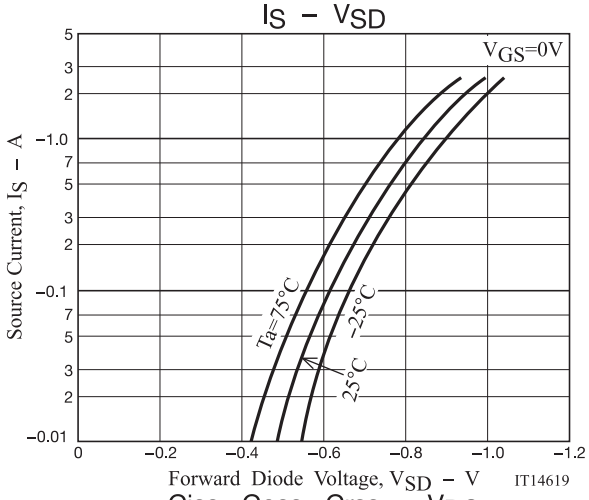


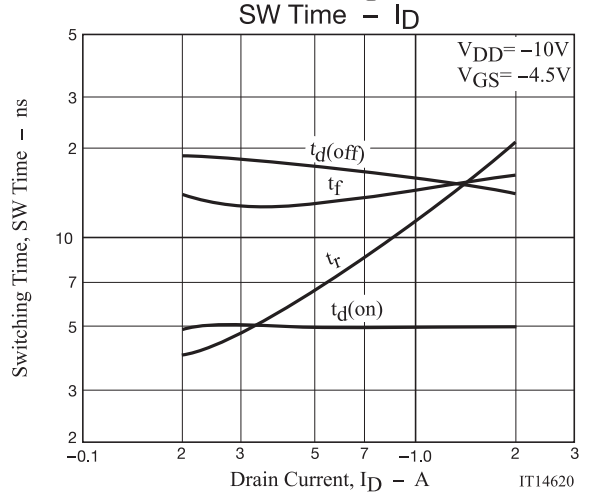


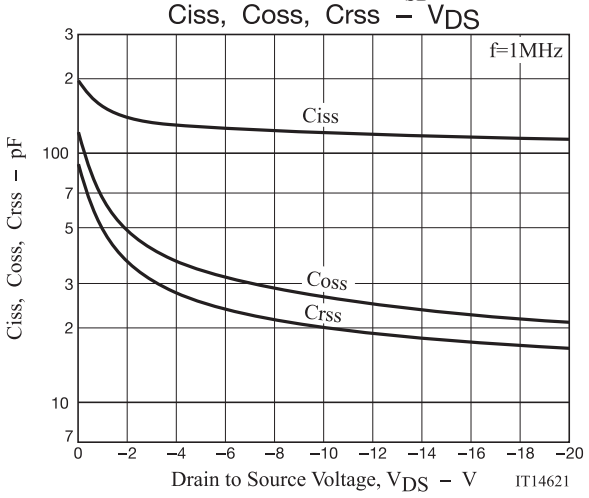


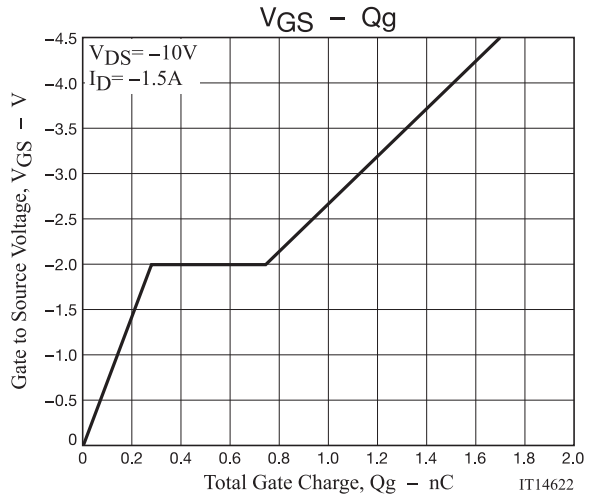


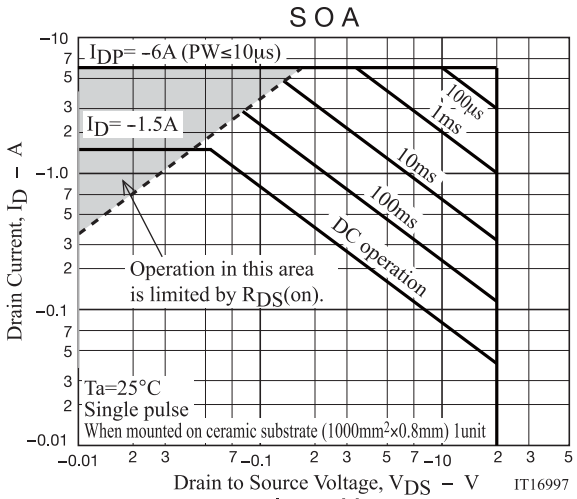


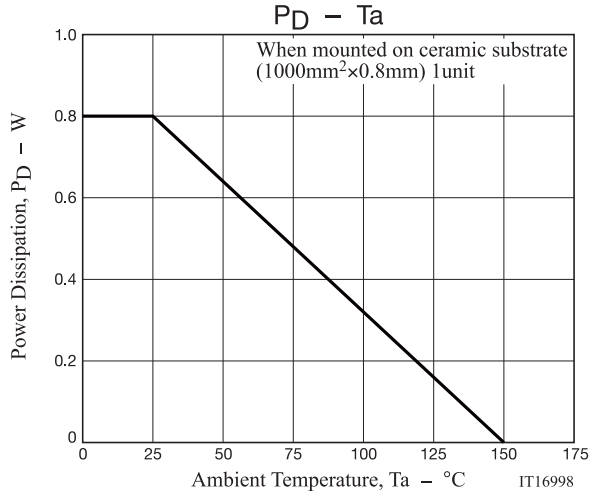


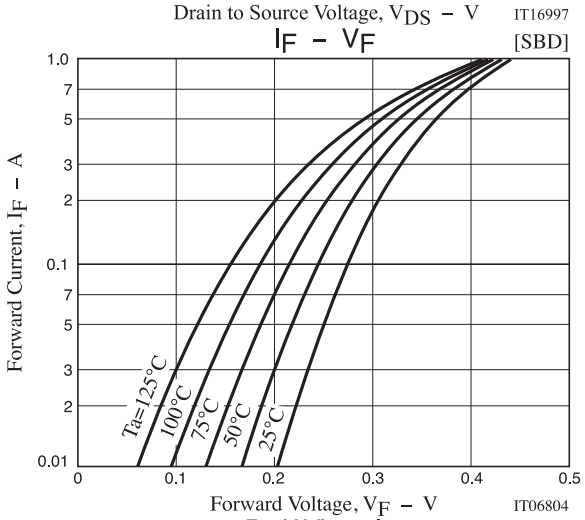


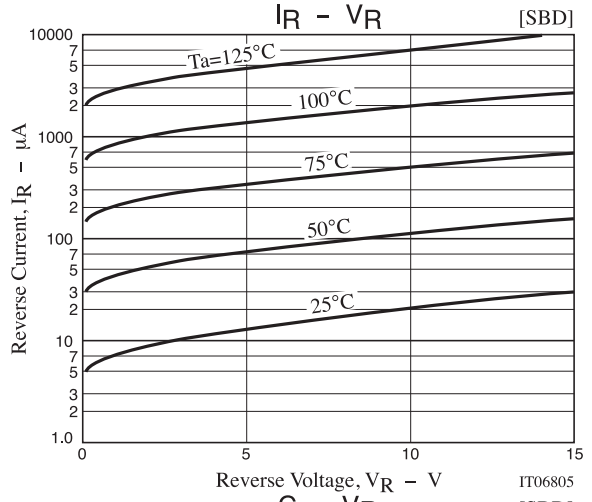


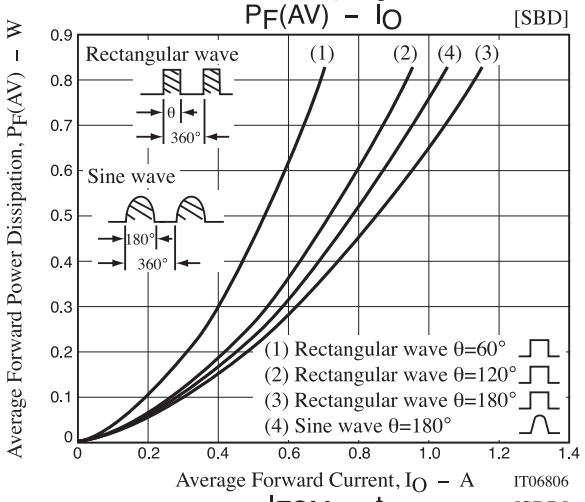


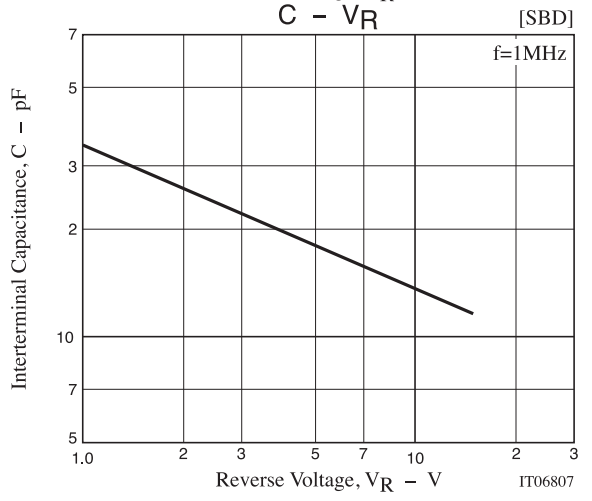


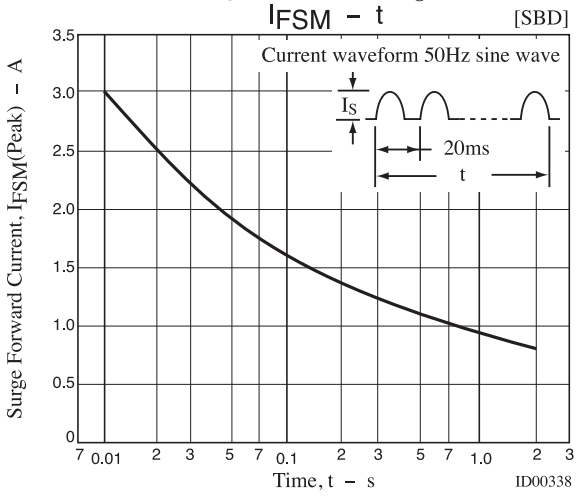


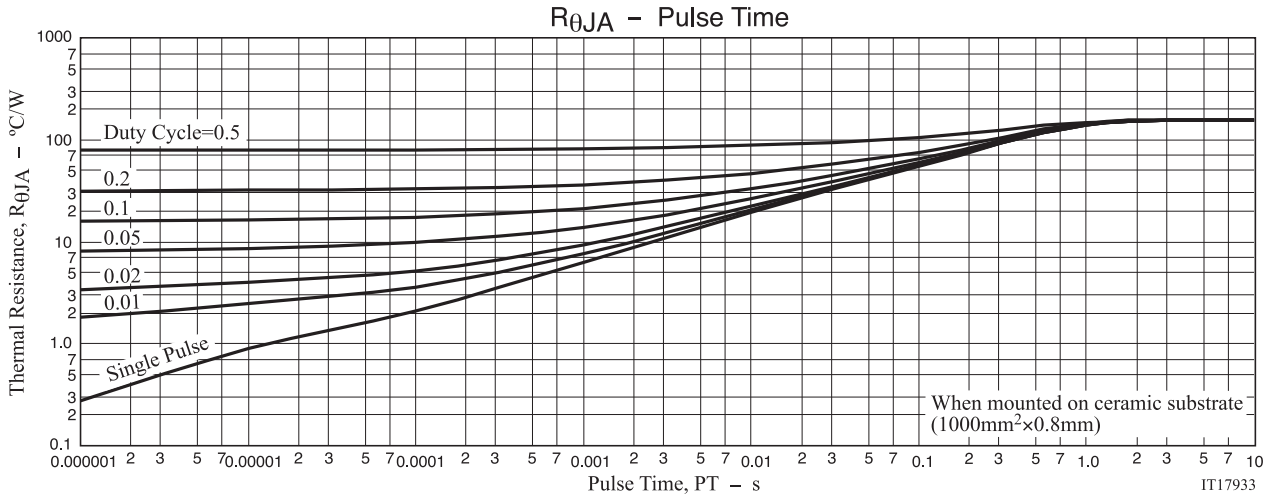








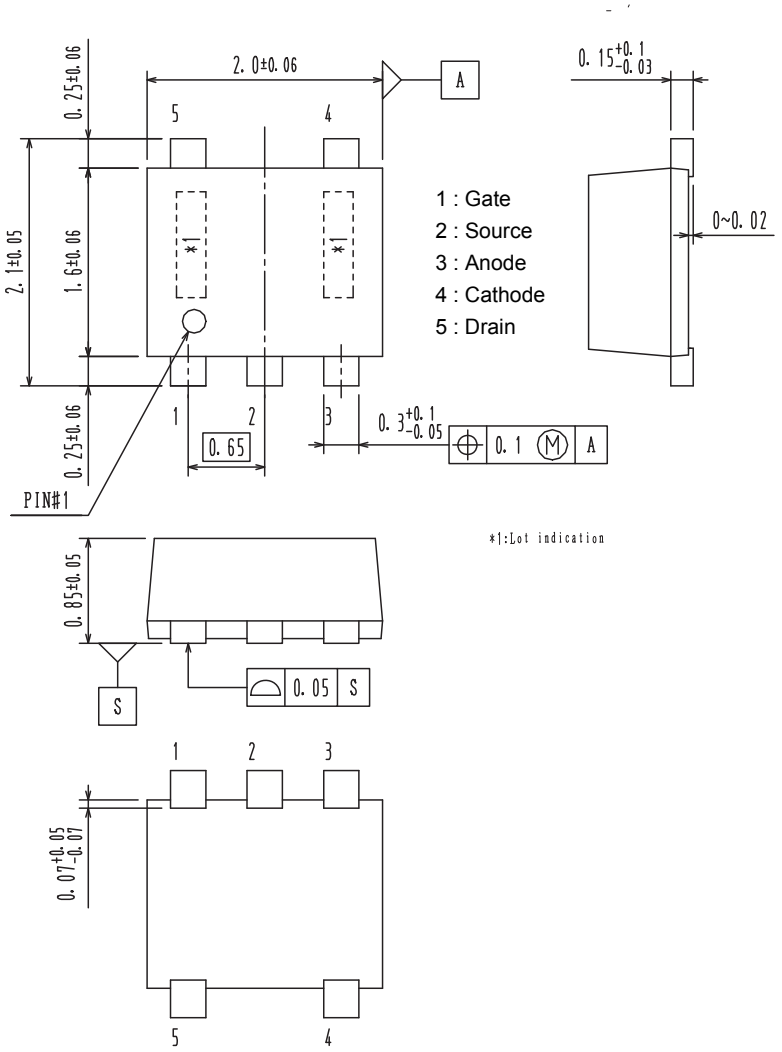




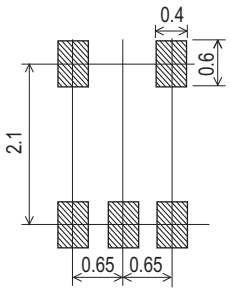
PACKAGE DIMENSIONS

unit : mm

SC-88AFL / MCPH5
CASE 419AP
ISSUE O



Recommended Soldering Footprint



ORDERING INFORMATION

Device	Marking	Package	Shipping (Qty / Packing)
MCH5839-TL-H	YD	SC-88AFL / MCPH5 (Pb-Free / Halogen Free)	3,000 / Tape & Reel
MCH5839-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 MCH5839 is a MOSFET product, please avoid using this device in the vicinity of highly charged objects.