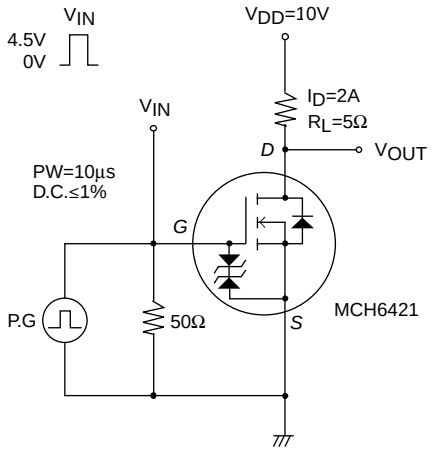
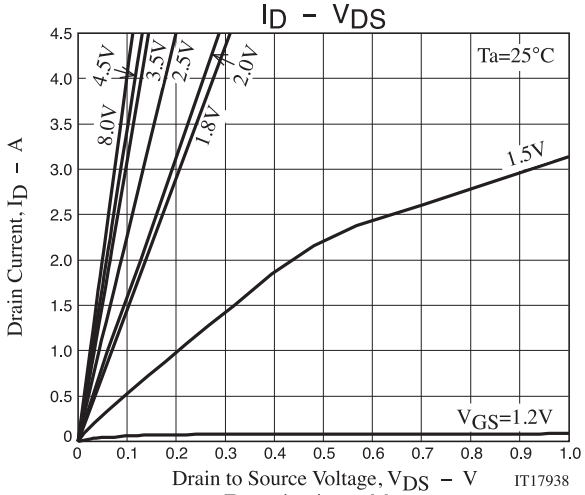
ELECTRICAL CHARACTERISTICS at Ta = 25°C (Note 2)

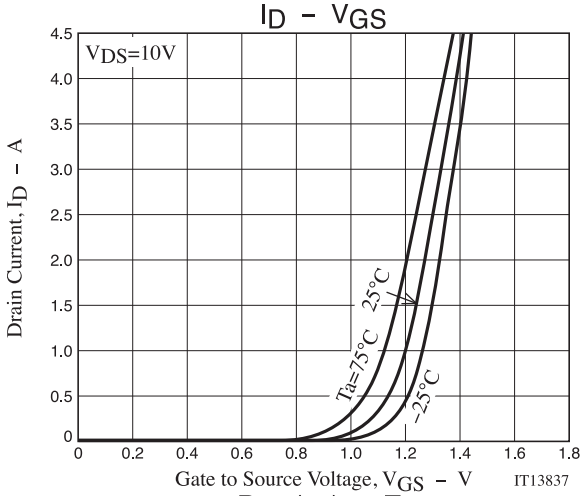
Parameter	Symbol	Conditions	Value			Unit
			min	typ	max	
Drain to Source Breakdown Voltage	$V_{(BR)DSS}$	I_D=1mA, V_{GS}=0V	20			V
Zero-Gate Voltage Drain Current	I_{DSS}	V_{DS}=20V, V_{GS}=0V			1	μA
Gate to Source Leakage Current	I_{GSS}	V_{GS}=±8V, V_{DS}=0V			±10	μA
Gate Threshold Voltage	$V_{GS}(th)$	V_{DS}=10V, I_D=1mA	0.4		1.3	V
Forward Transconductance	g_{FS}	V_{DS}=10V, I_D=2A	2.0	3.8		S
Static Drain to Source On-State Resistance	$R_{DS}(on)1$	I_D=2A, V_{GS}=4.5V		29	38	mΩ
	$R_{DS}(on)2$	I_D=1A, V_{GS}=2.5V		43	61	mΩ
	$R_{DS}(on)3$	I_D=0.5A, V_{GS}=1.8V		69	99	mΩ
Input Capacitance	Ciss	V_{DS}=10V, f=1MHz		410		pF
Output Capacitance	Coss			84		pF
Reverse Transfer Capacitance	Crss			59		pF
Turn-ON Delay Time	$t_d(on)$	See specified Test Circuit		7.5		ns
Rise Time	t_r			26		ns
Turn-OFF Delay Time	$t_d(off)$			38		ns
Fall Time	t_f			32		ns
Total Gate Charge	Qg	V_{DS}=10V, V_{GS}=4.5V, I_D=5.5A		5.1		nC
Gate to Source Charge	Qgs			0.7		nC
Gate to Drain “Miller” Charge	Qgd			1.7		nC
Forward Diode Voltage	V_{SD}	I_S=5.5A, V_{GS}=0V		0.8	1.2	V

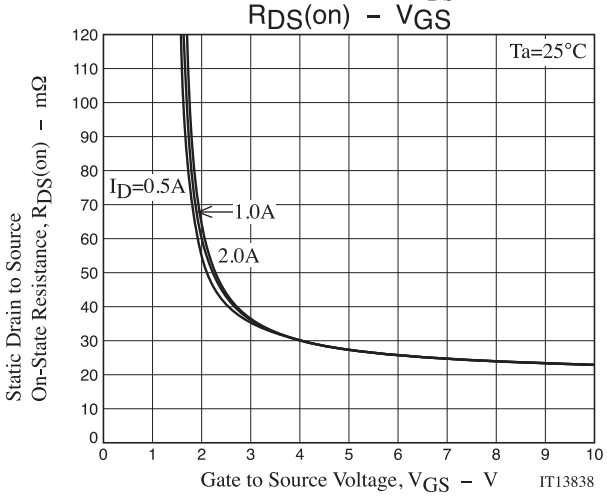
Note 2 : Product parametric performance is indicated in the Electrical Characteristics for the listed test conditions, unless otherwise noted. Product performance may not be indicated by the Electrical Characteristics if operated under different conditions.

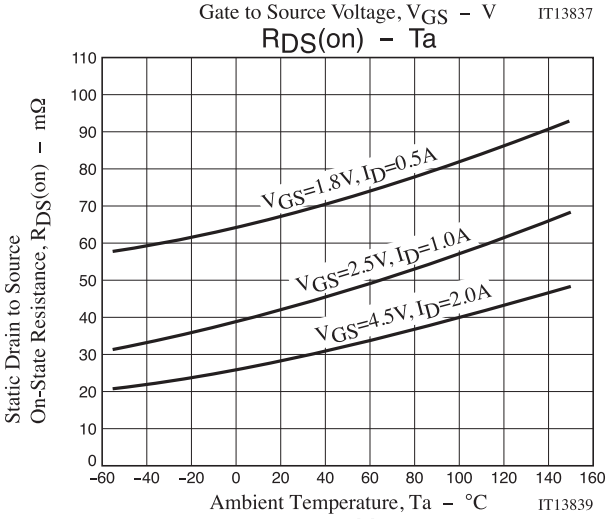
Switching Time Test Circuit

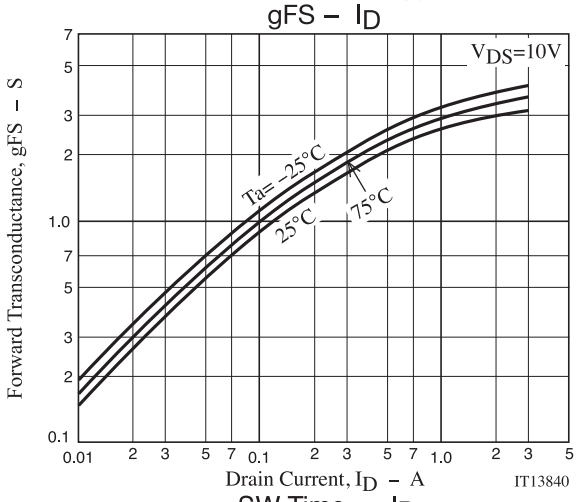


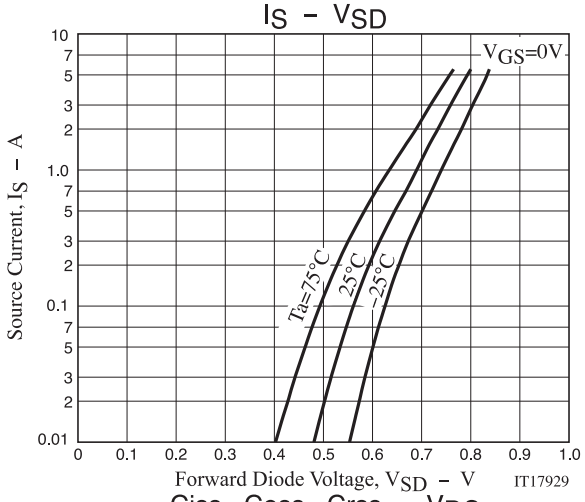


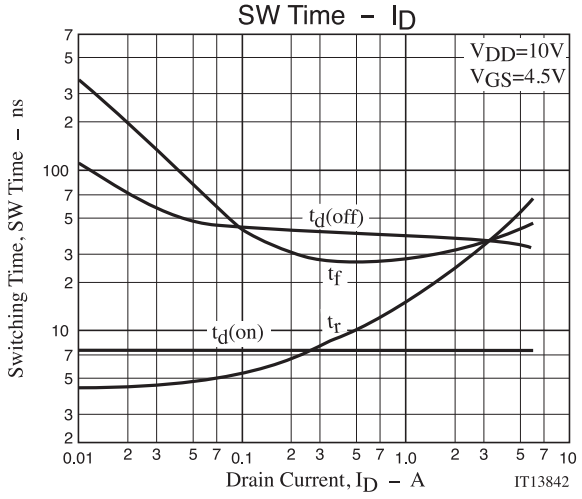


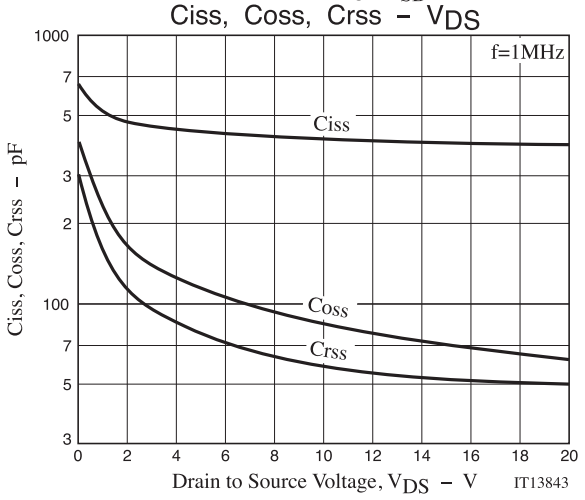


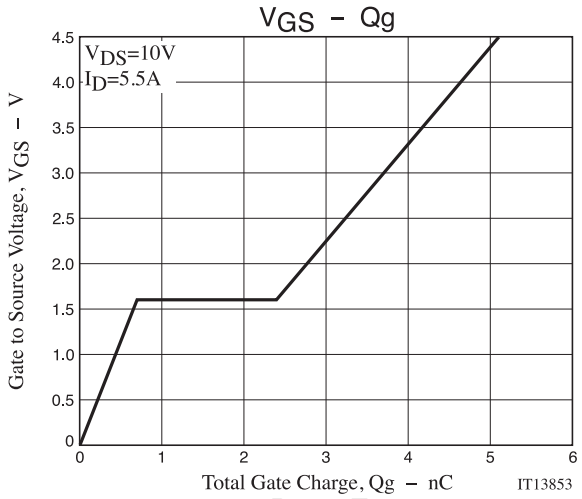


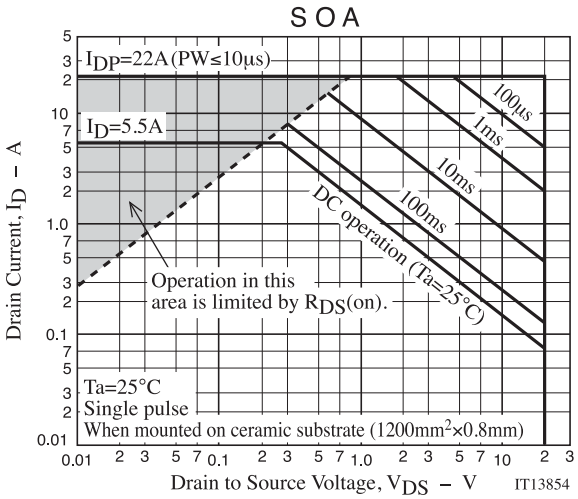


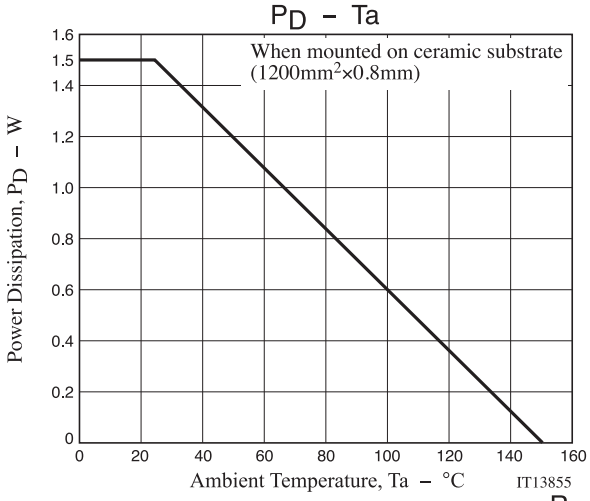


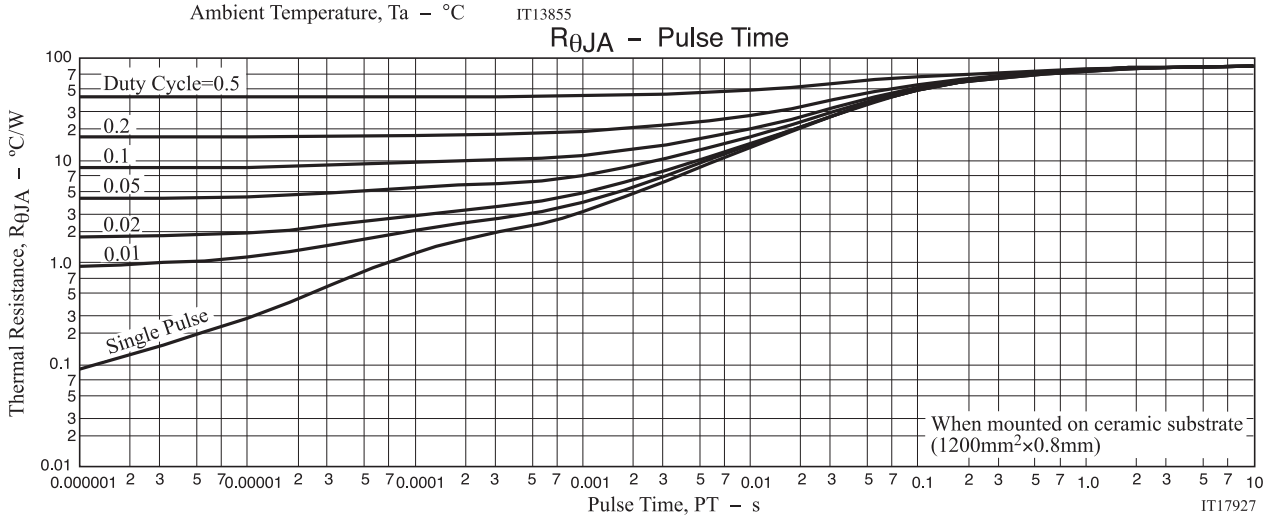








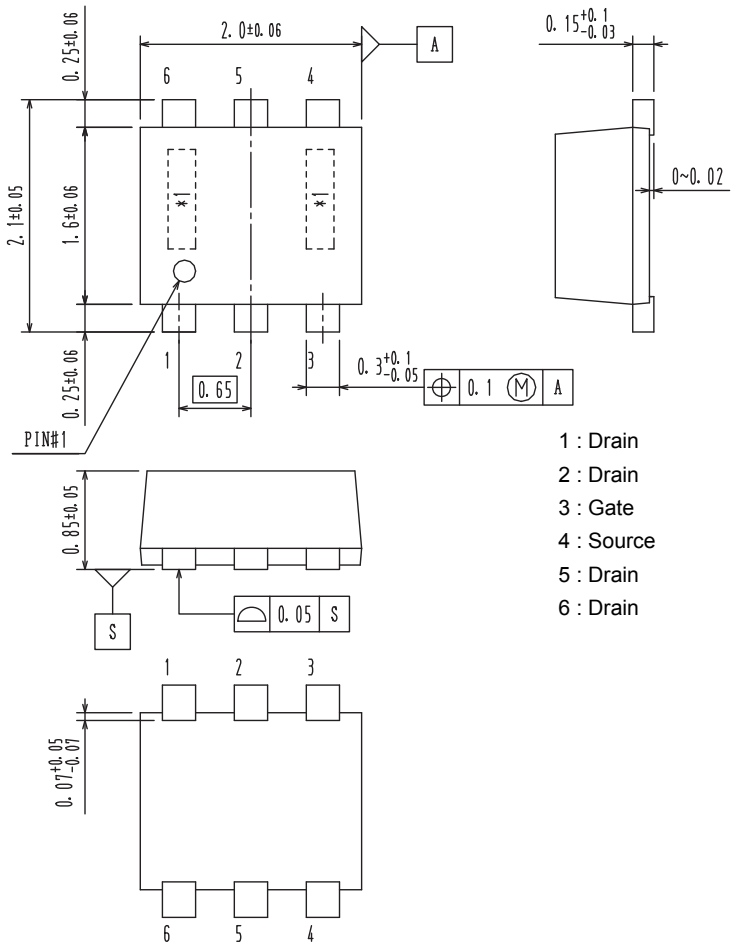




PACKAGE DIMENSIONS

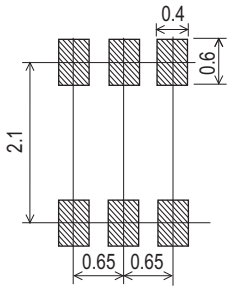
unit : mm

SC-88FL / MCPH6
CASE 419AS
ISSUE O



1 : Drain
2 : Drain
3 : Gate
4 : Source
5 : Drain
6 : Drain

Recommended Soldering Footprint



ORDERING INFORMATION

Device	Marking	Package	Shipping (Qty / Packing)
MCH6421-TL-E	KV	SC-88FL / MCPH6 (Pb-Free)	3,000 / Tape & Reel
MCH6421-TL-W		SC-88FL / MCPH6 (Pb-Free / Halogen Free)	

† 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 MCH6421 is a MOSFET product, please avoid using this device in the vicinity of highly charged objects.