

MCH6660

Electrical Characteristics at Ta=25°C

Parameter	Symbol	Conditions	Value			Unit
			min	typ	max	
[N-channel]						
Drain-to-Source Breakdown Voltage	V(BR)DSS	ID=1mA, VGS=0V	20			V
Zero-Gate Voltage Drain Current	IDSS	VDS=20V, VGS=0V			1	μA
Gate-to-Source Leakage Current	IGSS	VGS=±8V, VDS=0V			±10	μA
Gate Threshold Voltage	VGS(th)	VDS=10V, ID=1mA	0.4		1.3	V
Forward Transconductance	gFS	VDS=10V, ID=1A		1.9		S
Static Drain-to-Source On-State Resistance	RDS(on)1	ID=1A, VGS=4.5V		105	136	mΩ
	RDS(on)2	ID=0.5A, VGS=2.5V		147	205	mΩ
	RDS(on)3	ID=0.3A, VGS=1.8V		212	318	mΩ
Input Capacitance	Ciss	VDS=10V, f=1MHz		128		pF
Output Capacitance	Coss			28		pF
Reverse Transfer Capacitance	Crss			21		pF
Turn-ON Delay Time	tD(on)	See specified Test Circuit.		5.1		ns
Rise Time	tr			11		ns
Turn-OFF Delay Time	tD(off)			14.5		ns
Fall Time	tf			12		ns
Total Gate Charge	Qg	VDS=10V, VGS=4.5V, ID=2A		1.8		nC
Gate-to-Source Charge	Qgs			0.3		nC
Gate-to-Drain “Miller” Charge	Qgd			0.55		nC
Forward Diode Voltage	VSD	IS=2A, VGS=0V		0.85	1.2	V
[P-channel]						
Drain-to-Source Breakdown Voltage	V(BR)DSS	ID=-1mA, VGS=0V	-20			V
Zero-Gate Voltage Drain Current	IDSS	VDS=-20V, VGS=0V			-1	μA
Gate-to-Source Leakage Current	IGSS	VGS=±8V, VDS=0V			±10	μA
Gate Threshold Voltage	VGS(th)	VDS=-10V, ID=-1mA	-0.4		-1.4	V
Forward Transconductance	gFS	VDS=-10V, ID=-750mA		1.9		S
Static Drain-to-Source On-State Resistance	RDS(on)1	ID=-750mA, VGS=-4.5V		205	266	mΩ
	RDS(on)2	ID=-300mA, VGS=-2.5V		295	413	mΩ
	RDS(on)3	ID=-100mA, VGS=-1.8V		430	645	mΩ
Input Capacitance	Ciss	VDS=-10V, f=1MHz		120		pF
Output Capacitance	Coss			26		pF
Reverse Transfer Capacitance	Crss			20		pF
Turn-ON Delay Time	tD(on)	See specified Test Circuit.		5.3		ns
Rise Time	tr			9.7		ns
Turn-OFF Delay Time	tD(off)			16		ns
Fall Time	tf			14		ns
Total Gate Charge	Qg	VDS=-10V, VGS=-4.5V, ID=-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	VSD	IS=-1.5A, VGS=0V		-0.89	-1.2	V

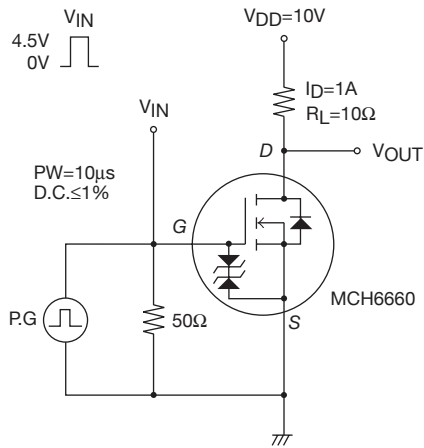
Product parametric performance is indicated in the Electrical Characteristics for the listed test conditions, unless otherwise noted. Product performance may not be indicated by the Electrical Characteristics if operated under different conditions.

Thermal Resistance Ratings

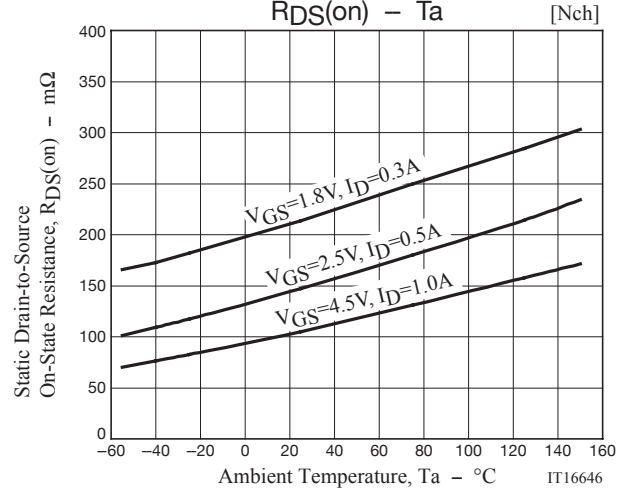
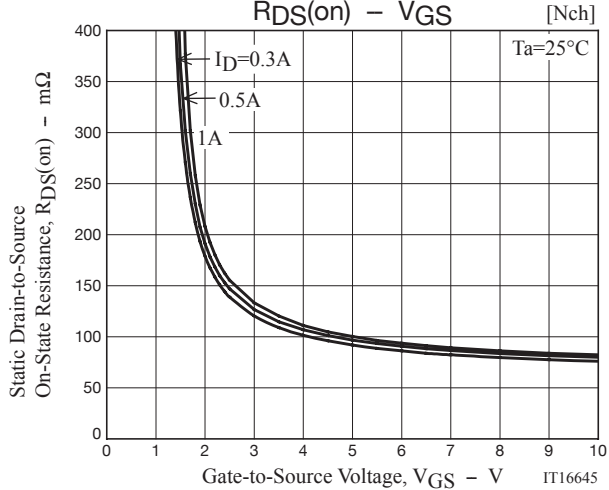
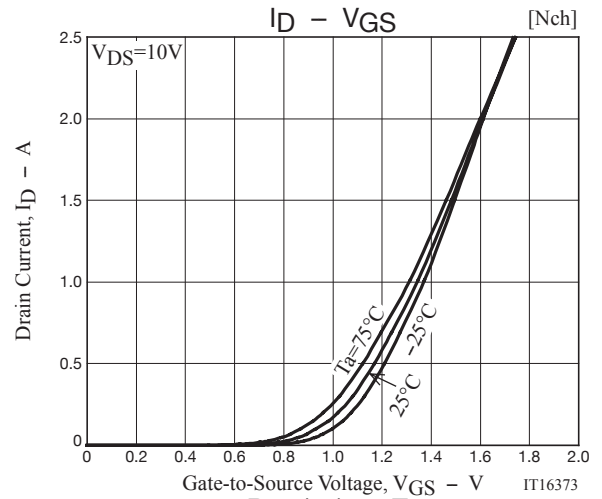
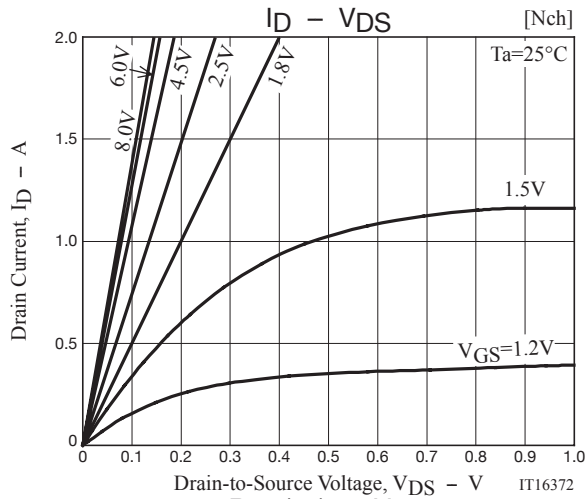
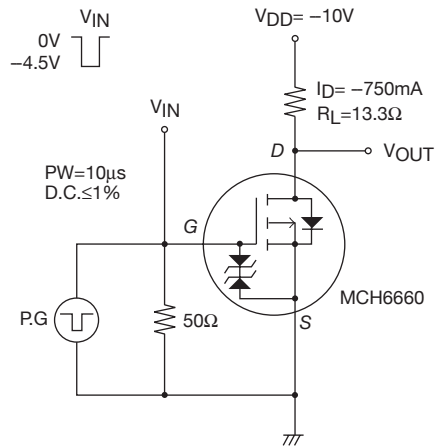
Parameter	Symbol	Value	Unit
Junction to Ambient When mounted on ceramic substrate (900mm ² ×0.8mm) 1unit	RθJA	156.3	°C/W

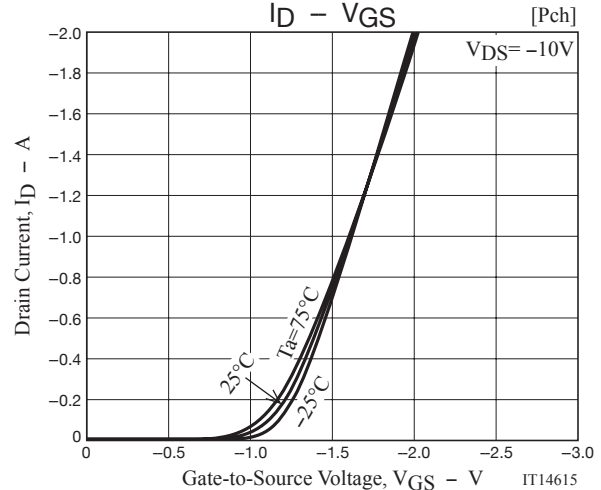
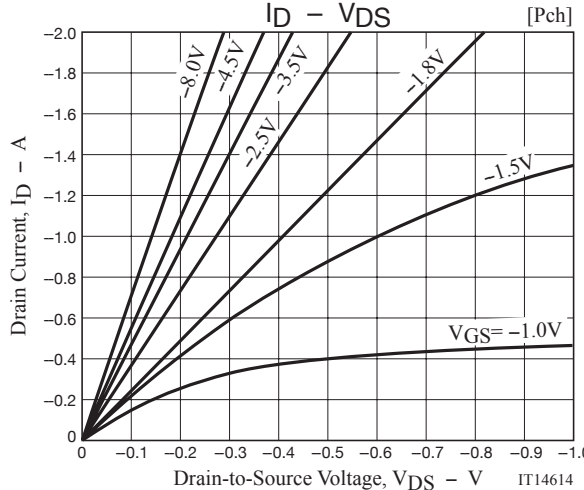
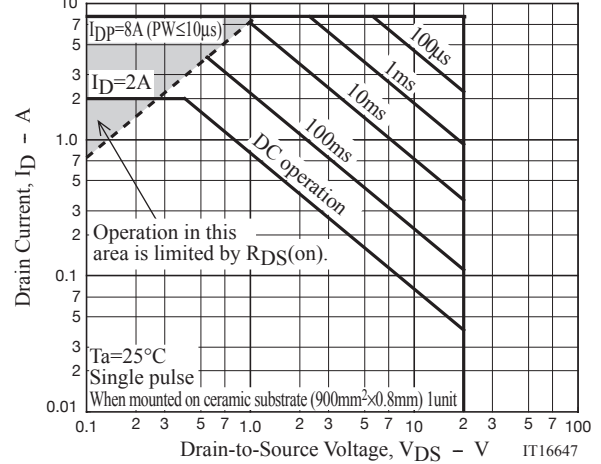
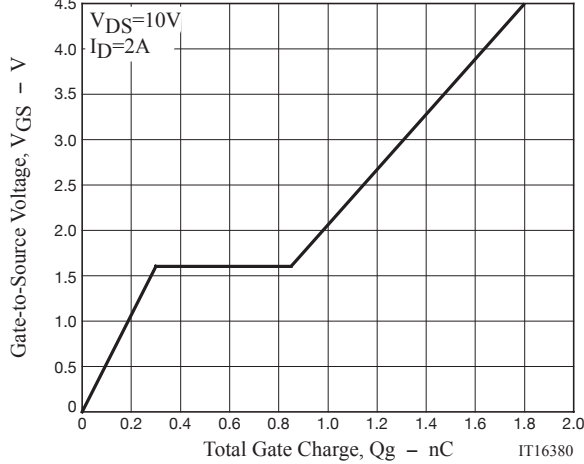
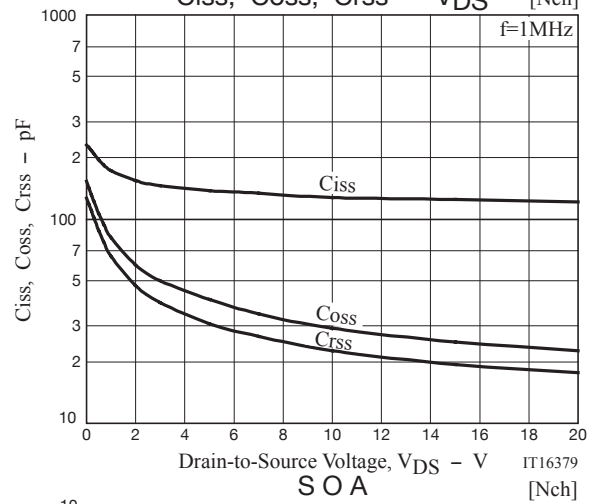
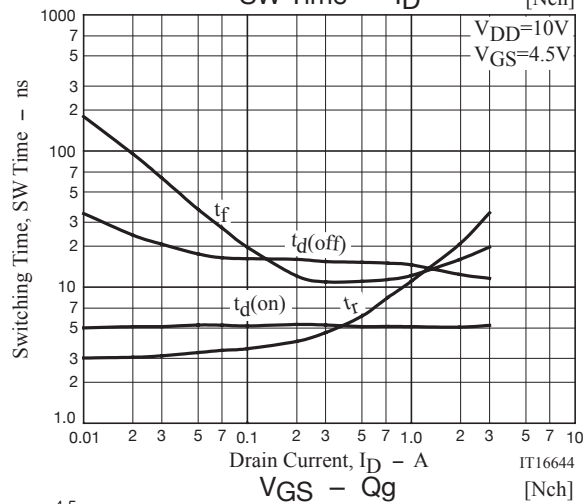
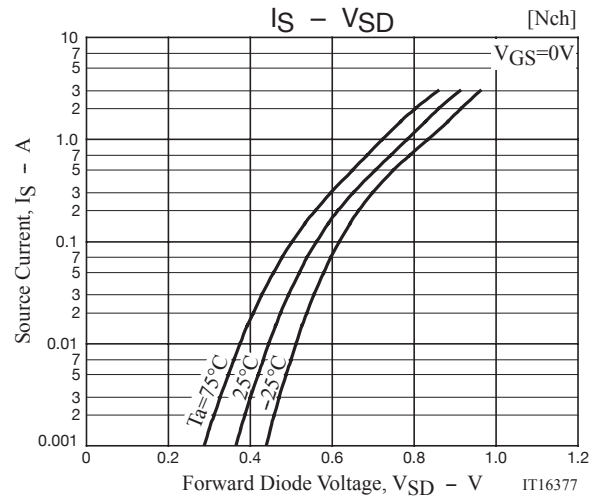
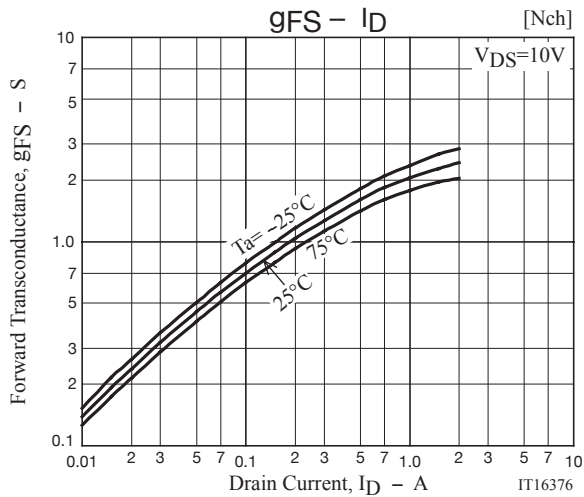
Switching Time Test Circuit

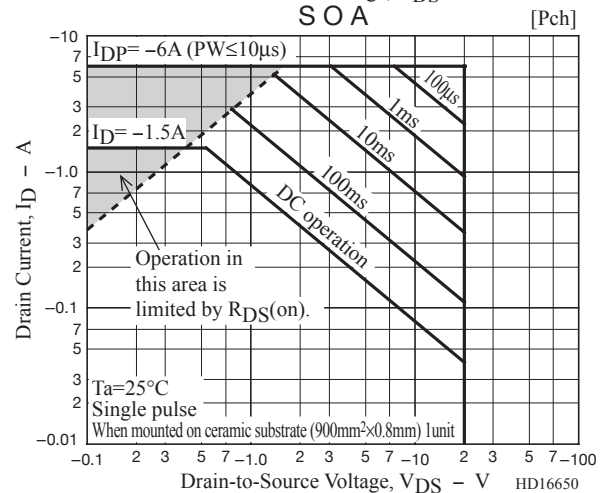
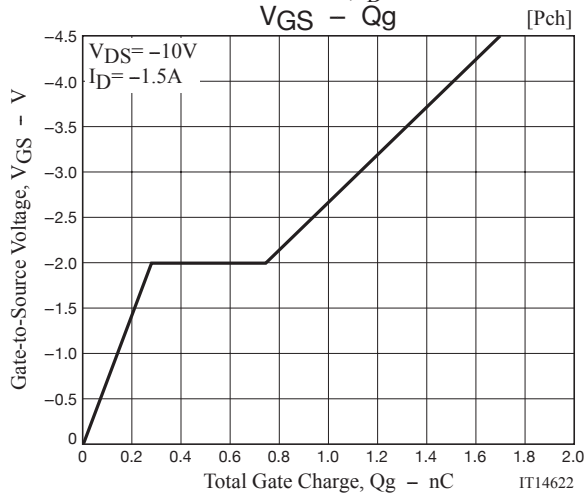
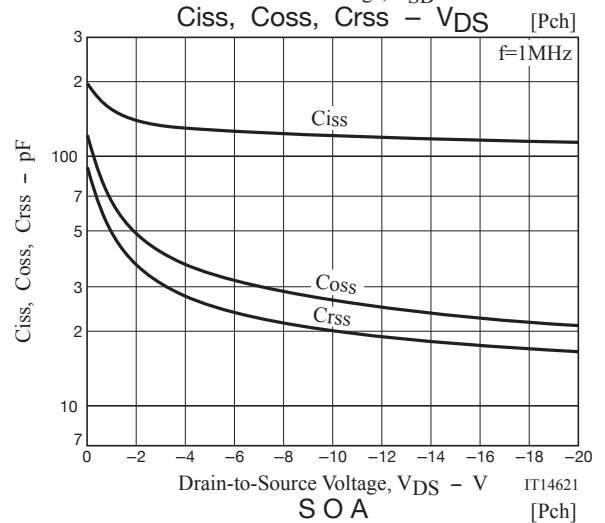
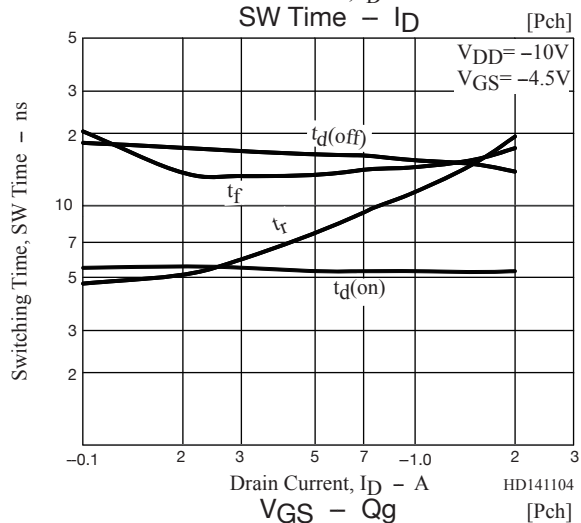
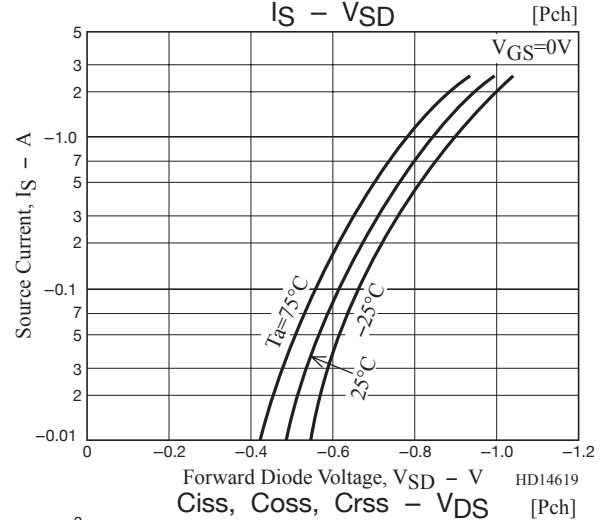
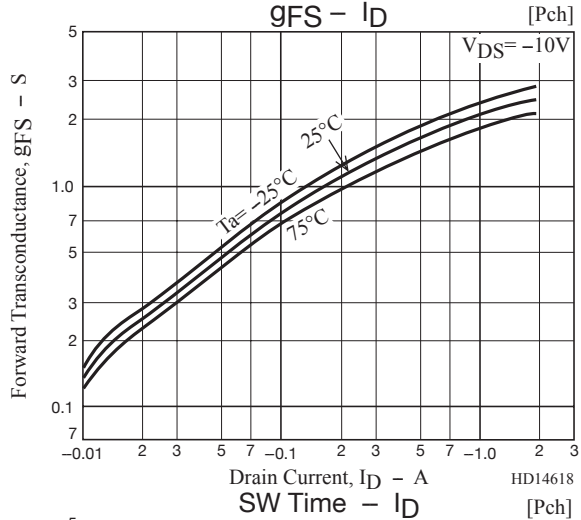
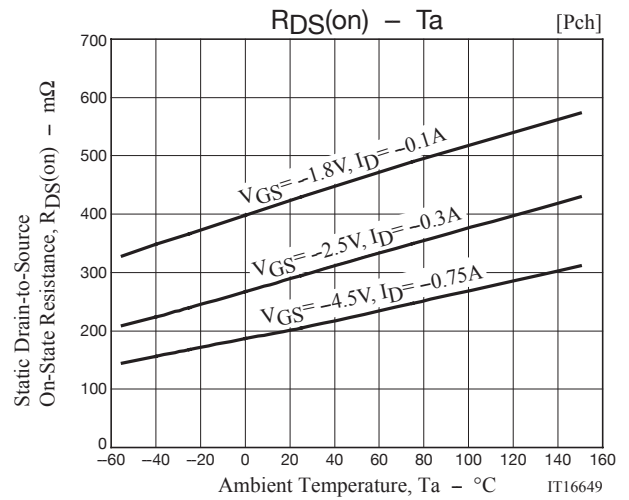
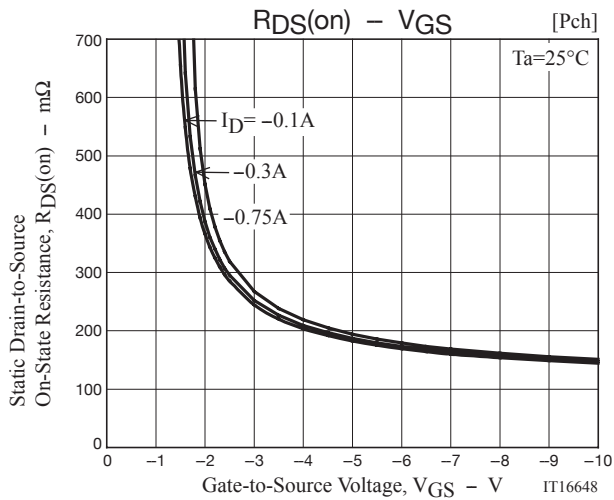
[N-channel]



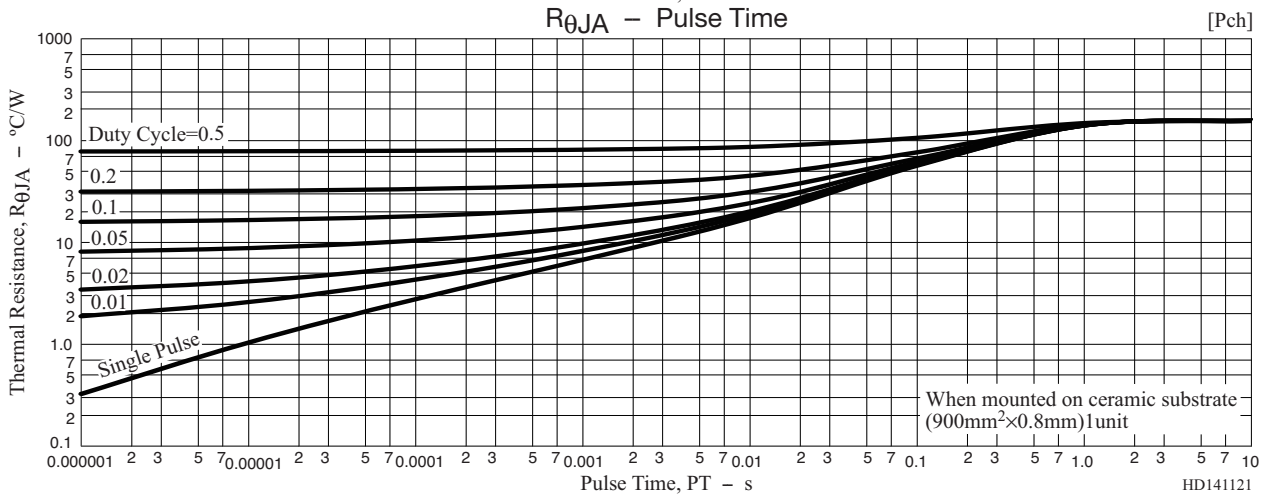
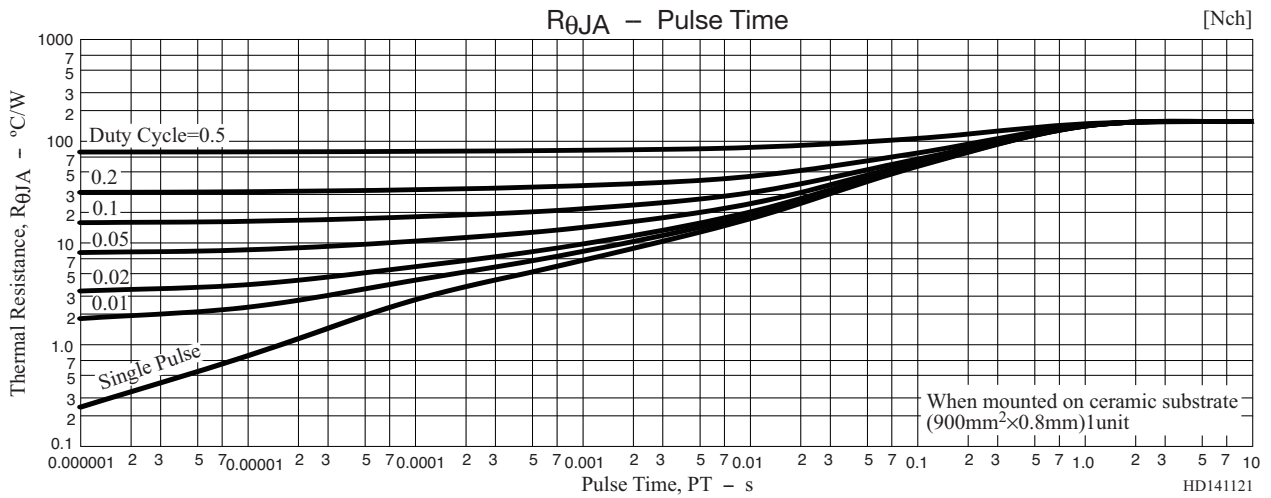
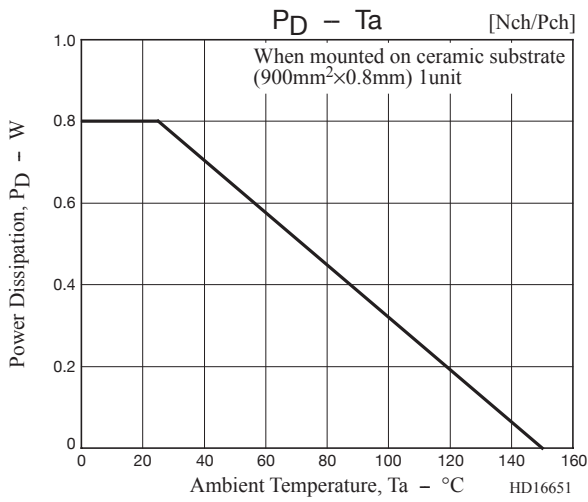
[P-channel]







MCH6660



Paclage Dimensions

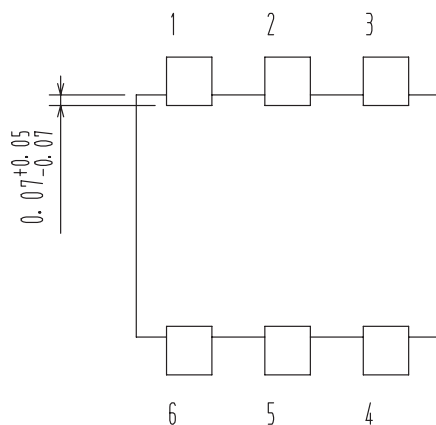
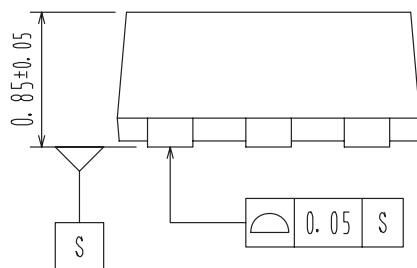
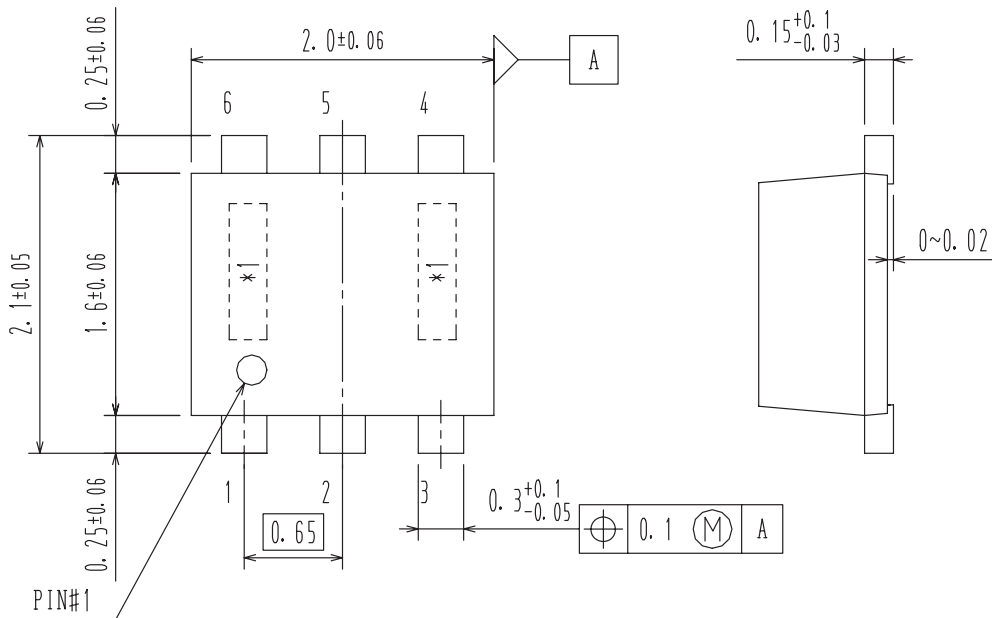
unit : mm

MCH6660-TL-H, MCH6660-TL-W

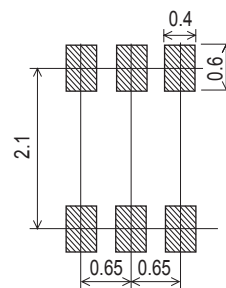
SC-88FL / MCPH6

CASE 419AS

ISSUE 0



Recommended Soldering Footprint



*1: Lot indication

ORDERING INFORMATION

Device	Package	Shipping	memo
MCH6660-TL-H	MCPH6	3,000pcs./reel	Pb-Free and Halogen Free
MCH6660-TL-W			

Note on usage : Since the MCH6660 is a MOSFET product, please avoid using this device in the vicinity of highly charged objects.

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