

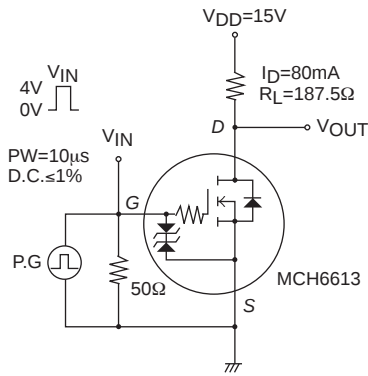
MCH6613

Electrical Characteristics at Ta=25°C

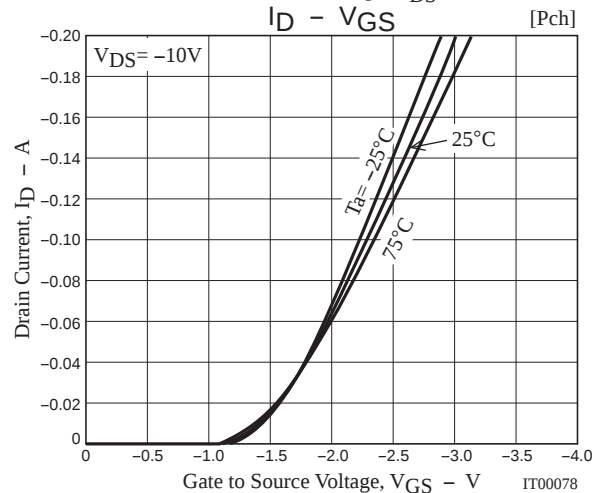
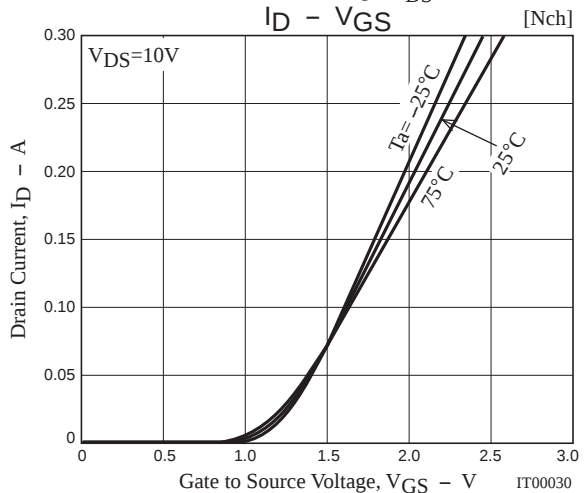
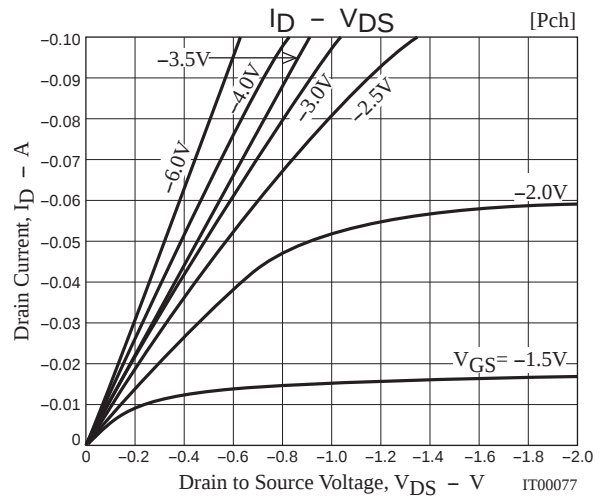
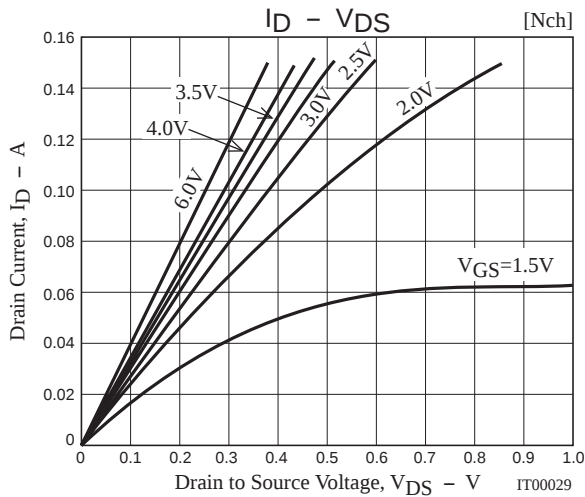
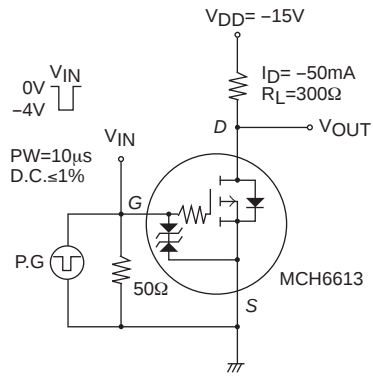
Parameter	Symbol	Conditions	Ratings			Unit
			min	typ	max	
[N-channel]						
Drain to Source Breakdown Voltage	V(BR)DSS	ID=1mA, VGS=0V	30			V
Zero-Gate Voltage Drain Current	IDSS	VDS=30V, VGS=0V			1	μA
Gate to Source Leakage Current	IGSS	VGS=±8V, VDS=0V			±10	μA
Cutoff Voltage	VGS(off)	VDS=10V, ID=100μA	0.4		1.3	V
Forward Transfer Admittance	yfs	VDS=10V, ID=80mA	150	220		mS
Static Drain to Source On-State Resistance	RDS(on)1	ID=80mA, VGS=4V		2.9	3.7	Ω
	RDS(on)2	ID=40mA, VGS=2.5V		3.7	5.2	Ω
	RDS(on)3	ID=10mA, VGS=1.5V		6.4	12.8	Ω
Input Capacitance	Ciss	VDS=10V, f=1MHz		7.0		pF
Output Capacitance	Coss			5.9		pF
Reverse Transfer Capacitance	Crss			2.3		pF
Turn-ON Delay Time	tD(on)	See specified Test Circuit.		19		ns
Rise Time	tr			65		ns
Turn-OFF Delay Time	tD(off)			155		ns
Fall Time	tf			120		ns
Total Gate Charge	Qg	VDS=10V, VGS=10V, ID=150mA		1.58		nC
Gate to Source Charge	Qgs			0.26		nC
Gate to Drain “Miller” Charge	Qgd			0.31		nC
Diode Forward Voltage	VSD	IS=150mA, VGS=0V		0.87	1.2	V
[P-channel]						
Drain to Source Breakdown Voltage	V(BR)DSS	ID=-1mA, VGS=0V	-30			V
Zero-Gate Voltage Drain Current	IDSS	VDS=-30V, VGS=0V			-1	μA
Gate to Source Leakage Current	IGSS	VGS=±8V, VDS=0V			±10	μA
Cutoff Voltage	VGS(off)	VDS=-10V, ID=-100μA	-0.4		-1.4	V
Forward Transfer Admittance	yfs	VDS=-10V, ID=-50mA	80	110		mS
Static Drain to Source On-State Resistance	RDS(on)1	ID=-50mA, VGS=-4V		8	10.4	Ω
	RDS(on)2	ID=-30mA, VGS=-2.5V		11	15.4	Ω
	RDS(on)3	ID=-1mA, VGS=-1.5V		27	54	Ω
Input Capacitance	Ciss	VDS=-10V, f=1MHz		7.5		pF
Output Capacitance	Coss			5.7		pF
Reverse Transfer Capacitance	Crss			1.8		pF
Turn-ON Delay Time	tD(on)	See specified Test Circuit.		24		ns
Rise Time	tr			55		ns
Turn-OFF Delay Time	tD(off)			120		ns
Fall Time	tf			130		ns
Total Gate Charge	Qg	VDS=-10V, VGS=-10V, ID=-100mA		1.43		nC
Gate to Source Charge	Qgs			0.18		nC
Gate to Drain “Miller” Charge	Qgd			0.25		nC
Diode Forward Voltage	VSD	IS=-100mA, VGS=0V		-0.83	-1.2	V

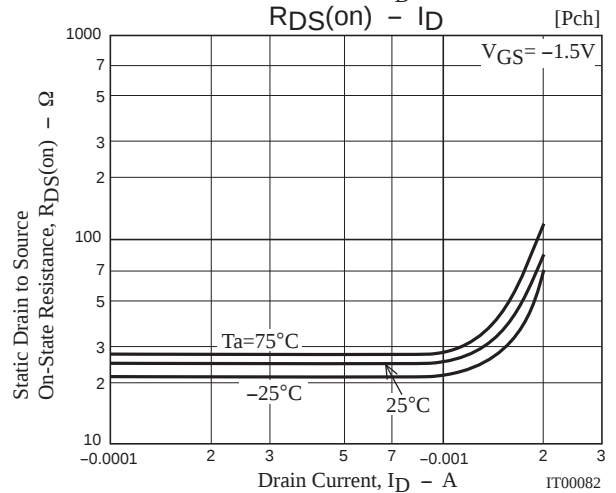
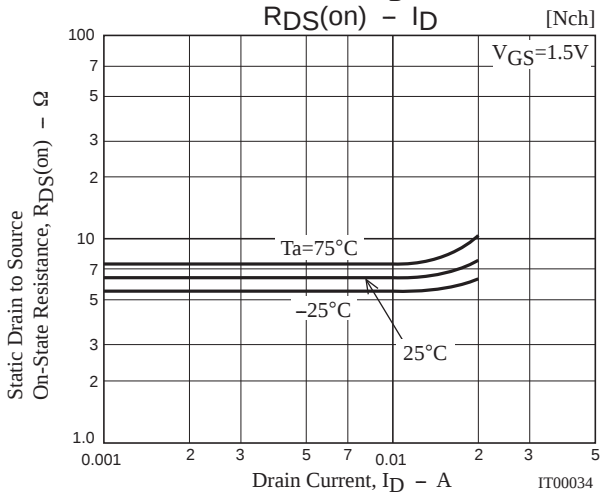
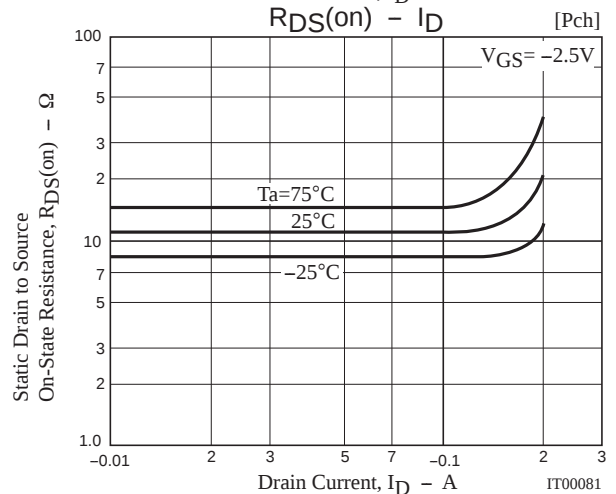
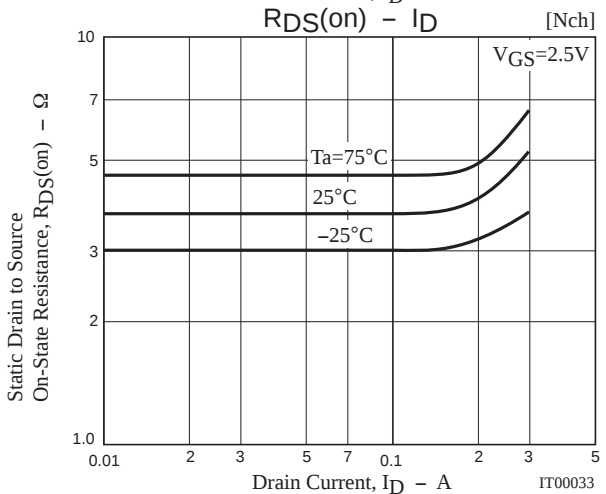
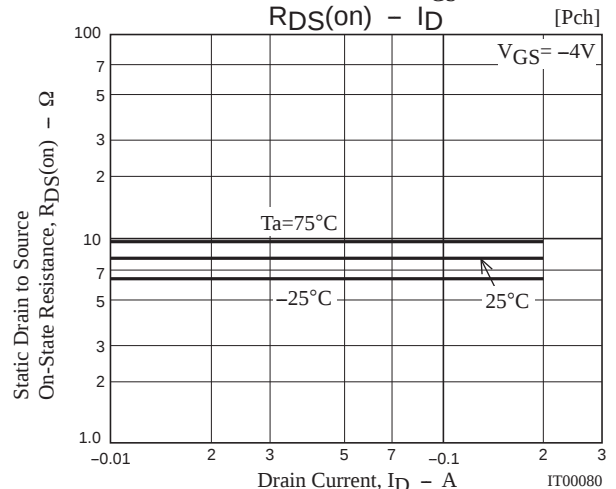
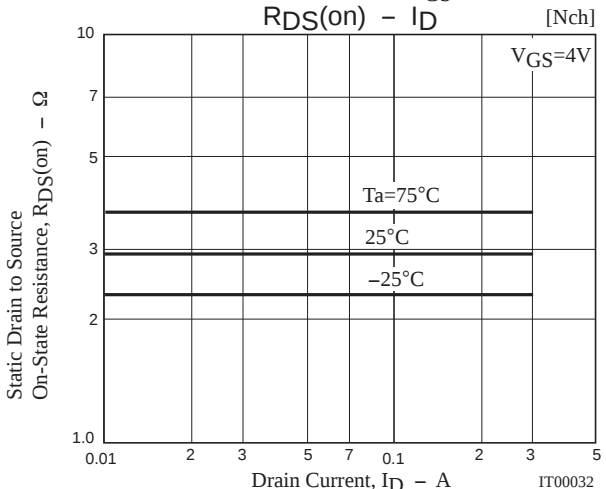
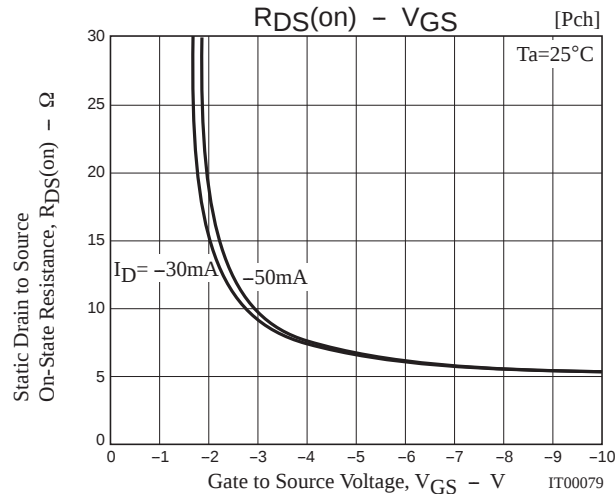
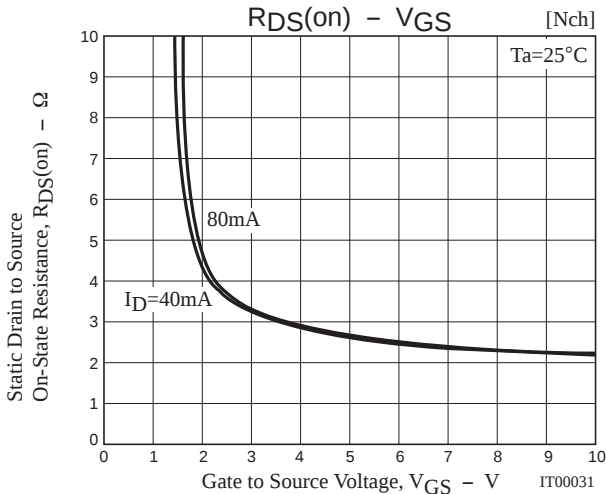
Switching Time Test Circuit

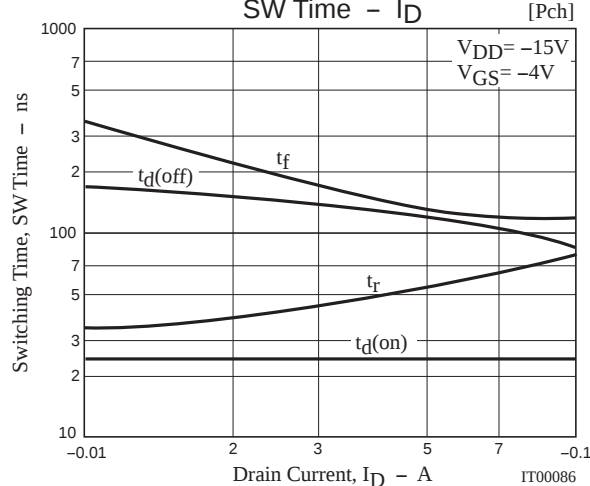
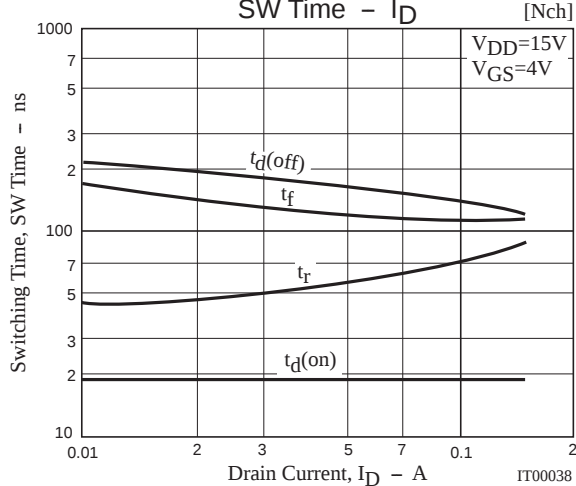
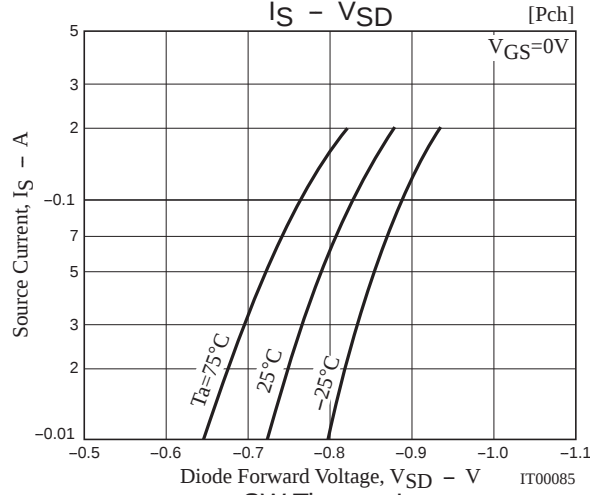
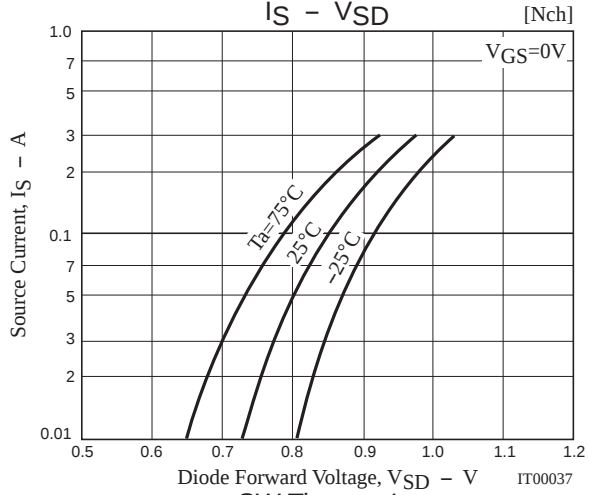
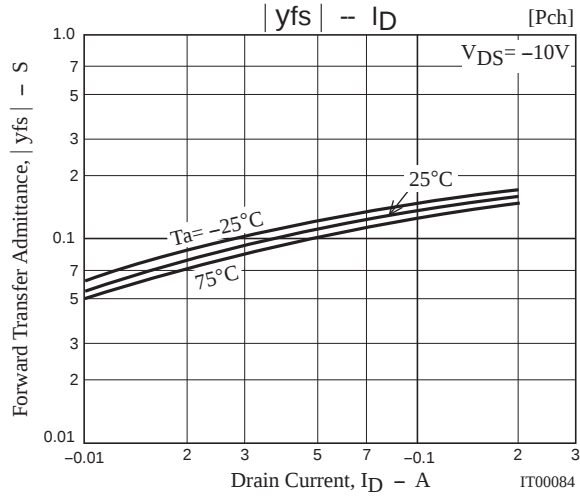
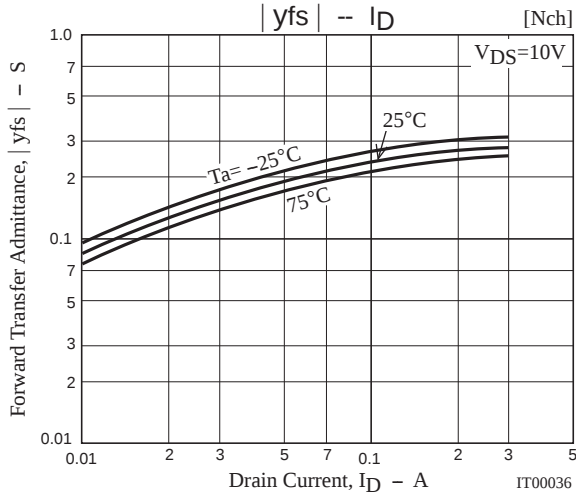
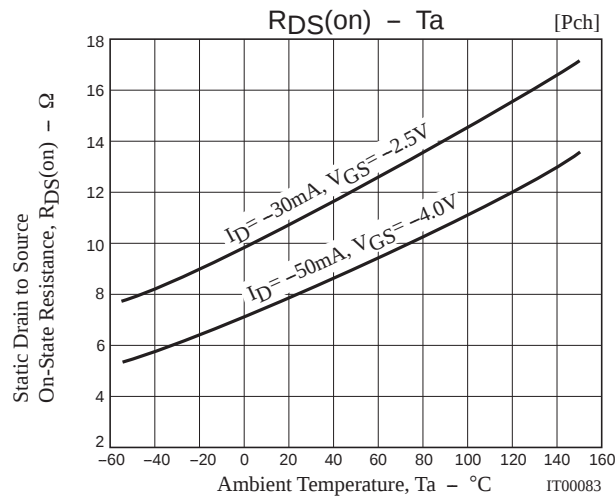
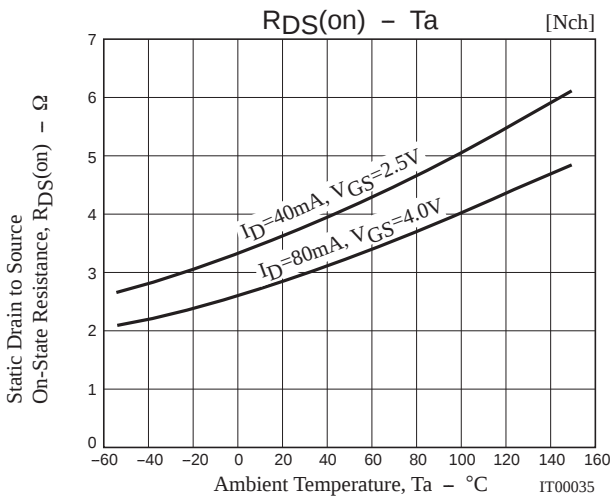
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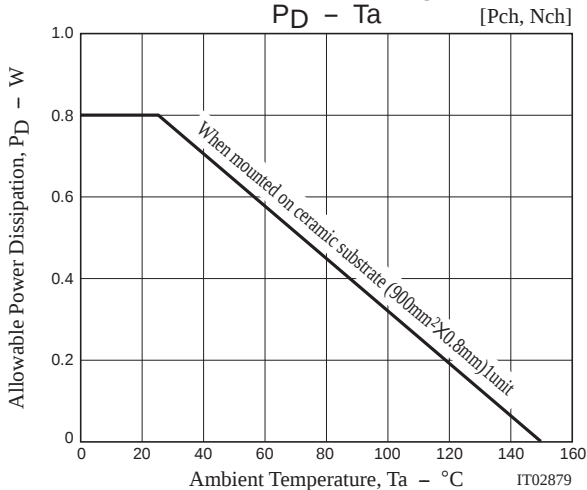
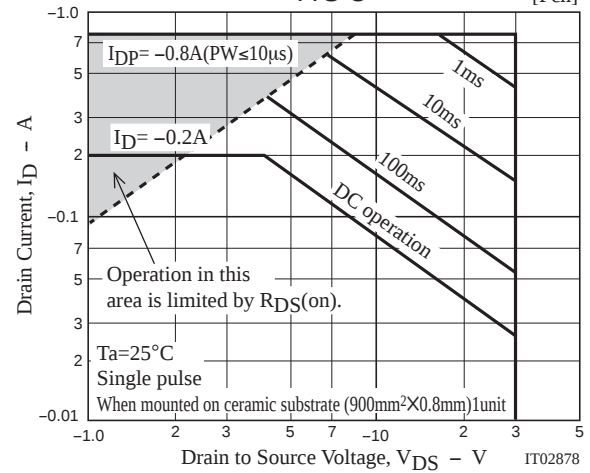
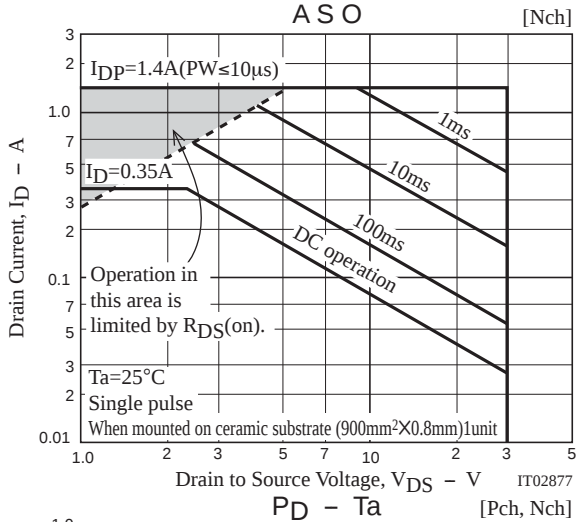
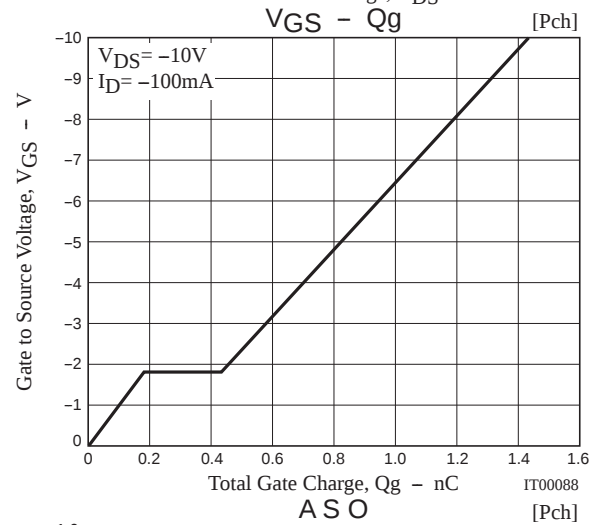
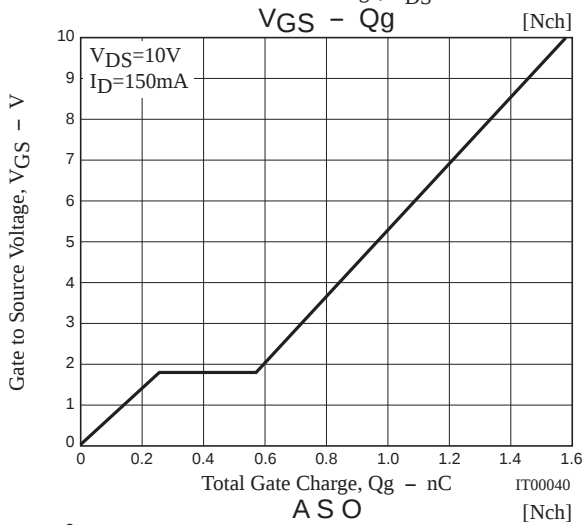
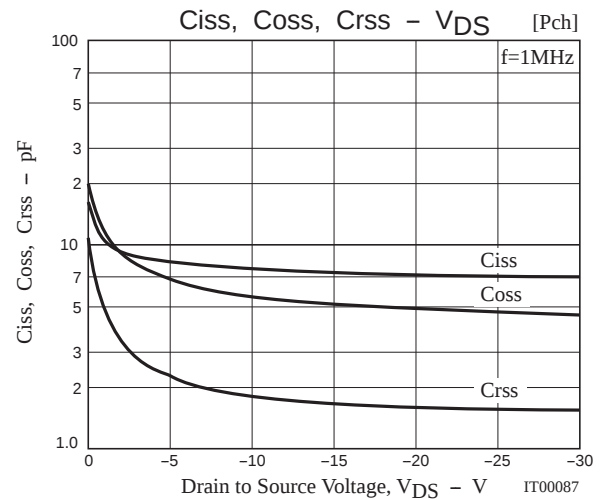
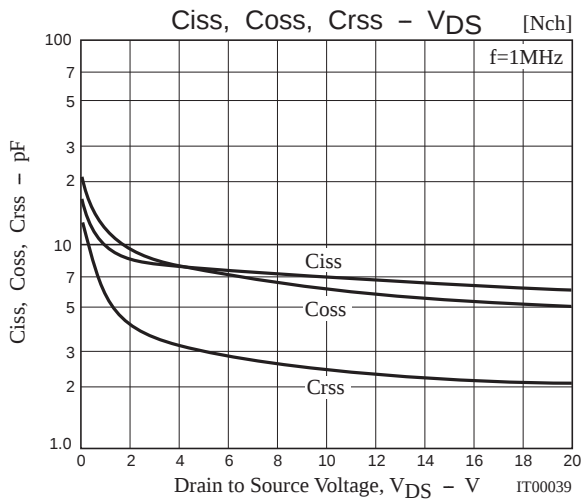


[P-channel]





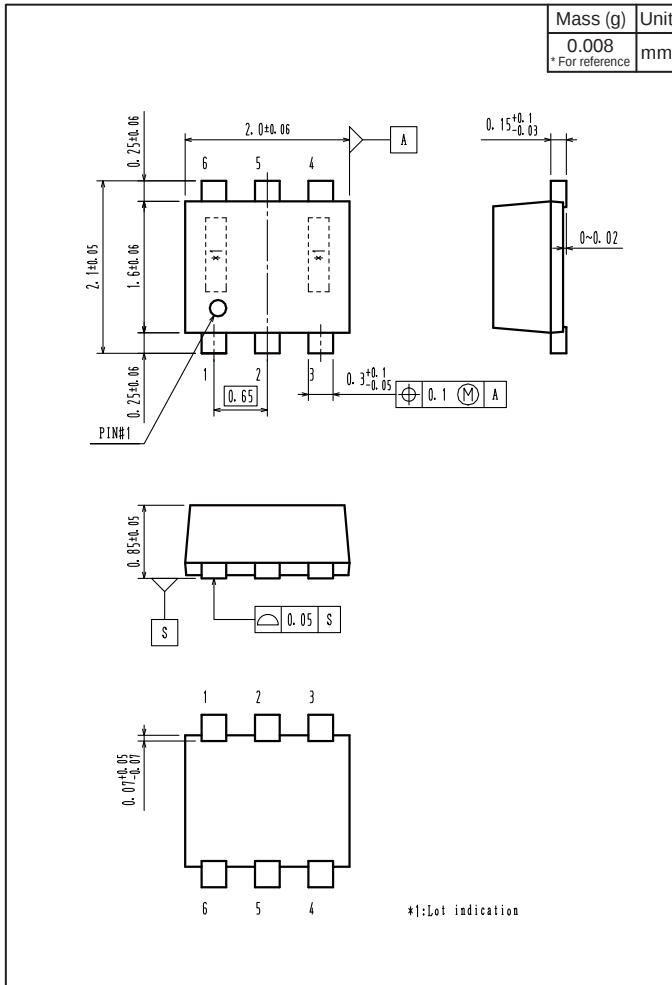




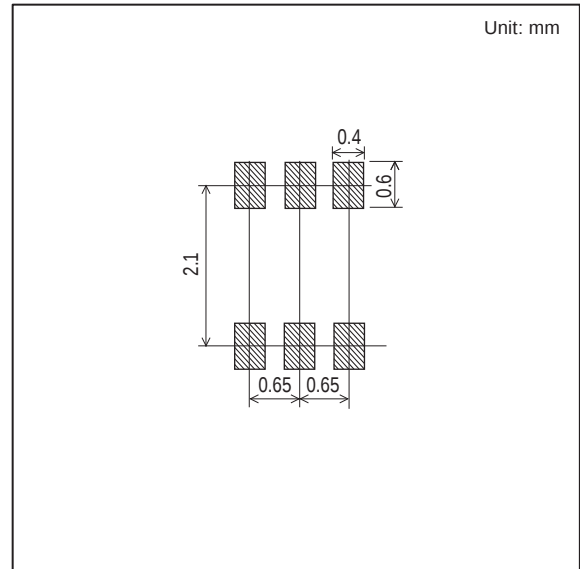
MCH6613

Outline Drawing

MCH6613-TL-E



Land Pattern Example



Note on usage : Since the MCH6613 is a MOSFET product, please avoid using this device in the vicinity of highly charged objects.

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