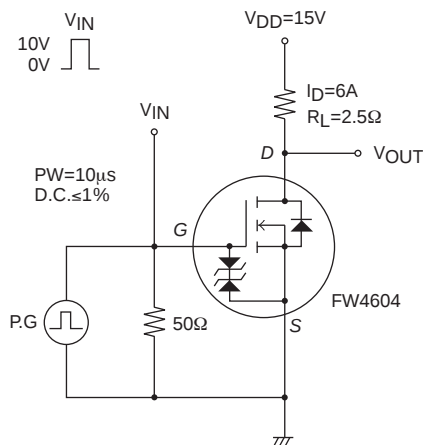


Electrical Characteristics at Ta=25°C

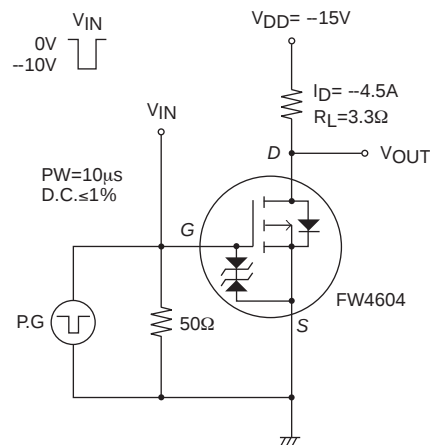
Parameter	Symbol	Conditions	Ratings			Unit
			min	typ	max	
[N-channel]						
Drain to Source Breakdown Voltage	V(BR)DSS	ID=1mA, VGS=0V	30			V
Zero-Gate Voltage Drain Current	IDSS	VDS=30V, VGS=0V			1	μA
Gate to Source Leakage Current	IGSS	VGS=±16V, VDS=0V			±10	μA
Cutoff Voltage	VGS(off)	VDS=10V, ID=1mA	1.7		2.6	V
Forward Transfer Admittance	yfs	VDS=10V, ID=6A		3		S
Static Drain to Source On-State Resistance	RDS(on)1	ID=6A, VGS=10V		30	39	mΩ
	RDS(on)2	ID=3A, VGS=4.5V		50	70	mΩ
Input Capacitance	Ciss	VDS=10V, f=1MHz		490		pF
Output Capacitance	Coss			85		pF
Reverse Transfer Capacitance	Crss			45		pF
Turn-ON Delay Time	td(on)		See specified Test Circuit.		8	
Rise Time	tr			45		ns
Turn-OFF Delay Time	td(off)			31		ns
Fall Time	tf			28		ns
Total Gate Charge	Qg	VDS=15V, VGS=10V, ID=6A		9.1		nC
Gate to Source Charge	Qgs			1.7		nC
Gate to Drain “Miller” Charge	Qgd			1.7		nC
Diode Forward Voltage	VSD	IS=6A, VGS=0V		0.84	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=±16V, VDS=0V			±10	μA
Cutoff Voltage	VGS(off)	VDS=-10V, ID=-1mA	-1.7		-2.6	V
Forward Transfer Admittance	yfs	VDS=-10V, ID=-4.5A		5.2		S
Static Drain to Source On-State Resistance	RDS(on)1	ID=-4.5A, VGS=-10V		50	65	mΩ
	RDS(on)2	ID=-2.5A, VGS=-4.5V		85	119	mΩ
Input Capacitance	Ciss	VDS=-10V, f=1MHz		430		pF
Output Capacitance	Coss			105		pF
Reverse Transfer Capacitance	Crss			75		pF
Turn-ON Delay Time	td(on)		See specified Test Circuit.		7.5	
Rise Time	tr			42		ns
Turn-OFF Delay Time	td(off)			43		ns
Fall Time	tf			40		ns
Total Gate Charge	Qg	VDS=-15V, VGS=-10V, ID=-4.5A		10		nC
Gate to Source Charge	Qgs			2.0		nC
Gate to Drain “Miller” Charge	Qgd			2.5		nC
Diode Forward Voltage	VSD	IS=-4.5A, VGS=0V		-0.86	-1.5	V

Switching Time Test Circuit

[N-channel]

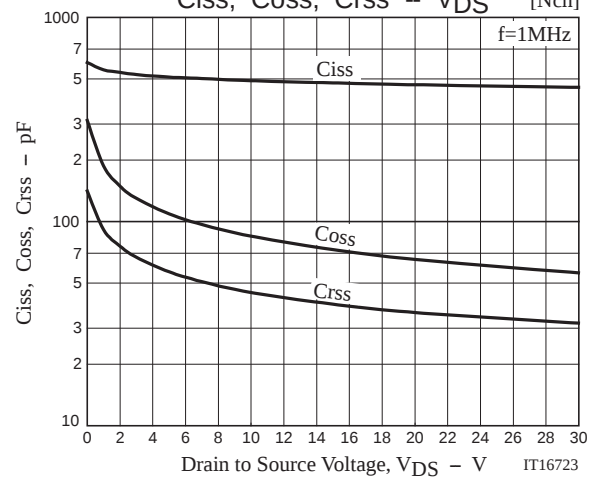
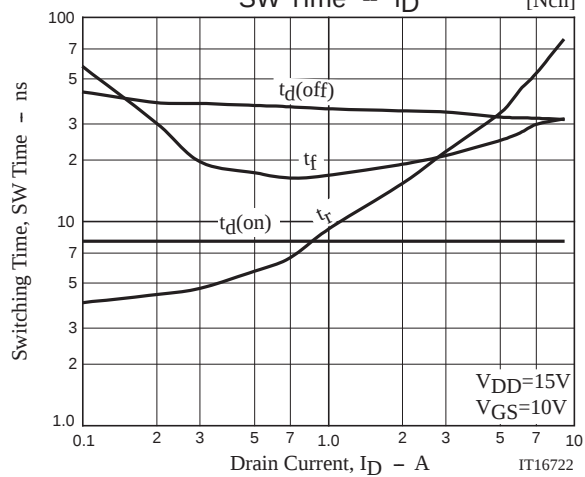
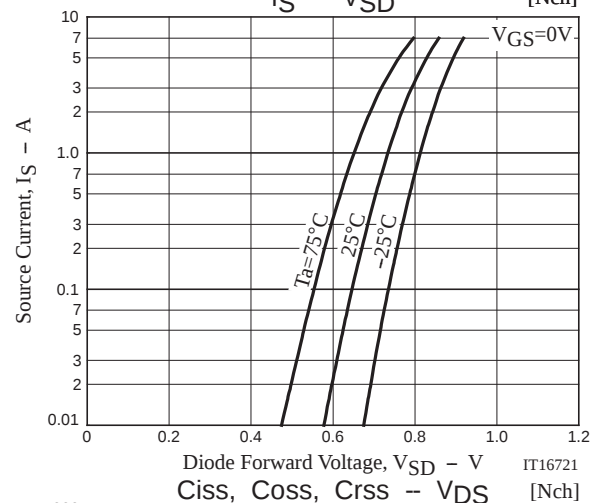
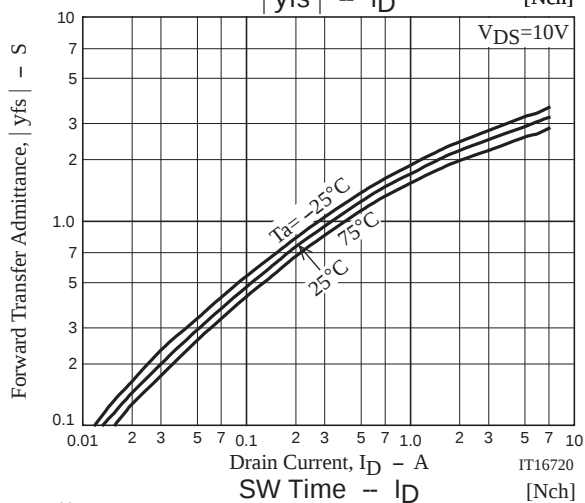
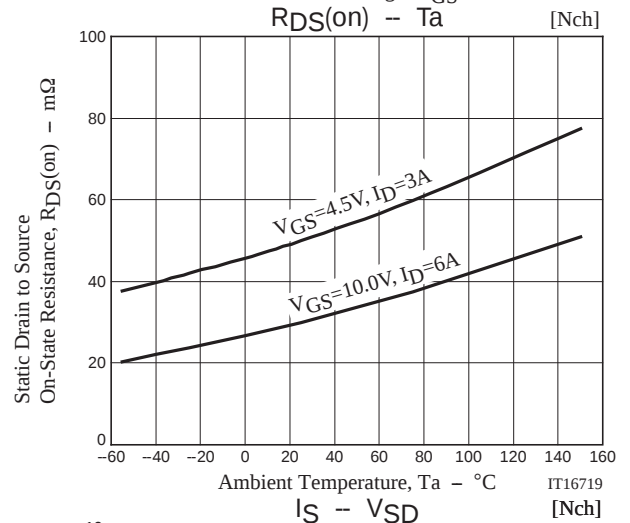
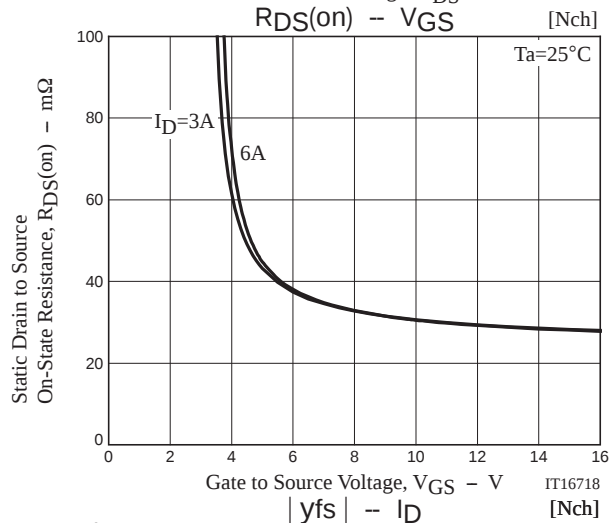
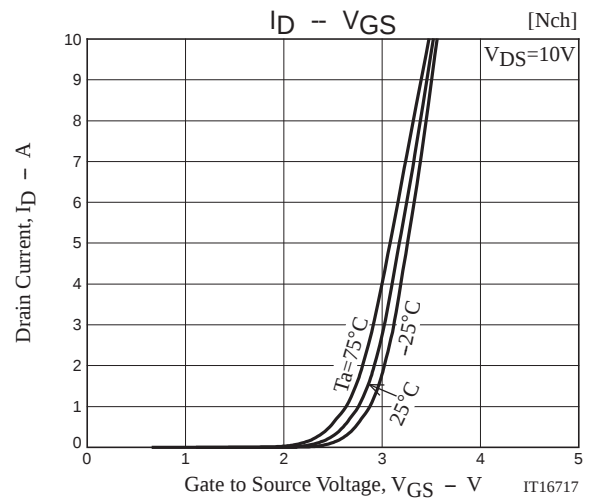
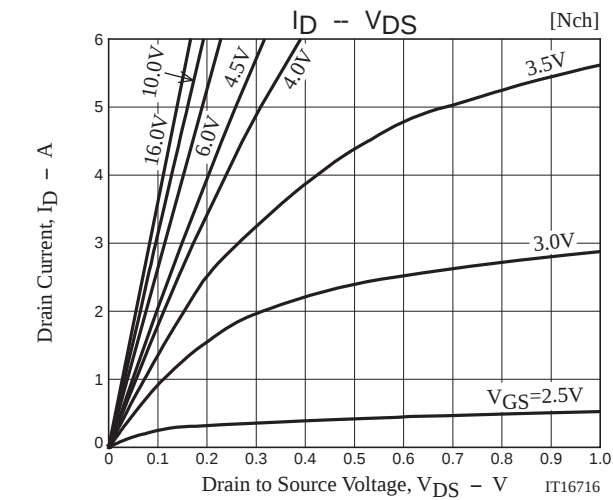


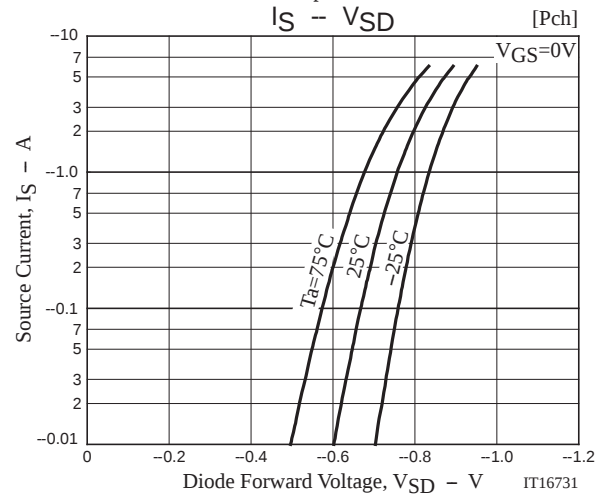
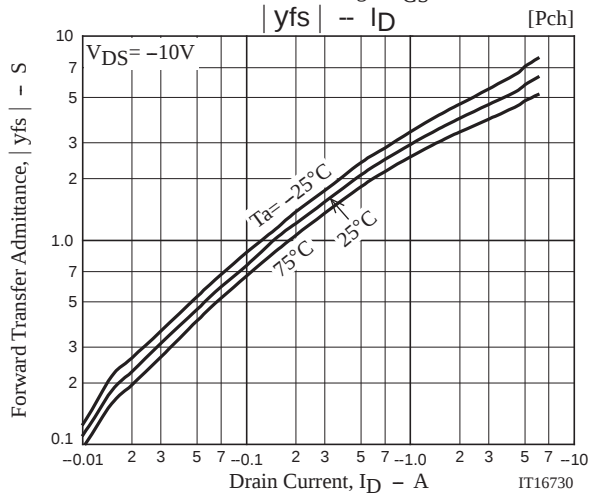
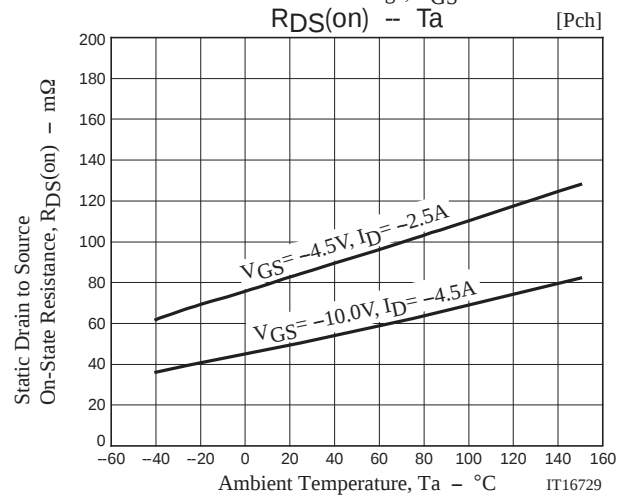
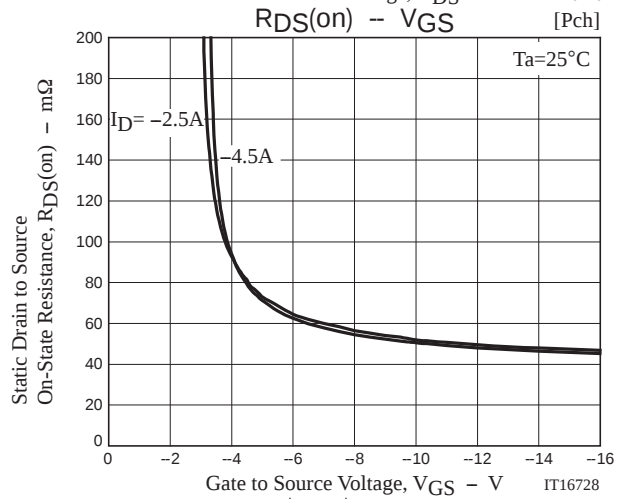
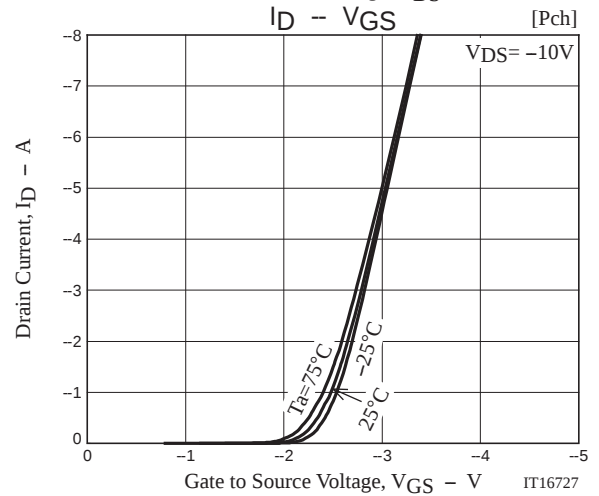
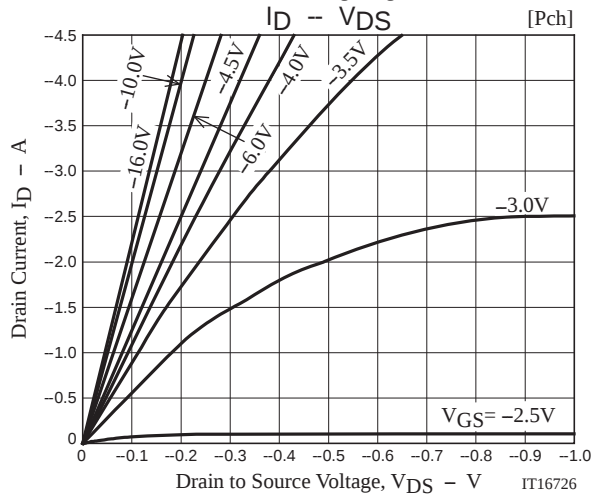
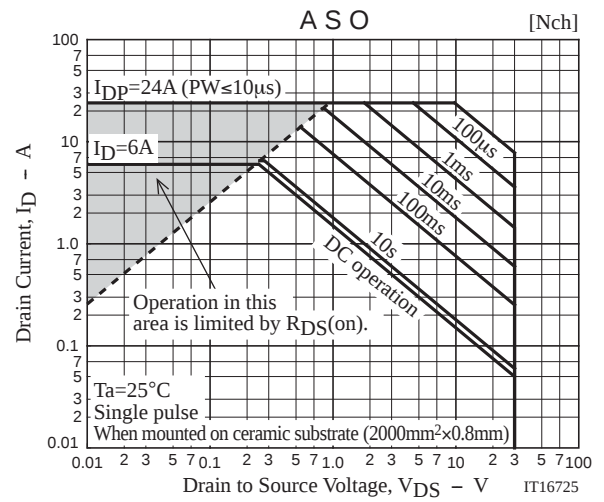
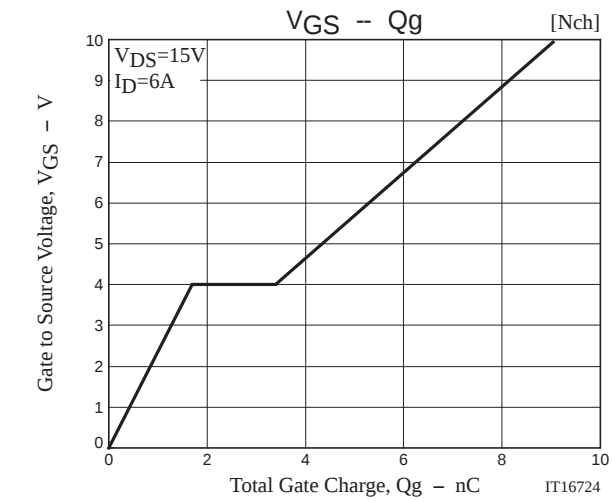
[P-channel]

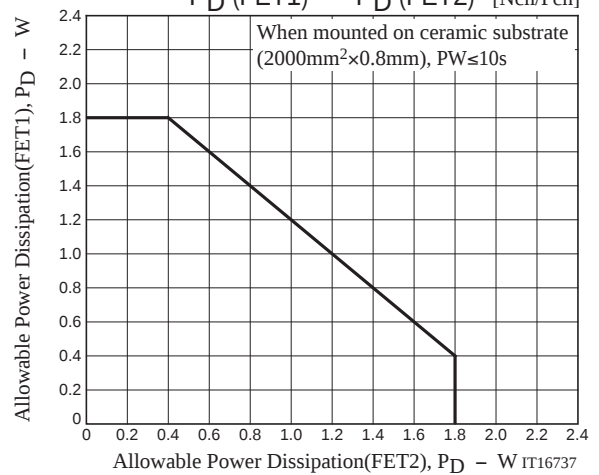
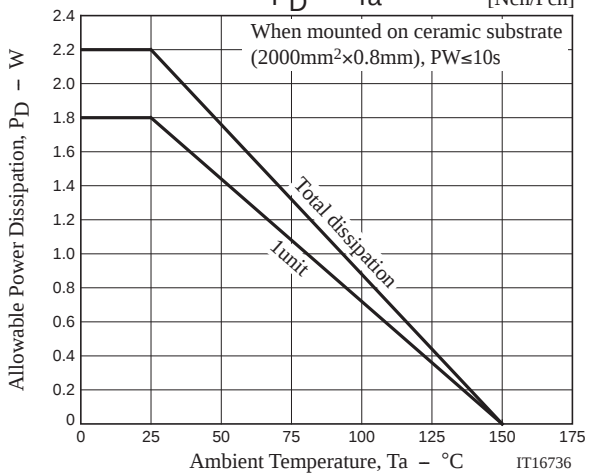
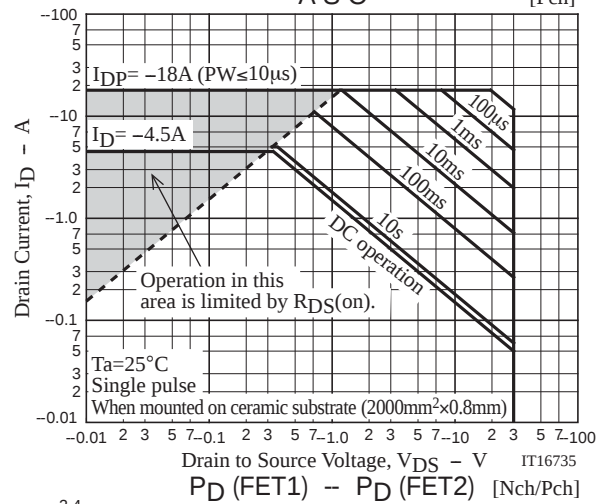
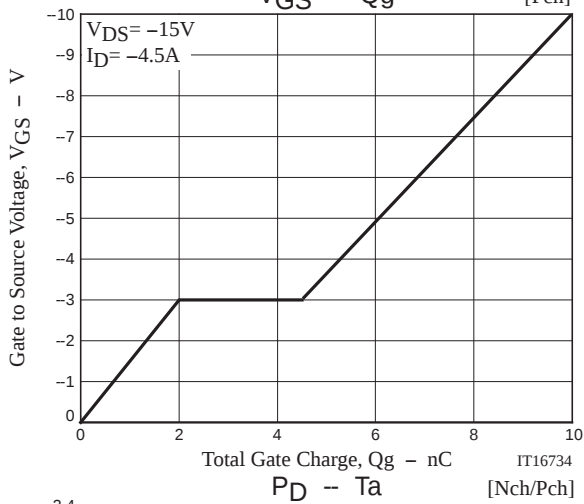
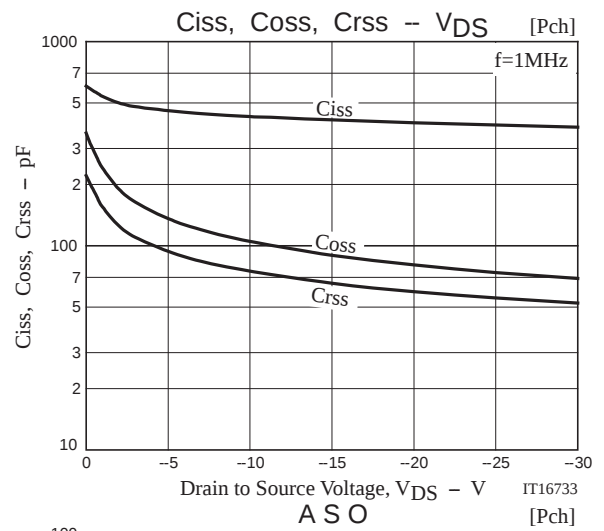
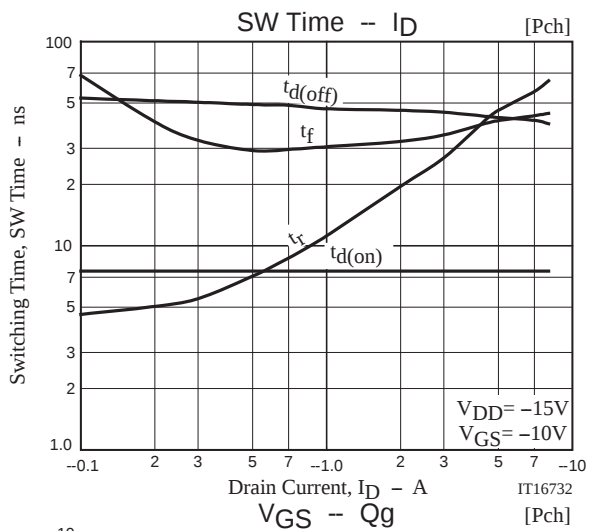


Ordering Information

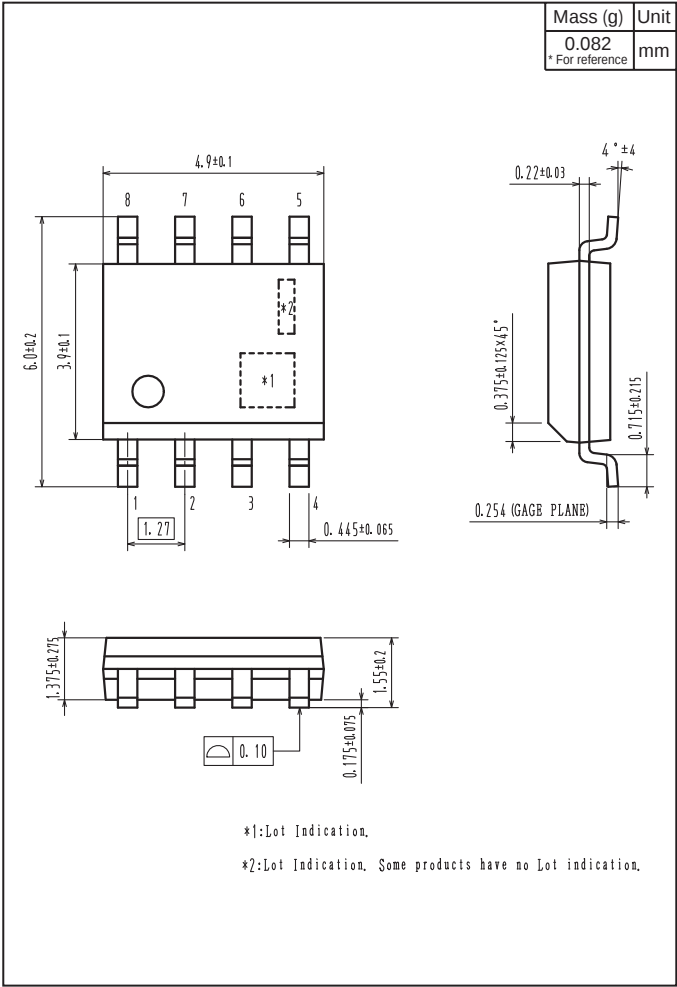
Device	Package	Shipping	memo
FW4604-TL-2W	SOIC8	2,500pcs./reel	Pb-Free and Halogen Free



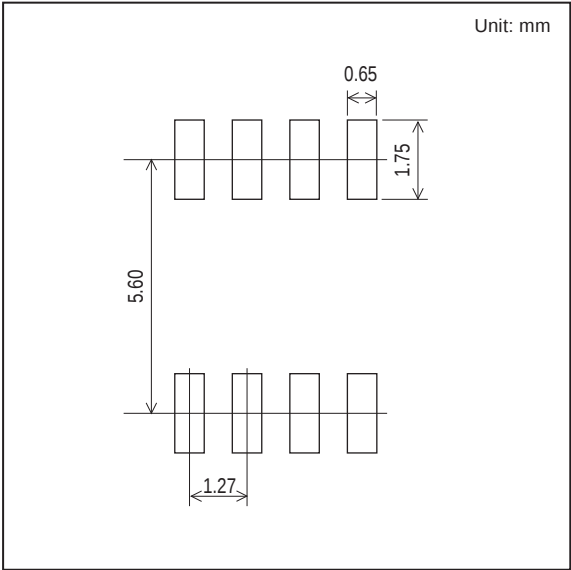




Outline Drawing
FW4604-TL-2W



Land Pattern Example



Note on usage : Since the FW4604 is a MOSFET product, please avoid using this device in the vicinity of highly charged objects.

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