

Features

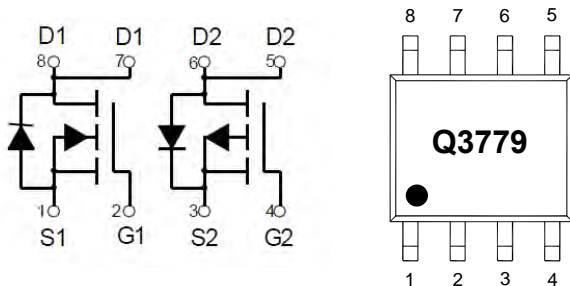
- Epoxy Meets UL 94 V-0 Flammability Rating
- Moisture Sensitivity Level 1
- Halogen Free Available Upon Request By Adding Suffix "-HF"
- Lead Free Finish/RoHS Compliant ("P" Suffix Designates RoHS Compliant. See Ordering Information)

Maximum Ratings

- Operating Junction Temperature Range : -55°C to +150°C
- Storage Temperature Range: -55°C to +150°C
- Thermal Resistance: 62.5°C/W Junction to Ambient

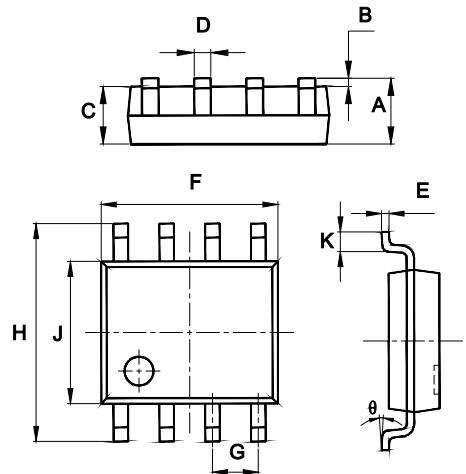
Parameter	Symbol	Rating	Unit
Total Power Dissipation	P_D	2	W
N-Channel			
Drain-Source Voltage	V_{DS}	100	V
Gate-Source Voltage	V_{GS}	± 20	V
Continuous Drain Current	I_D	3.4	A
Pulsed Drain Current	I_{DM}	14	A
P-Channel			
Drain-Source Voltage	V_{DS}	-100	V
Gate-Source Voltage	V_{GS}	± 20	V
Continuous Drain Current	I_D	-4	A
Pulsed Drain Current	I_{DM}	-20	A

Internal Structure and Marking Code



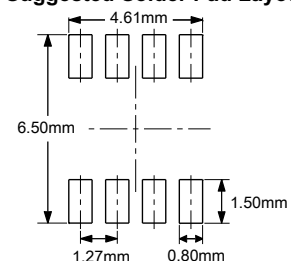
**Dual
N&P-Channel
MOSFET**

SOP-8



DIM	INCHES		MM		NOTE
	MIN	MAX	MIN	MAX	
A	0.053	0.069	1.35	1.75	
B	0.004	0.010	0.10	0.25	
C	0.053	0.061	1.35	1.55	
D	0.013	0.020	0.33	0.51	
E	0.007	0.010	0.17	0.25	
F	0.185	0.200	4.70	5.10	
G	0.050		1.270		TYP.
H	0.228	0.244	5.80	6.20	
J	0.150	0.157	3.80	4.00	
K	0.016	0.050	0.40	1.27	
θ	0°	8°	0°	8°	

Suggested Solder Pad Layout



Electrical Characteristics @ 25°C (Unless Otherwise Specified)
N-Channel

Parameter	Symbol	Test Conditions	Min	Typ	Max	Unit
Static Characteristics						
Drain-Source Breakdown Voltage	$V_{(BR)DSS}$	$V_{GS}=0V, I_D=250\mu A$	100			V
Gate-Source Leakage Current	I_{GSS}	$V_{DS}=0V, V_{GS}=\pm 20V$			± 100	nA
Zero Gate Voltage Drain Current	I_{DSS}	$V_{DS}=100V, V_{GS}=0V$			1	μA
Gate-Threshold Voltage	$V_{GS(th)}$	$V_{DS}=V_{GS}, I_D=250\mu A$	1		2.5	V
Drain-Source On-Resistance	$R_{DS(on)}$	$V_{GS}=10V, I_D=5A$		80	130	m Ω
Forward Transconductance	g_{FS}	$V_{DS}=5V, I_D=2.9A$	3			S
Diode Characteristics						
Continuous Body Diode Current	I_S				3.4	A
Diode Forward Voltage	V_{SD}	$V_{GS}=0V, I_S=3A$			1.2	V
Dynamic Characteristics						
Input Capacitance	C_{iss}	$V_{DS}=25V, V_{GS}=0V, f=1MHz$		690		pF
Output Capacitance	C_{oss}			120		
Reverse Transfer Capacitance	C_{rss}			90		
Switching Characteristics						
Total Gate Charge	Q_g	$V_{DS}=30V, V_{GS}=10V, I_D=3A$		15.5		
Gate-Source Charge	Q_{gs}			3.2		
Gate-Drain Charge	Q_{gd}			4.7		
Turn-On Delay Time	$t_{d(on)}$	$V_{GS}=10V, V_{DD}=30V, I_D=2A, R_L=15\Omega, R_{GEN}=2.5\Omega$		11		ns
Turn-On Rise Time	t_r			7.4		
Turn-Off Delay Time	$t_{d(off)}$			35		
Turn-Off Fall Time	t_f			9.1		

Electrical Characteristics @ 25°C (Unless Otherwise Specified)

P-Channel

Parameter	Symbol	Test Conditions	Min	Typ	Max	Unit
Static Characteristics						
Drain-Source Breakdown Voltage	$V_{(BR)DSS}$	$V_{GS}=0V, I_D=-250\mu A$	-100			V
Gate-Source Leakage Current	I_{GSS}	$V_{DS}=0V, V_{GS}=\pm 20V$			± 10	μA
Zero Gate Voltage Drain Current	I_{DSS}	$V_{DS}=-100V, V_{GS}=0V$			1	μA
Gate-Threshold Voltage	$V_{GS(th)}$	$V_{DS}=V_{GS}, I_D=-250\mu A$	-1	-1.9	-2.5	V
Drain-Source On-Resistance	$R_{DS(on)}$	$V_{GS}=10V, I_D=-4A$		170	200	m Ω
Forward Transconductance	g_{FS}	$V_{DS}=-15V, I_D=-4A$	12			S
Diode Characteristics						
Continuous Body Diode Current	I_S				-4	A
Diode Forward Voltage	V_{SD}	$V_{GS}=0V, I_S=-4A$			-1.2	V
Reverse Recovery Time	t_{rr}	$I_S=-4A, di/dt=100A/\mu s$		35		ns
Reverse Recovery Charge	Q_{rr}			46		nC
Forward Turn-On Time	t_{on}	Intrinsic turn-on time is negligible (turn-on is dominated by LS+LD)				
Dynamic Characteristics						
Input Capacitance	C_{iss}	$V_{DS}=-25V, V_{GS}=0V, f=1MHz$		1055		pF
Output Capacitance	C_{oss}			65		
Reverse Transfer Capacitance	C_{rss}			41		
Switching Characteristics						
Total Gate Charge	Q_g	$V_{DS}=-50V, V_{GS}=-10V, I_D=-10A$		25		nC
Gate-Source Charge	Q_{gs}			5		
Gate-Drain Charge	Q_{gd}			7		
Turn-On Delay Time	$t_{d(on)}$	$V_{GS}=-10V, V_{DD}=-50V, I_D=-10A, R_{GEN}=9.1\Omega$		14		ns
Turn-On Rise Time	t_r			18		
Turn-Off Delay Time	$t_{d(off)}$			50		
Turn-Off Fall Time	t_f			18		

Curve Characteristics N-Channel

Fig. 1 - Output Characteristics

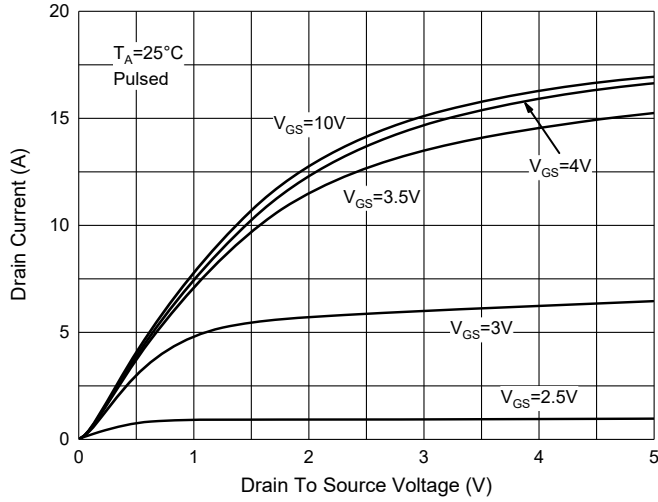


Fig. 2 - Transfer Characteristics

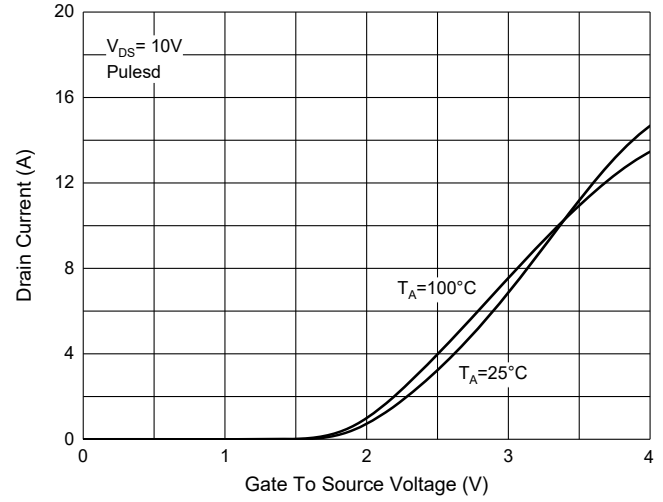


Fig. 3 - $R_{DS(ON)} - I_D$

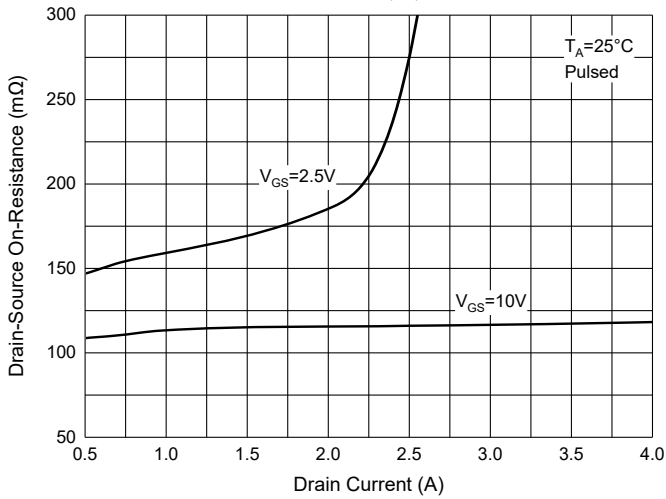


Fig. 4 - $R_{DS(ON)} - V_{GS}$

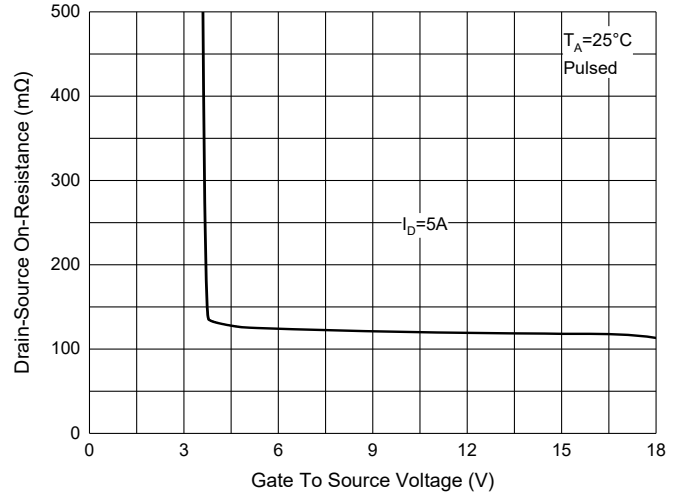


Fig. 5 - $I_S - V_{SD}$

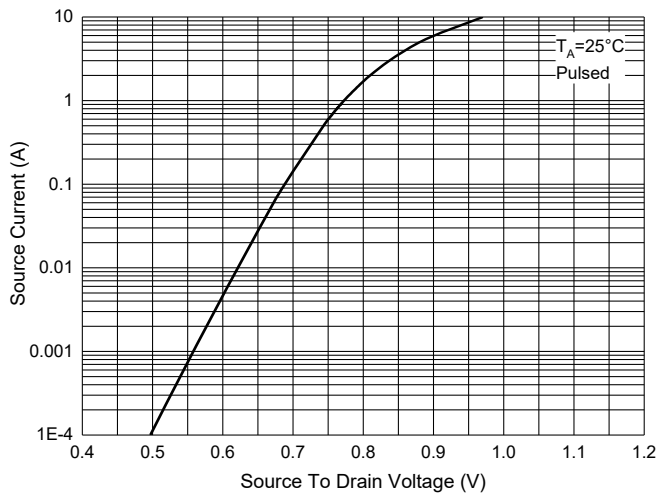
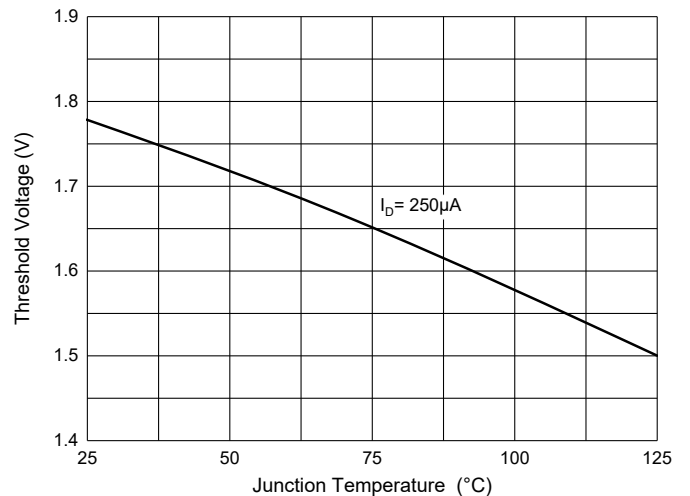


Fig. 6 - Threshold Voltage



Curve Characteristics
P-Channel

Fig. 7 - Typical Output Characteristics

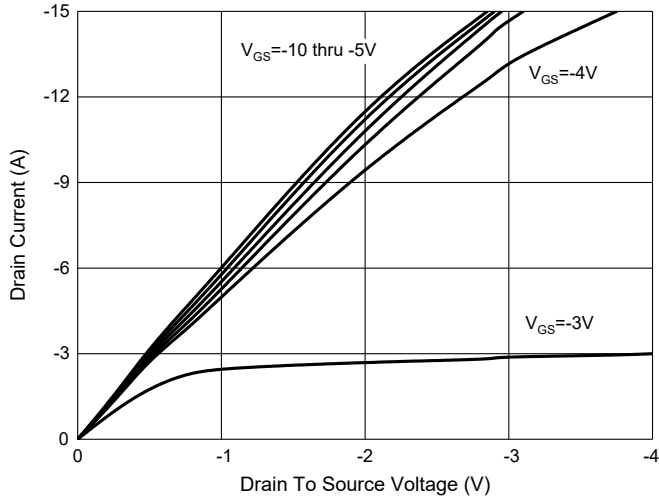


Fig. 8 - Transfer Characteristics

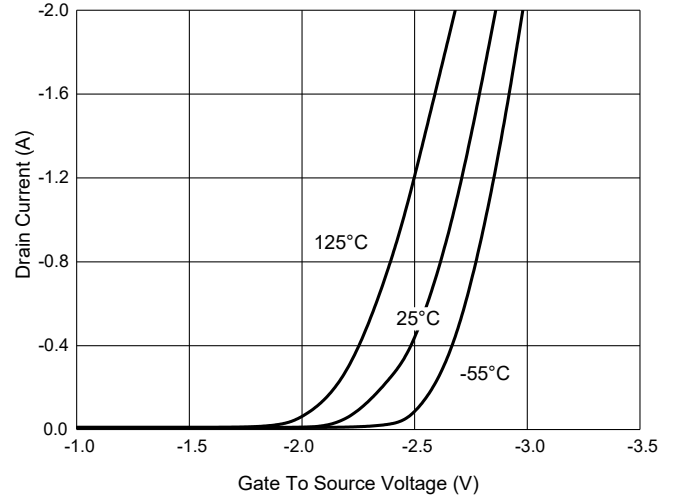


Fig. 9 - $R_{DS(ON)} - I_D$

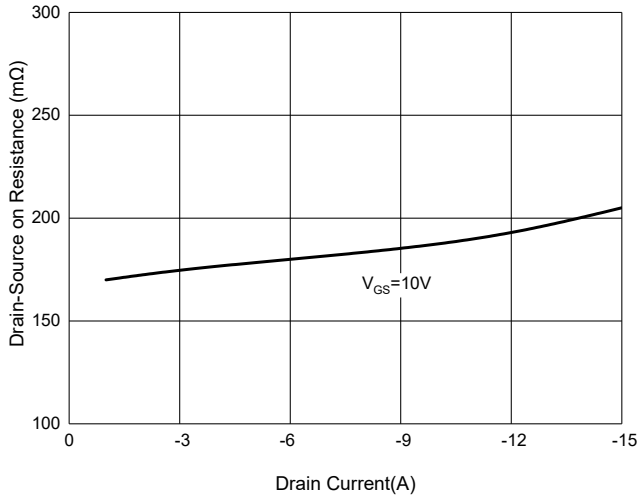


Fig. 10 - Normalized On Resistance Characteristics

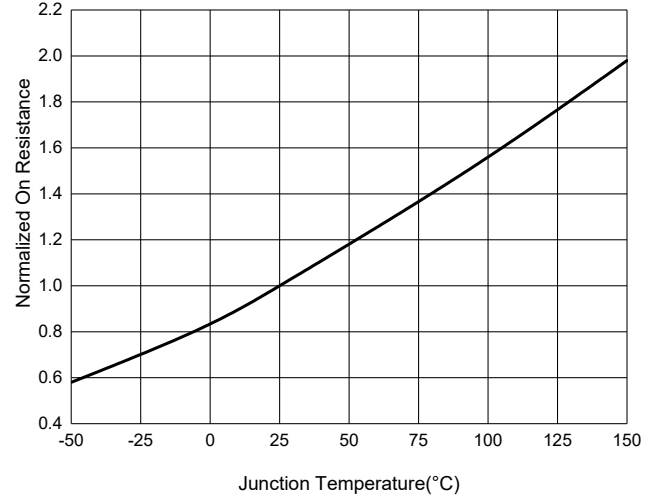


Fig. 11 - Gate Charge

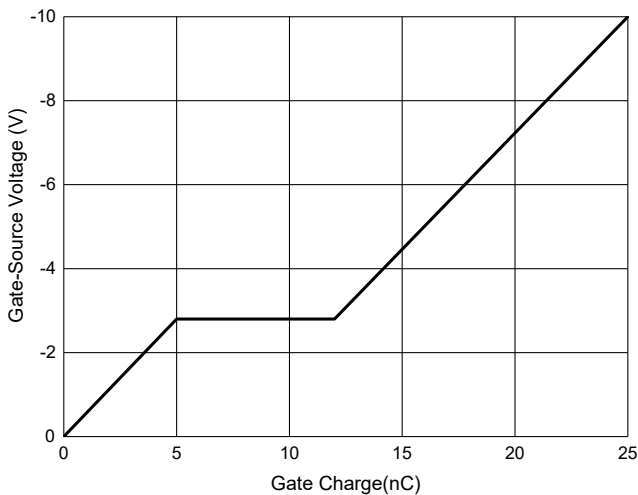
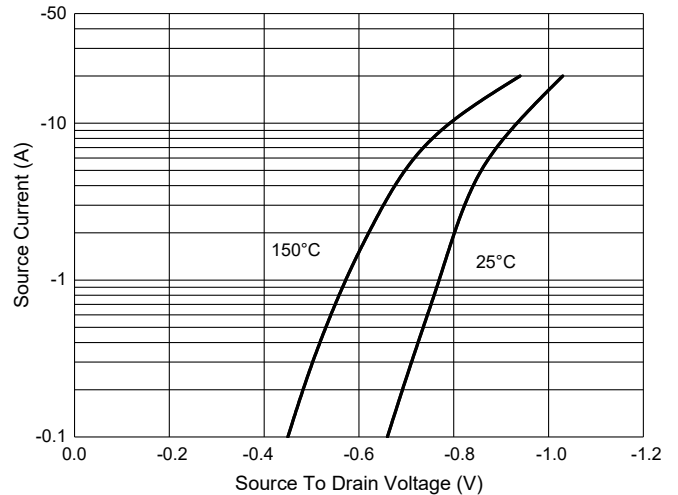


Fig. 12 - $I_S - V_{SD}$



Ordering Information

Device	Packing
Part Number-TP	Tape&Reel: 4Kpcs/Reel

Note : Adding "-HF" Suffix for Halogen Free, eg. Part Number-TP-HF

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