Features

- Trench LV MOSFET Technology
- Exceptional ON Resistance and Maximum DC Current Capability
- Moisture Sensitivity Level 1
- Halogen Free. “Green” Device(Note1)
- Epoxy Meets UL 94 V-0 Flammability Rating
- Lead Free Finish/RoHS Compliant ("P" Suffix Designates RoHS Compliant. See Ordering Information)

Dual N&P-Channel MOSFET

Maximum Ratings

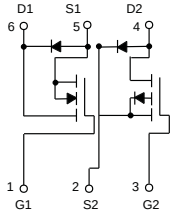
- Operating Junction Temperature Range : -55°C to +150°C
- Storage Temperature Range: -55°C to +150°C
- Thermal Resistance: 120°C/W Junction to Ambient(Note 2)

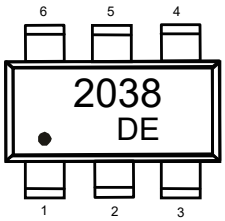
Parameter		Symbol	Rating	Unit
Total Power Dissipation(Note 4)		P_D	1.05	W
N-Channel MOSFET				
Drain-Source Voltage		V_{DS}	20	V
Gate-Source Volltage		V_{GS}	±10	V
Continuous Drain Current	T_A=25°C	I_D	5	A
	T_A=100°C		3.1	
Pulsed Drain Current (Note 3)		I_{DM}	20	A
P-Channel MOSFET				
Drain-Source Voltage		V_{DS}	-20	V
Gate-Source Volltage		V_{GS}	±12	V
Continuous Drain Current	T_A=25°C	I_D	-4	A
	T_A=100°C		-2.5	
Pulsed Drain Current (Note 3)		I_{DM}	-16	A

Note:

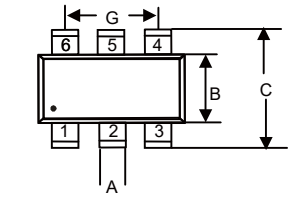
1. Halogen free "Green” products are defined as those which contain <900ppm bromine, <900ppm chlorine (<1500ppm total Br + Cl) and <1000ppm antimony compounds.
2. The value of $R_{\theta JA}$ is measured with the device mounted on 1in^2 FR-4 board with 2oz. Copper, in a still air environment with T_A =25°C.
3. Repetitive rating; pulse width limited by max. junction temperature.
4. P_D is based on max. junction temperature, using junction-ambient thermal resistance.

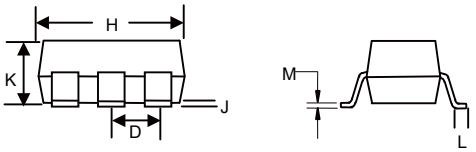
Internal Structure and Marking Code





SOT23-6L





DIMENSIONS					
DIM	INCHES		MM		NOTE
	MIN	MAX	MIN	MAX	
A	0.012	0.020	0.30	0.50	
B	0.051	0.070	1.30	1.80	
C	0.087	0.126	2.20	3.20	
D	0.037		0.95		TYP.
G	0.074		1.90		TYP.
H	0.106	0.122	2.70	3.10	
J	0.002	0.006	0.05	0.15	
K	0.030	0.051	0.75	1.30	
L	0.012	0.024	0.30	0.60	
M	0.003	0.008	0.08	0.22	

N-Channel ELECTRICAL CHARACTERISTICS (Ta=25℃ unless otherwise specified)

Parameter	Symbol	Test conditions	Min	Typ	Max	Unit
Static Characteristics						
Drain-Source Breakdown Voltage	$V_{(BR)DSS}$	V_{GS}=0V, I_D=250μA	20			V
Gate-Threshold Voltage	$V_{GS(th)}$	V_{DS}=V_{GS}, I_D=250μA	0.5	0.7	1	V
Gate-Body Leakage Current	I_{GSS}	V_{GS}=±12V, V_{DS}=0V			±100	nA
Zero Gate Voltage Drain Current	I_{DSS}	V_{DS}=20V, V_{GS}=0V			1	μA
Drain-Source On-Resistance	$R_{DS(on)}$	V_{GS}=4.5V, I_D=4.5A		18	25	mΩ
		V_{GS}=2.5V, I_D=3A		23	32	
		V_{GS}=1.8V, I_D=2A		30	49	
Forward Transconductance	g_{FS}	V_{DS}=5V, I_D=4A		21		S
Gate Resistance	R_g	f=1 MHz, Open drain		2.3		Ω
Diode Characteristics						
Continuous Body Diode Current	I_S				5	A
Diode Forward Voltage	V_{SD}	V_{GS}=0V, I_S=1.7A			1.3	V
Reverse Recovery Time	t_{rr}	I_F=4A, dI_F/dt=100A/μs		12		ns
Reverse Recovery Charge	Q_{rr}			3.6		nC
Dynamic Characteristics						
Input Capacitance	C_{iss}	V_{DS}=10V,V_{GS}=0V,f=1MHz		386		pF
Output Capacitance	C_{oss}			71		
Reverse Transfer Capacitance	C_{rss}			62		
Total Gate Charge	Q_g	V_{DS}=10V,V_{GS}=4.5V,I_D=4A		5.4		nC
Gate-Source Charge	Q_{gs}			0.6		
Gate-Drain Charge	Q_{gd}			1.5		
Turn-On Delay Time	$t_{d(on)}$	V_{DD}=10V,V_{GS}=4.5V, R_G=3Ω, I_D=4A		5		ns
Turn-On Rise Time	t_r			7		
Turn-Off Delay Time	$t_{d(off)}$			16		
Turn-Off Fall Time	t_f			5		

P-Channel ELECTRICAL CHARACTERISTICS (Ta=25℃ unless otherwise specified)

Parameter	Symbol	Test conditions	Min	Typ	Max	Unit
Static Characteristics						
Drain-Source Breakdown Voltage	$V_{(BR)DSS}$	V_{GS}=0V, I_D=-250μA	-20			V
Gate-Threshold Voltage	$V_{GS(th)}$	V_{DS}=V_{GS}, I_D=-250μA	-0.5	-0.7	-1	V
Gate-Body Leakage Current	I_{GSS}	V_{GS}=±12V, V_{DS}=0V			±100	nA
Zero Gate Voltage Drain Current	I_{DSS}	V_{DS}=-16V, V_{GS}=0V			-1	μA
Drain-Source On-Resistance	$R_{DS(on)}$	V_{GS}=-4.5V, I_D=-3.5A		49	64	mΩ
		V_{GS}=-2.5V, I_D=-3A		64	80	
		V_{GS}=-1.8V, I_D=-2A		90	110	
Forward Transconductance	g_{FS}	V_{DS}=-5V, I_D=-2.3A		10		S
Gate Resistance	R_g	f=1 MHz, Open drain		14		Ω
Diode Characteristics						
Continuous Body Diode Current	I_S				-4	A
Diode Forward Voltage	V_{SD}	V_{GS}=0V, I_S=-1.25A			-1.3	V
Reverse Recovery Time	t_{rr}	I_F=-1.4A, dI_F/dt=100A/μs		16		ns
Reverse Recovery Charge	Q_{rr}			4.7		nC
Dynamic Characteristics						
Input Capacitance	C_{iss}	V_{DS}=-10V,V_{GS}=0V,f=1MHz		490		pF
Output Capacitance	C_{oss}			69		
Reverse Transfer Capacitance	C_{rss}			58		
Total Gate Charge	Q_g	V_{DS}=-10V,V_{GS}=-4.5V,I_D=-2.3A		5.8		nC
Gate-Source Charge	Q_{gs}			1.4		
Gate-Drain Charge	Q_{gd}			1.2		
Turn-On Delay Time	$t_{d(on)}$	V_{DD}=-10V,V_{GS}=-4.5V, R_G=6Ω, I_D=-1.4A		8		ns
Turn-On Rise Time	t_r			9		
Turn-Off Delay Time	$t_{d(off)}$			26		
Turn-Off Fall Time	t_f			26		

Curve Characteristics(N-Channel)

Fig.1 - Typical Output Characteristics

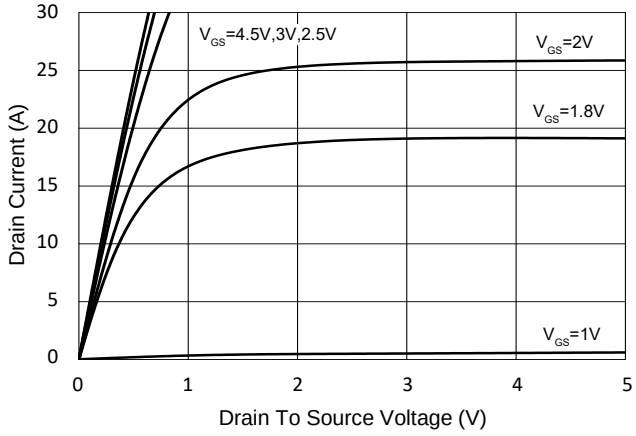


Fig.2 - Transfer Characteristic

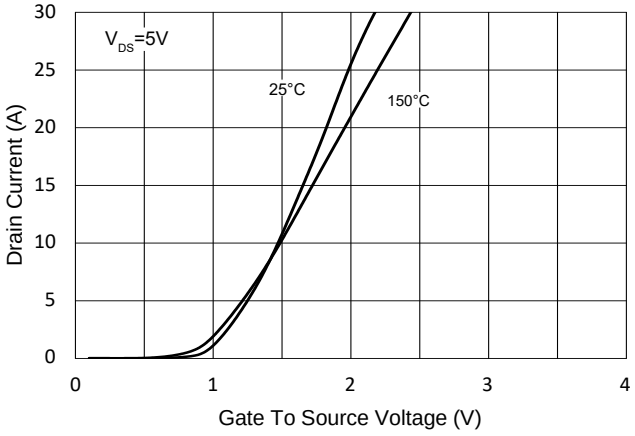


Fig.3 - $R_{DS(ON)}$ - V_{GS}

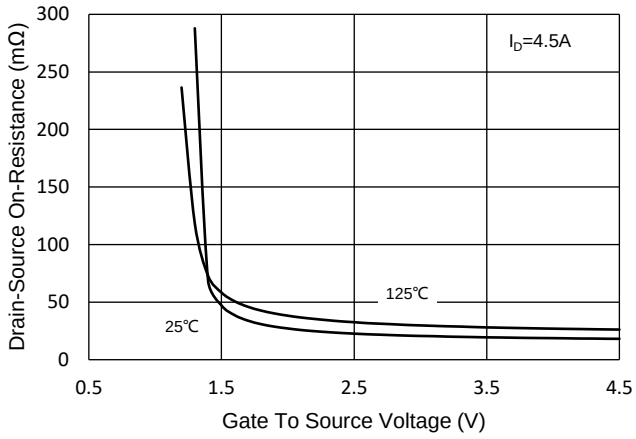


Fig.4 - $R_{DS(ON)}$ - I_D

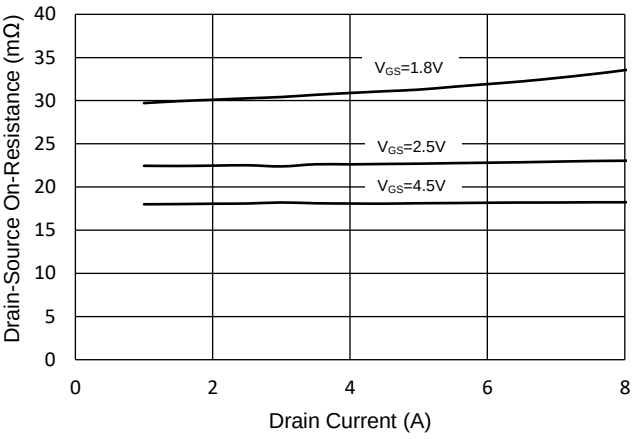


Fig.5 - Capacitance Characteristics

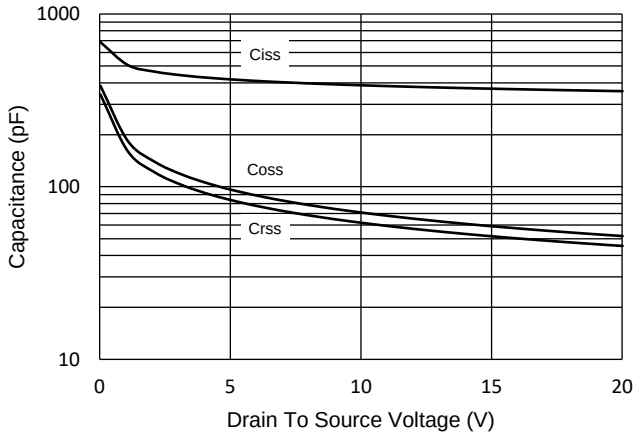
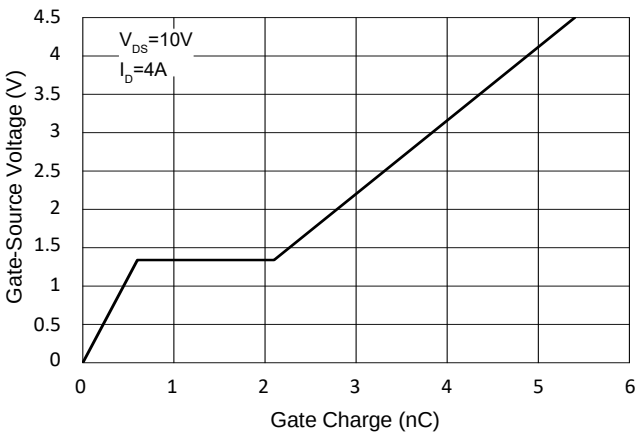


Fig.6 - Gate Charge



Curve Characteristics(N-Channel)

Fig.7 - Normalized Threshold Voltage

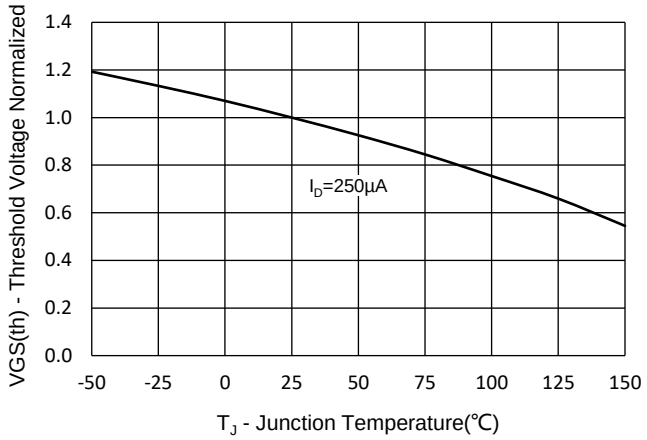


Fig.8 - Normalized On Resistance Characteristics

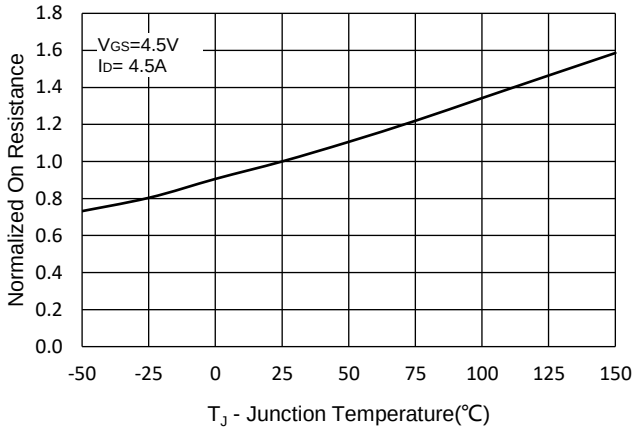


Fig.9 - I_S - V_{SD}

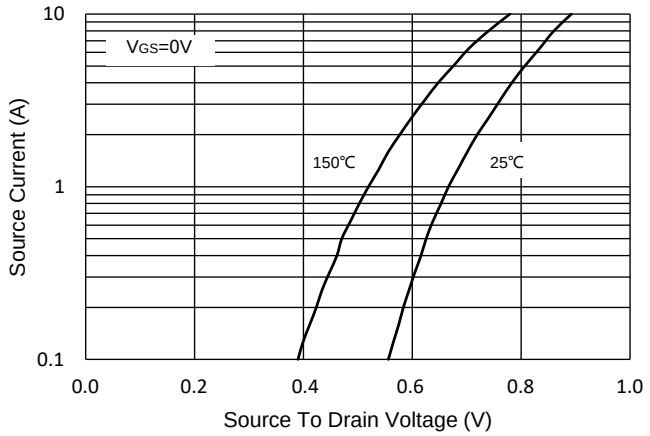


Fig.10 - Drain Current

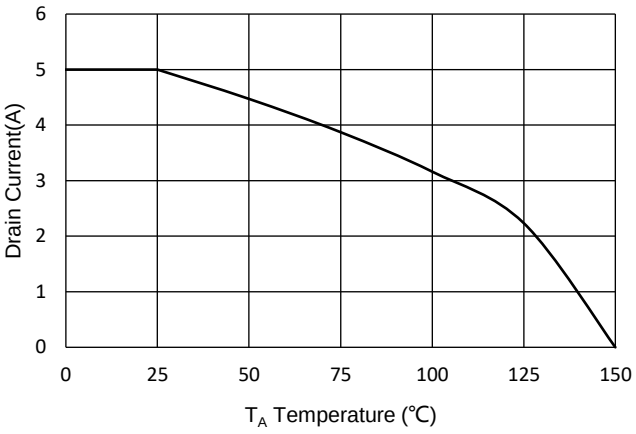
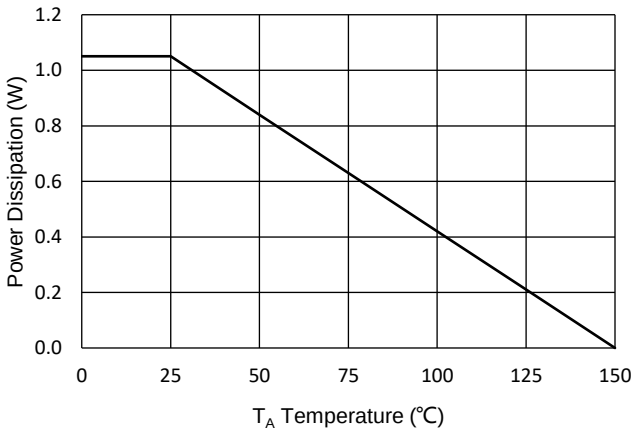


Fig.11 - PD Dissipation



Curve Characteristics(N-Channel)

Fig.12 - Safe Operation Area

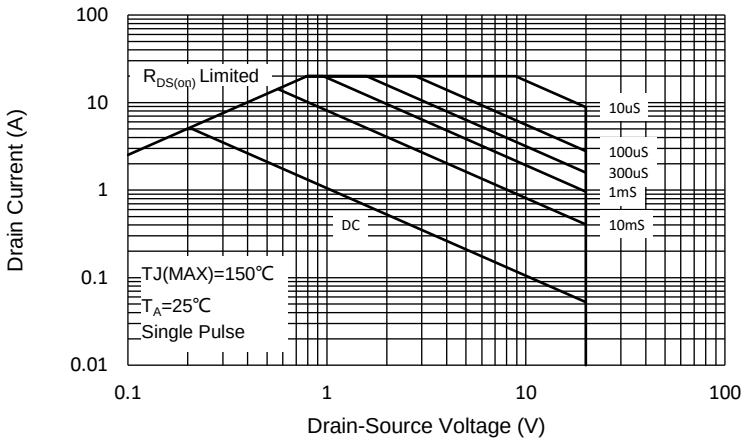
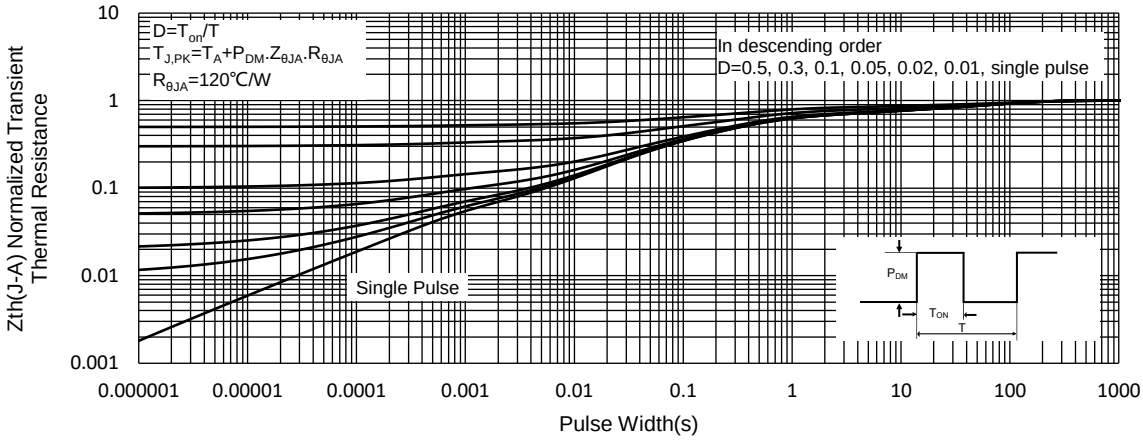


Fig.13 - Normalized Transient Thermal Impedance



Curve Characteristics(P-Channel)

Fig.1 - Typical Output Characteristics

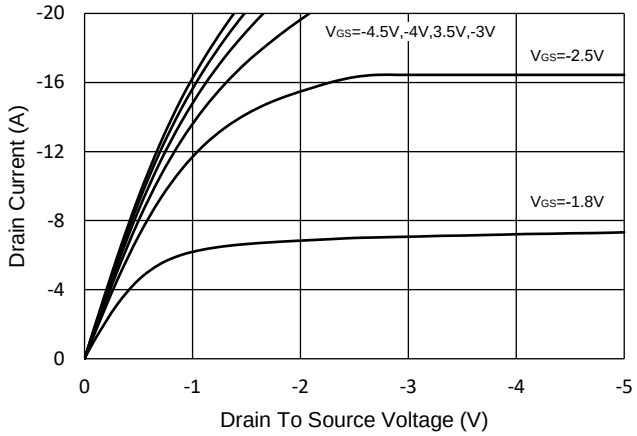


Fig.2 - Transfer Characteristic

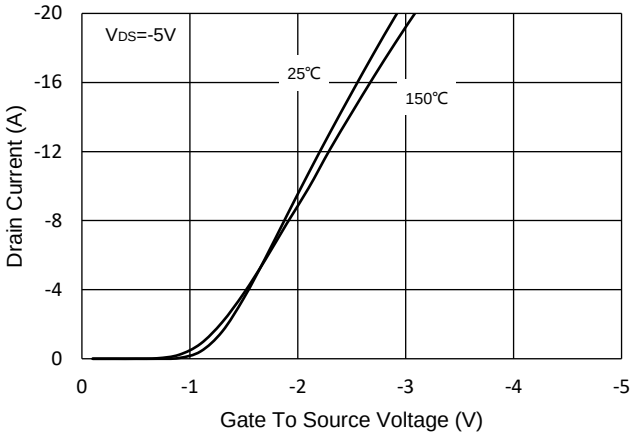


Fig.3 - $R_{DS(ON)}$ - V_{GS}

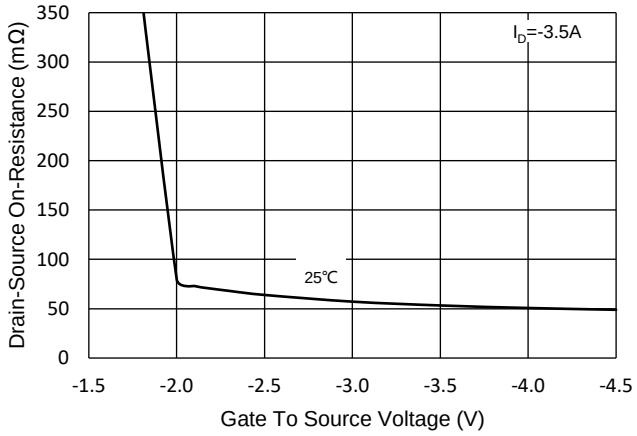


Fig.4 - $R_{DS(ON)}$ - I_D

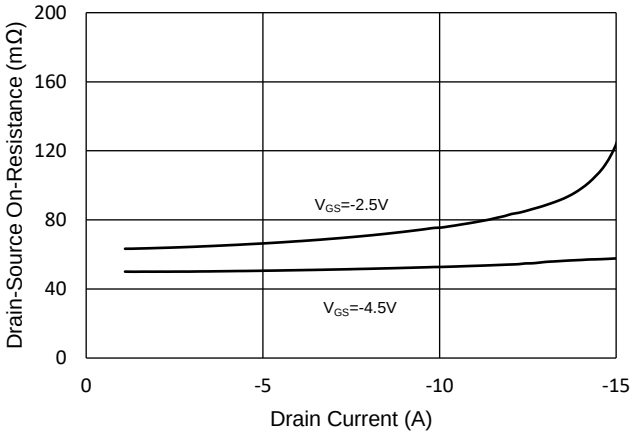


Fig.5 - Capacitance Characteristics

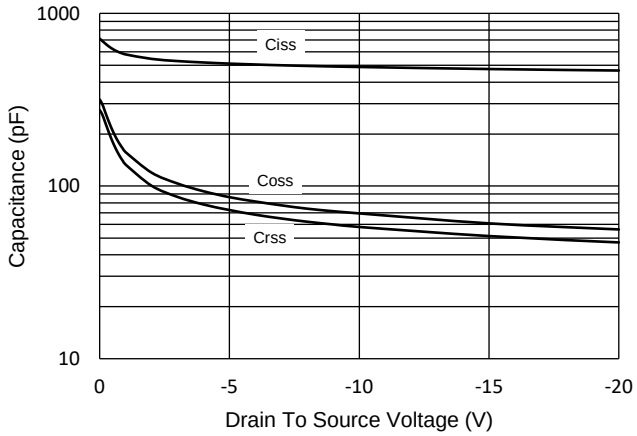
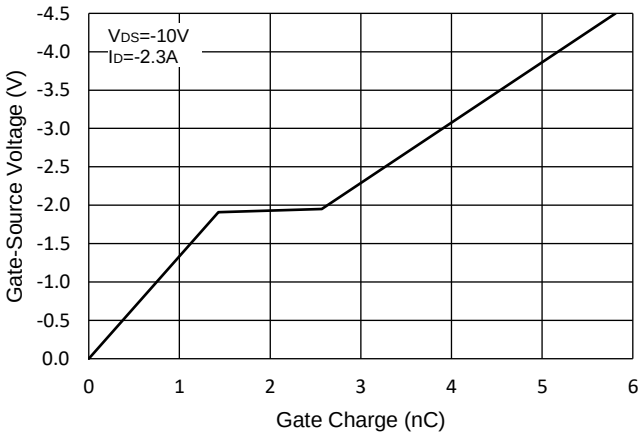


Fig.6 - Gate Charge



Curve Characteristics(P-Channel)

Fig.7 - Normalized Threshold Voltage

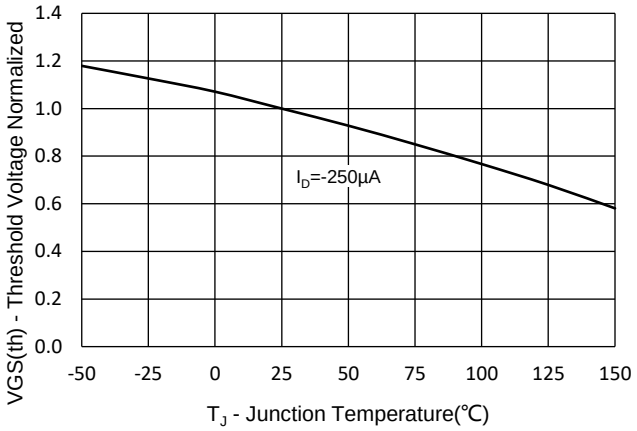


Fig.8 - Normalized On Resistance Characteristics

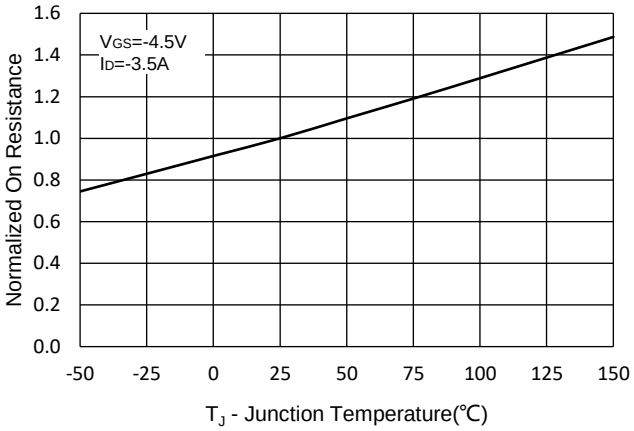


Fig.9 - I_S - V_{SD}

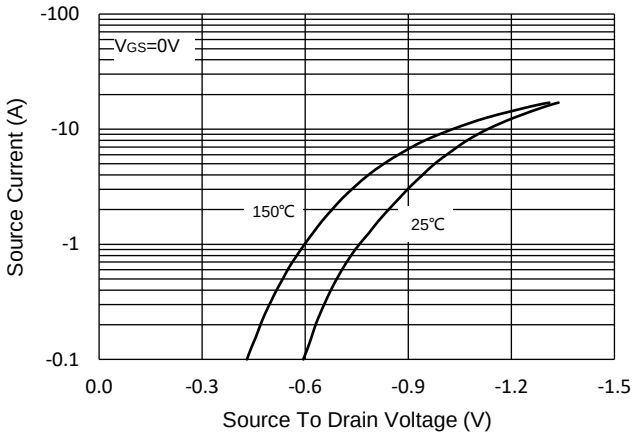


Fig.10 - Drain Current

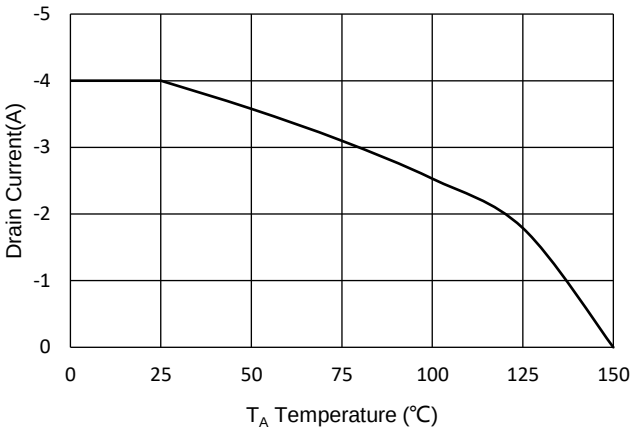
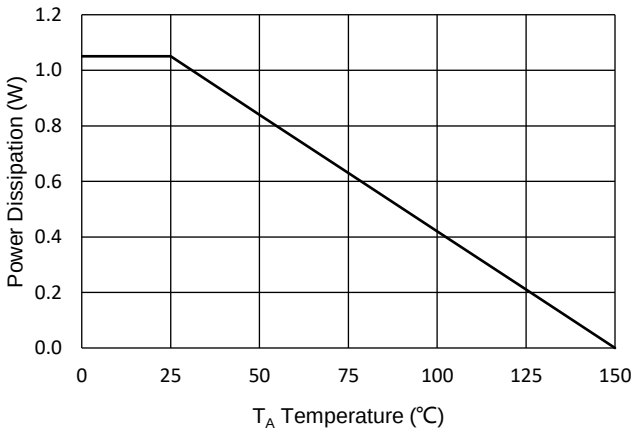


Fig.11 - PD Dissipation



Curve Characteristics(P-Channel)

Fig.12 - Safe Operation Area

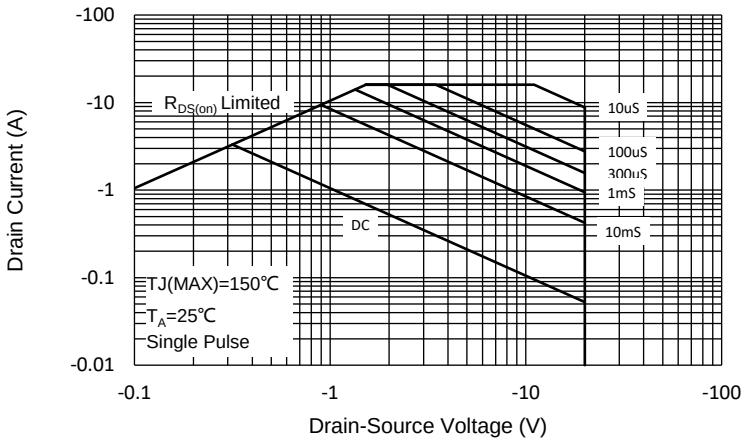
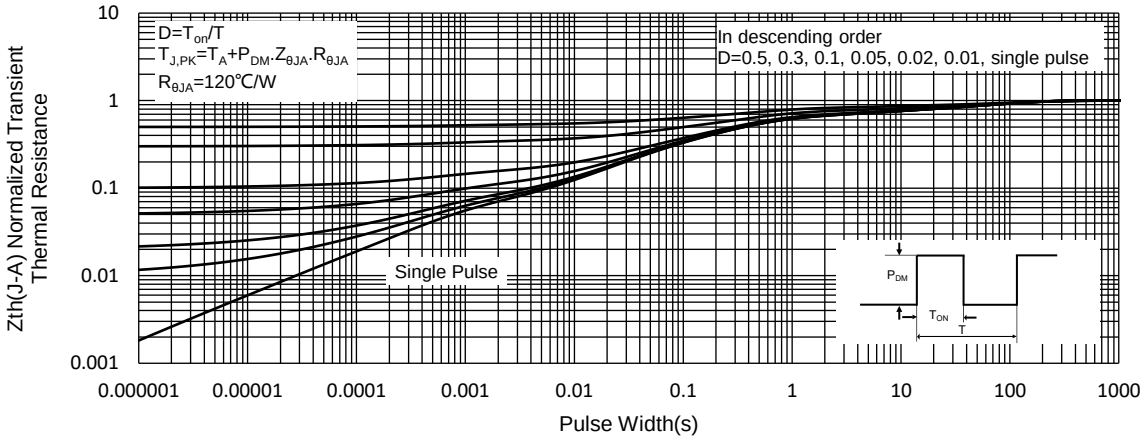


Fig.13 - Normalized Transient Thermal Impedance



Ordering Information

Device	Packing
Part Number-TP	Tape&Reel: 3Kpcs/Reel

单击下面可查看定价，库存，交付和生命周期等信息

>>MCC(美微科)