



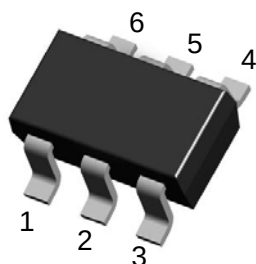
Dual N-Channel Enhancement-Mode MOSFET(20V, 6A)

PRODUCT SUMMARY

V_{DS}	I_D	$R_{DS(on)}$ (m-ohm) Max
20V	6A	14 @ $V_{GS} = 4.5V, I_D=4.5A$
		18 @ $V_{GS} = 2.5V, I_D=3.5A$

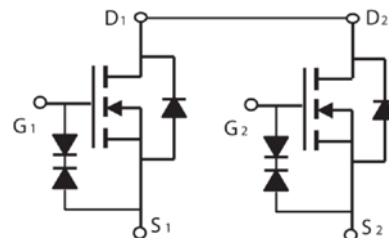
◆ Features

1. High density cell design for ultra low On-Resistance.
2. Advanced trench process technology.
3. RoHS Compliant.
4. ESD Protected



SOT-23-6L

Pin 1: Source1
Pin 2/5: Drain1/ Drain2
Pin 3: Source2
Pin 4: Gate2
Pin 6: Gate1

◆ Absolute Maximum Ratings ($T_A=25^{\circ}C$, unless otherwise noted)

Symbol	Parameter	Ratings	Units
V_{DS}	Drain-Source Voltage	20	V
V_{GS}	Gate-Source Voltage	± 12	V
I_D	Drain Current (Continuous) ^a	6	A
I_{DM}	Drain Current (Pulsed) ^b	25	A
P_D	Total Power Dissipation @ $T_A=25^{\circ}C$	1.5	W
T_j, T_{stg}	Operating Junction and Storage Temperature Range	-55 to +150	$^{\circ}C$
$R_{\theta JA}$	Thermal Resistance Junction to Ambient (PCB mounted) ^c	100	$^{\circ}C/W$

a: Fused current that based on wire numbers and diameter

b: Repetitive Rating: Pulse width limited by the maximum junction temperature

c: 1-in² 2oz Cu PCB board

◆ **Electrical Characteristics** ($T_A=25^{\circ}\text{C}$, unless otherwise noted)

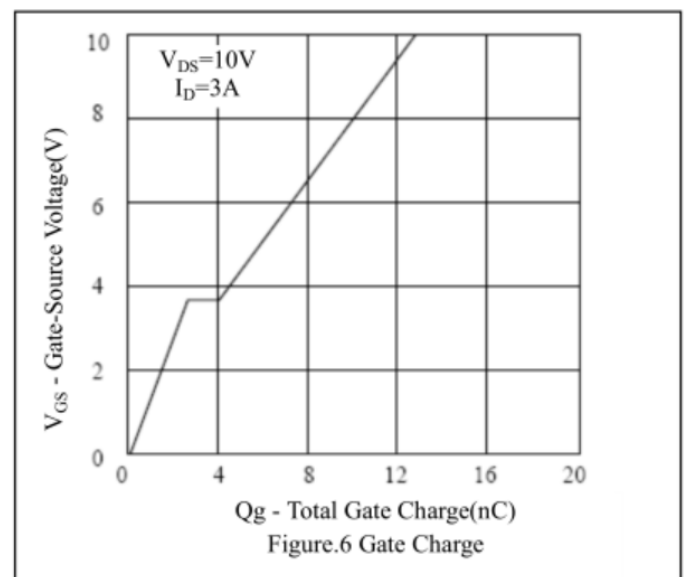
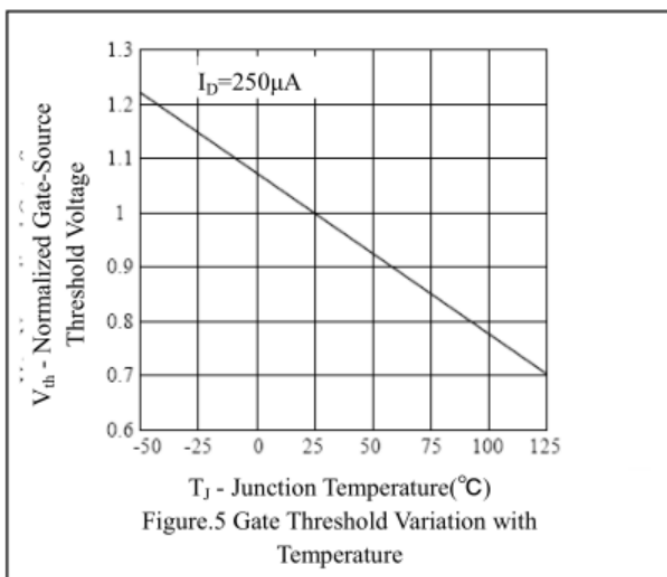
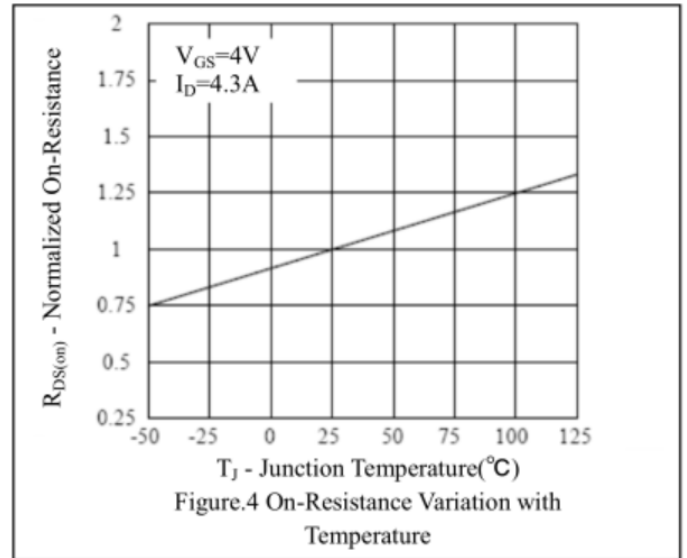
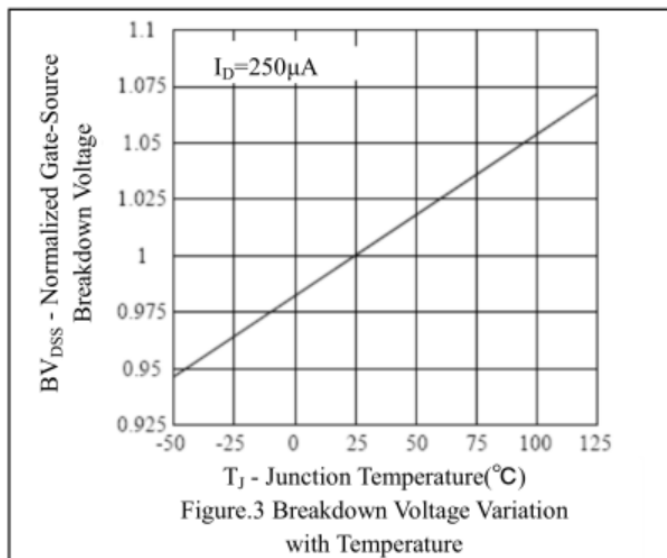
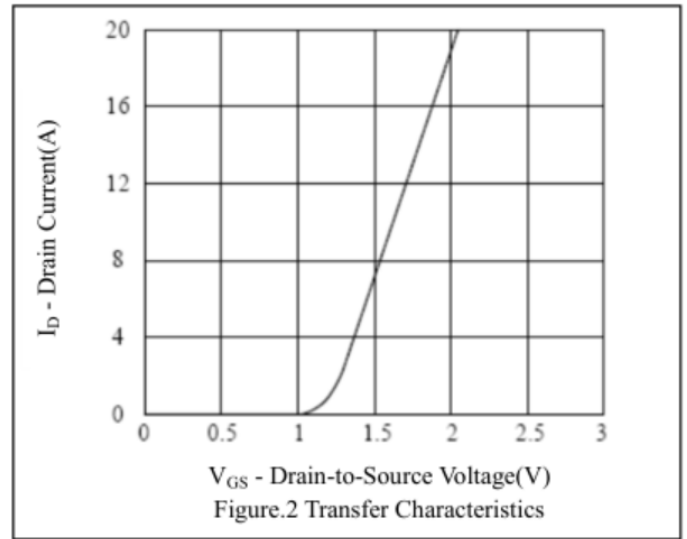
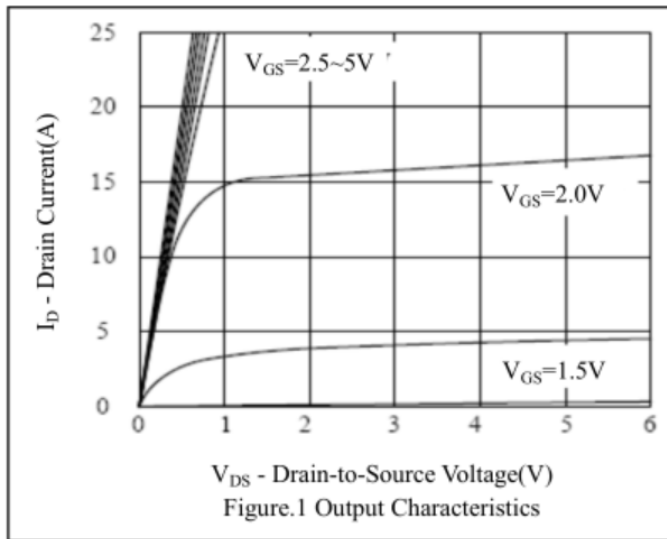
Symbol	Parameter	Conditions	Min.	Typ.	Max.	Unit
• Off Characteristics						
B _{DSS}	Drain-Source Breakdown Voltage	V _{GS} =0V, I _D =250uA	20	-	-	V
I _{DSS}	Zero Gate Voltage Drain Current	V _{DS} =15V, V _{GS} =0V	-	-	1	uA
I _{GSS}	Gate-Body Leakage Current	V _{GS} =±10V, V _{DS} =0V	-	-	±10	uA
• On Characteristics						
V _{GS(th)}	Gate Threshold Voltage	V _{DS} =V _{GS} , I _D =250uA	0.5	-	1.1	V
R _{DS(on)}	Drain-Source On-State Resistance	V _{GS} =4.5V, I _D =4.5A	-	10.5	14	mΩ
		V _{GS} =2.5V, I _D =3.5A	-	14	18	
• Dynamic Characteristics ^d						
C _{iss}	Input Capacitance	V _{DS} =10V, V _{GS} =0V, f=1MHz	-	950	-	pF
C _{oss}	Output Capacitance		-	450	-	
C _{rss}	Reverse Transfer Capacitance		-	135	-	
• Switching Characteristics ^d						
Q _g	Total Gate Charge	V _{DS} =10V, I _D =3A, V _{GS} =4.5V	-	9.2	-	nC
Q _{gs}	Gate-Source Charge		-	2.7	-	
Q _{gd}	Gate-Drain Charge		-	3.7	-	
t _{d(on)}	Turn-on Delay Time	V _{DD} =10V, I _D =1A, V _{GEN} =4.5V, R _G =6Ω	-	10	-	nS
t _r	Turn-on Rise Time		-	14	-	
t _{d(off)}	Turn-off Delay Time		-	39	-	
t _f	Turn-off Fall Time		-	26	-	
• Drain-Source Diode Characteristics						
I _S	Maximum Diode Forward Current		-	-	1.7	A
V _{SD}	Drain-Source Diode Forward Voltage	V _{GS} =0V, I _S =1.7A	-	-	1.2	V

Note: Pulse Test: Pulse Width $\leq 300\mu s$, Duty Cycle $\leq 2\%$

d: Guaranteed by design: not subject to production testing



◆ Characteristics Curve





◆ Characteristics Curve

