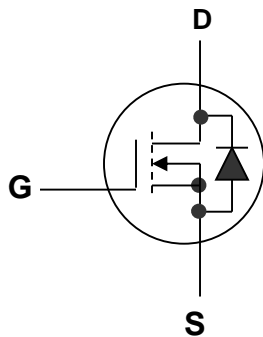
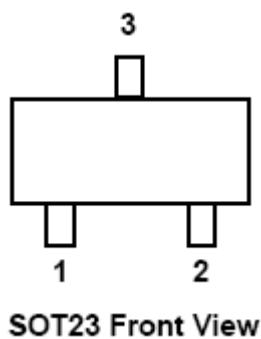


1. Features

- n $V_{DS}=20V, R_{DS(on)}=30m\Omega @ V_{GS}=10V, I_D=6.0A$
- n $V_{DS}=20V, R_{DS(on)}=40m\Omega @ V_{GS}=4.5V, I_D=3.0A$
- n $V_{DS}=20V, R_{DS(on)}=55m\Omega @ V_{GS}=2.5V, I_D=2.0A$

2. Symbol



Pin	Function
1	Gate
2	Source
3	Drain

3. Absolute maximum ratings

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

Parameter	Symbol	Rating	Units
Drain-source voltage	V_{DS}	20	V
Gate-source voltage	V_{GS}	± 10	V
Drain current continuous * $T_J=125^\circ\text{C}$	I_D	6.0	A
Drain current pulsed	I_{DM}	20	
Power dissipation*	P_D	1.25	W
Thermal resistance, junction-ambient	R_{thJA}	100	$^\circ\text{C/W}$
Junction and storage temperature range	T_J, T_{STG}	-55 to 150	$^\circ\text{C}$

*Surface mounted on FR 4 board, $t_{\leq 10}$ sec.

4. Electrical characteristics

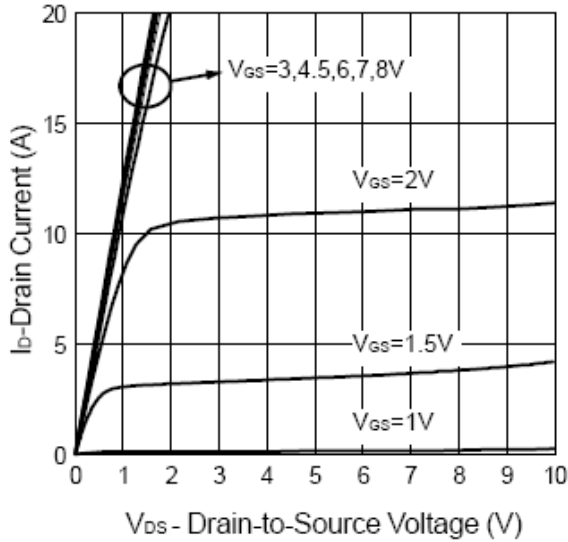
(T_A=25°C, unless otherwise noted)

Parameter	Symbol	Test Conditions	Min	Typ	Max	Units
Drain-source breakdown voltage	BV _{DSS}	V _{GS} =0V, I _D =250μA	20	-	-	V
Zero gate voltage drain current	I _{DSS}	V _{DS} =16V, V _{GS} =0V	-	-	1	μA
Gate- body leakage	I _{GSS}	V _{GS} =±10V, V _{DS} =0V	-	-	±100	nA
Gate threshold voltage*	V _{GS(th)}	V _{DS} =V _{GS} , I _D =250μA	0.5	0.78	1.0	V
On state drain current	I _{D(on)}	V _{DS} =5V, V _{GS} =4.5V	5	-	-	A
Static drain-source on-resistance*	R _{DS(on)}	V _{GS} =10V, I _D =6.0A	-	28	30	mΩ
		V _{GS} =2.5V, I _D =3.0A	-	38	40	
		V _{GS} =1.8V, I _D =2.0A	-	52	55	
Forward transconductance*	g _{fs}	V _{DS} =15V, I _D =5A	30	-	-	S
Input capacitance	C _{iss}	V _{DS} =15V, V _{GS} =0V, f=1MHz	-	888	-	pF
Output capacitance	C _{oss}		-	144	-	
Reverse transfer capacitance	C _{rss}		-	115	-	
Turn-on delay time	t _{d(on)}	V _{DD} =10V, I _D =1.0A, R _L =10Ω, R _G =6Ω, V _{GS} =4.5V	-	31.8	-	ns
Rise time	t _r		-	14.5	-	
Turn-off delay time	t _{d(off)}		-	50.3	-	
Fall time	t _f		-	31.9	-	
Total gate charge	Q _g	V _{DS} =10V, V _{GS} =4.5V I _D =3.5A	-	16.8	-	nC
Gate-source charge	Q _{gs}		-	2.5	-	
Gate-drain charge	Q _{gd}		-	5.4	-	
Diode forward voltage	V _{SD}	V _{GS} =0V, I _S =1.25A	-	0.825	1.3	V
Drain-source diode forward current*	I _S		-	-	1.25	A

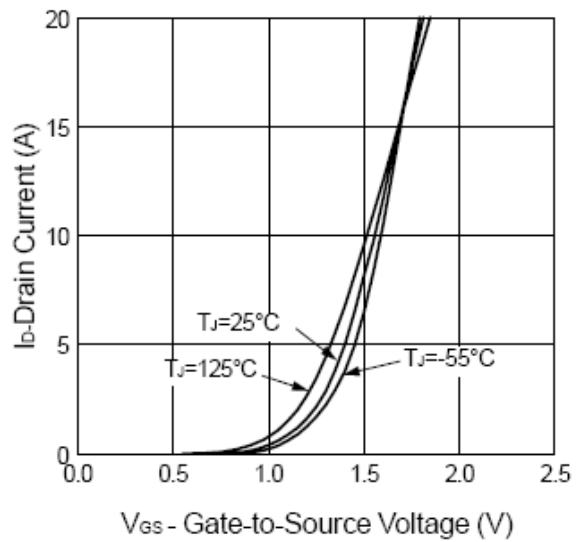
*Pulsed test:pulse width≤300μs,duty cycle≤2%

5. Test circuits and waveforms

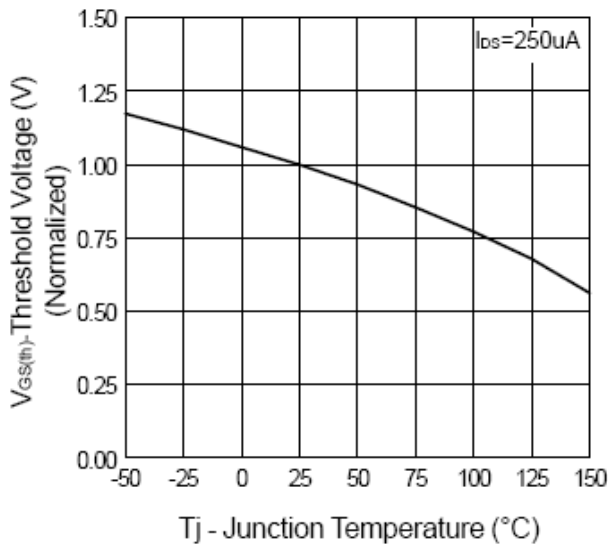
Output Characteristics



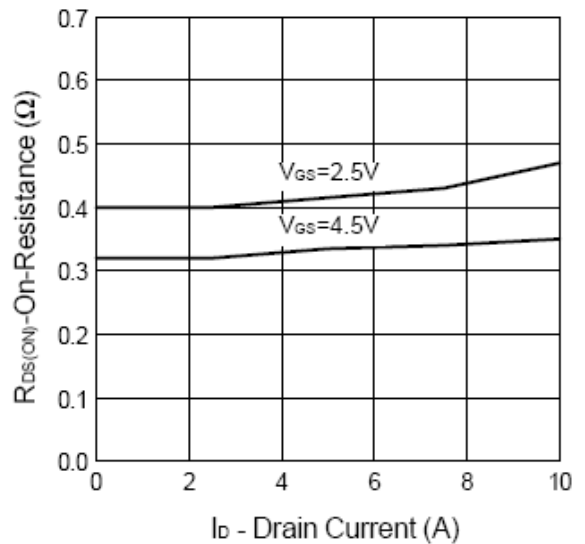
Transfer Characteristics



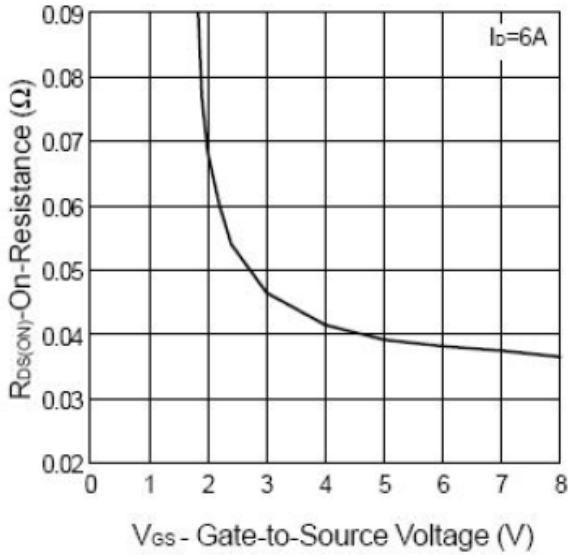
Threshold Voltage vs. Junction Temperature



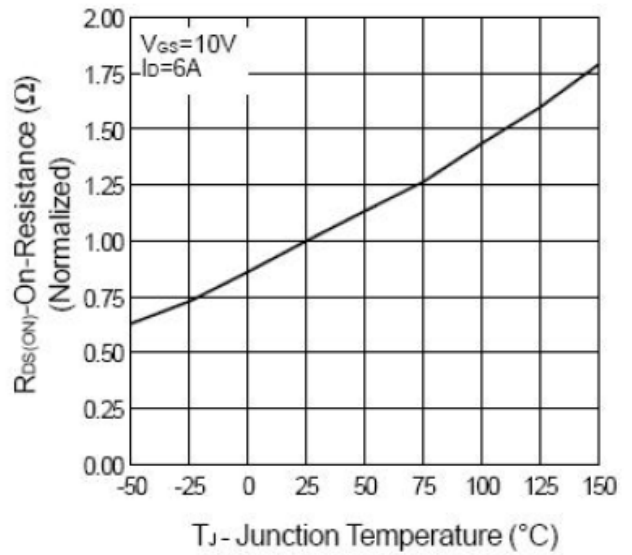
On-Resistance vs. Drain Current



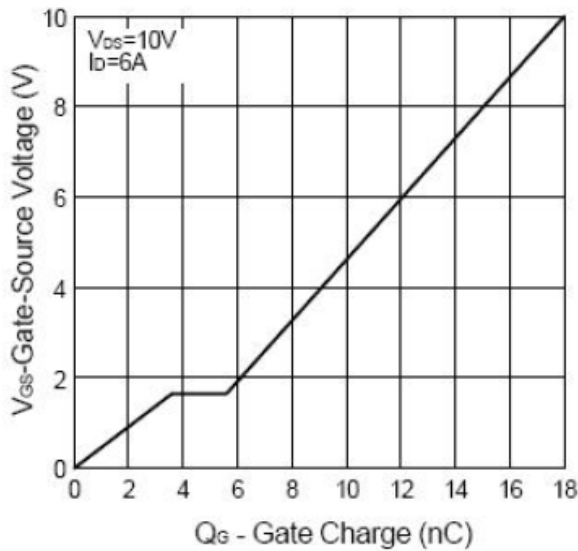
On-Resistance vs. Gate-to-Source Voltage



On-Resistance vs. Junction Temperature



Gate Charge



Capacitance

