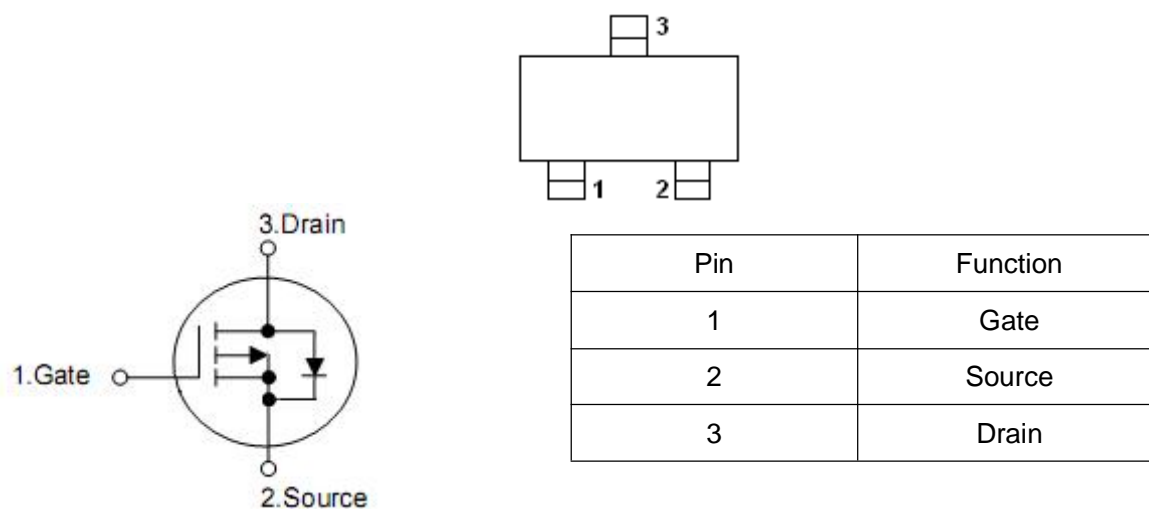


1. Features

- n $V_{DS}=-20V, R_{DS(on)}=0.055\Omega @ V_{GS}=-4.5V, I_D=-3.5A$
- n $V_{DS}=-20V, R_{DS(on)}=0.075\Omega @ V_{GS}=-2.5V, I_D=-3.0A$
- n $V_{DS}=-20V, R_{DS(on)}=0.095\Omega @ V_{GS}=-1.8V, I_D=-1.8A$

2. Symbol



3. Absolute maximum ratings

Parameter	Symbol	Rating	Units
Drain-source voltage	V_{DS}	-20	V
Gate-source voltage	V_{GS}	± 12	V
Drain current continuous ($T_J=150^\circ\text{C}$)	I_D	-3.5	A
Pulsed drain current	I_{DM}	± 12	
Continuous source current (diode conduction) ^{a,b}	I_S	-1.6	
Power dissipation ^{a,b}	P_D	1.25	W
Junction and storage temperature range	T_J, T_{STG}	-55 to 150	$^\circ\text{C}$

Parameter	Symbol	Typ	Max	Units
Maximum junction-ambient ^a ($t \leq 5$ sec)	R_{thJA}	-	100	$^\circ\text{C/W}$
Maximum junction-ambient ^a		130	-	

Notes

- a. Surface mounted on FR4 board.
- b. $t \leq 5$ sec.

4. Electrical characteristics

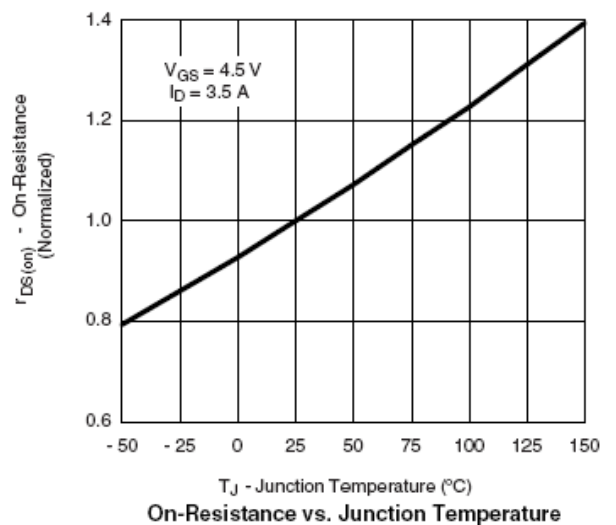
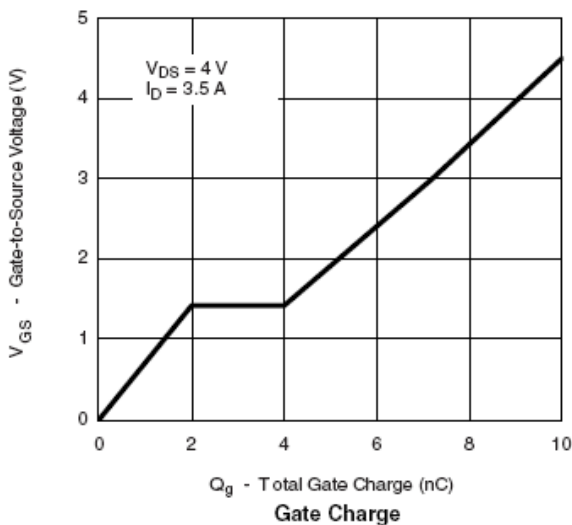
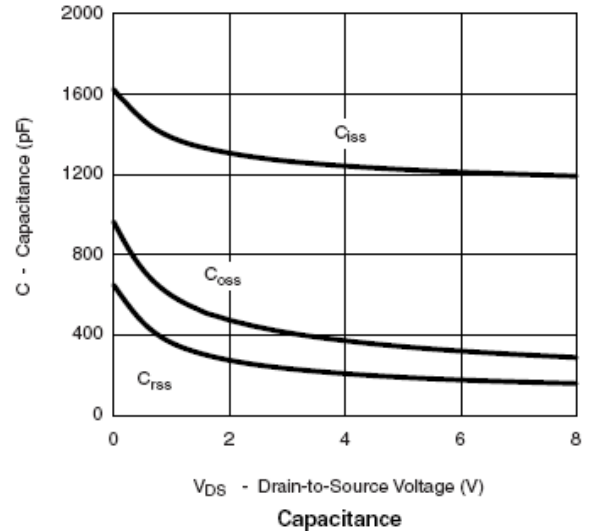
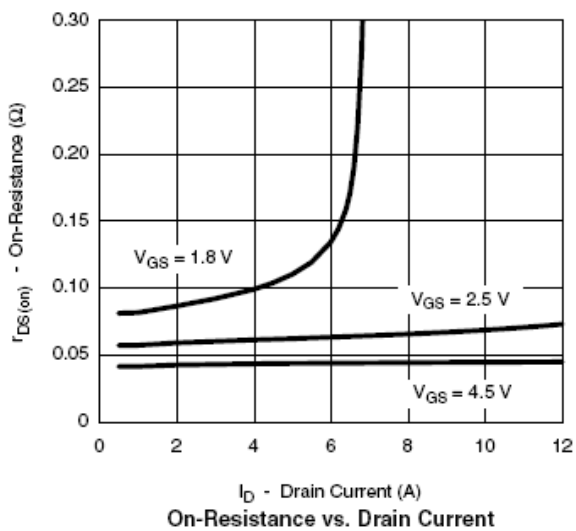
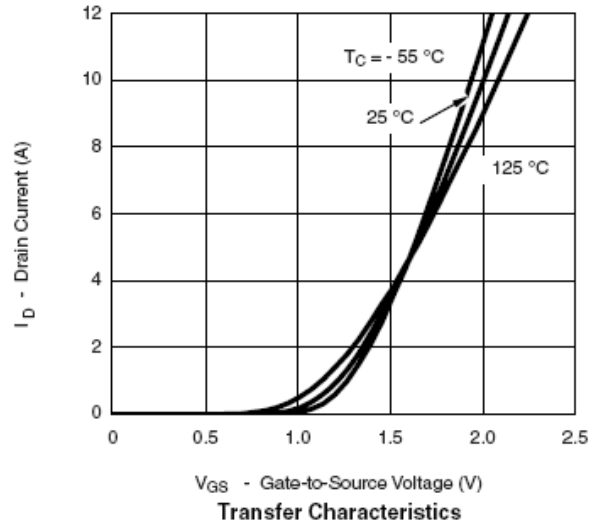
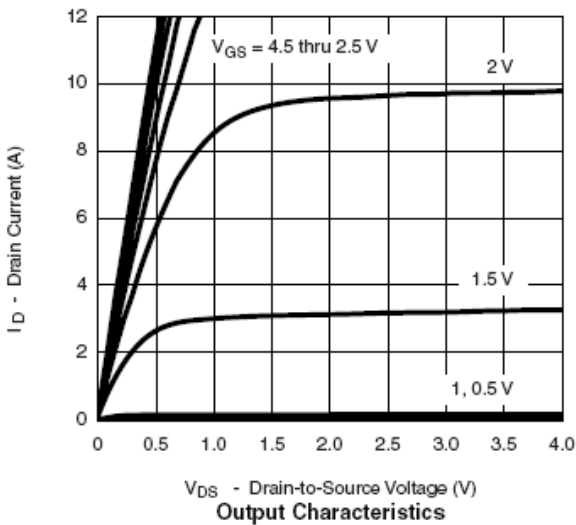
(T_J=25°C, unless otherwise noted)

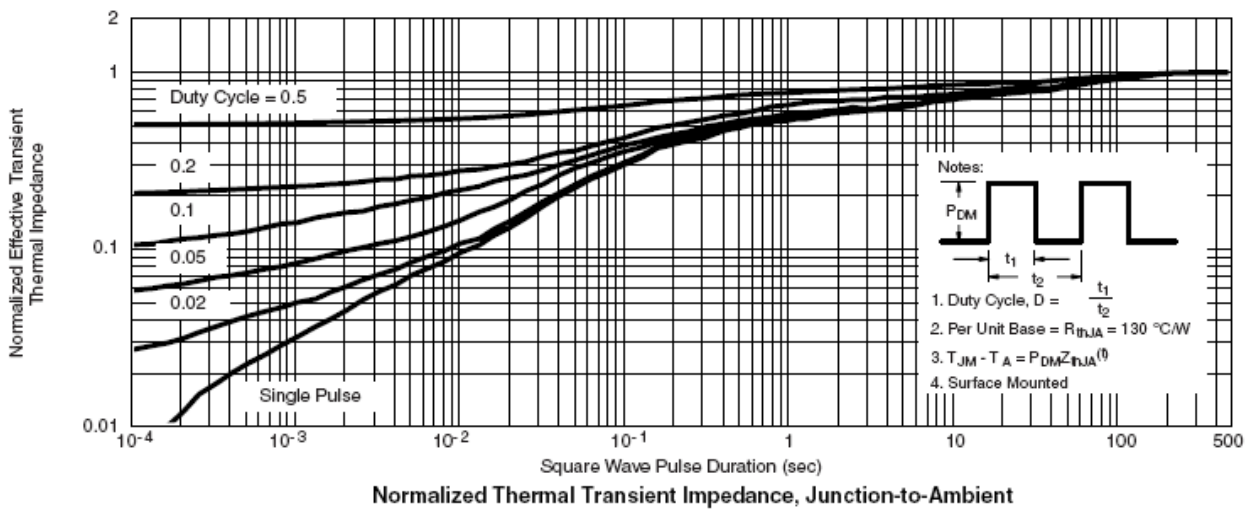
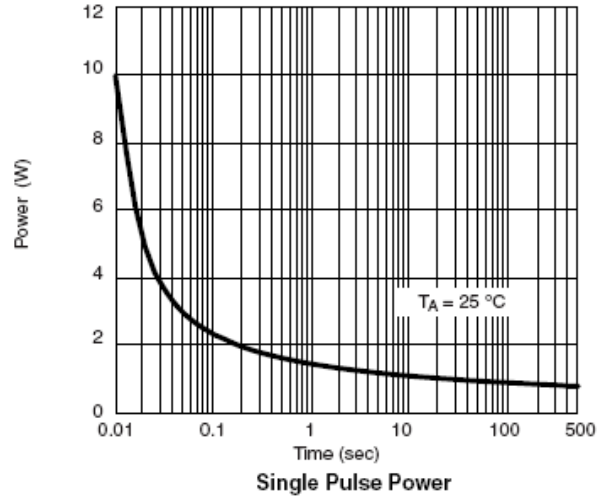
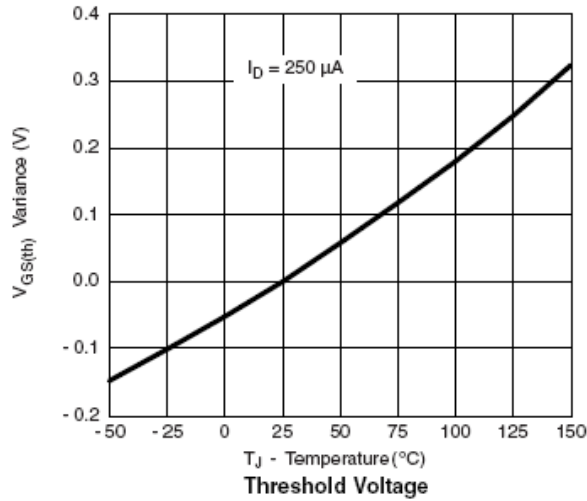
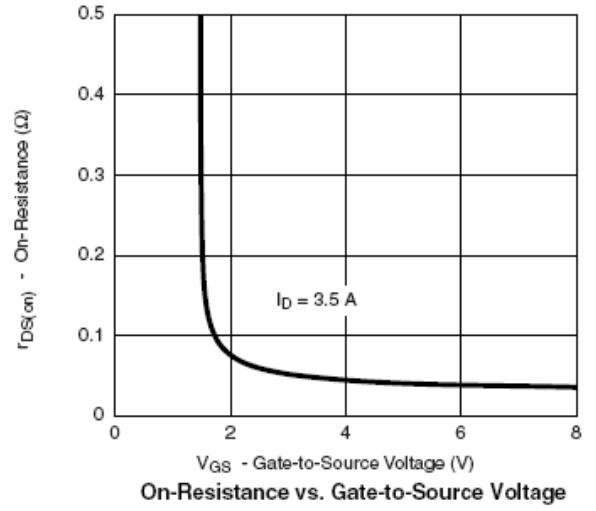
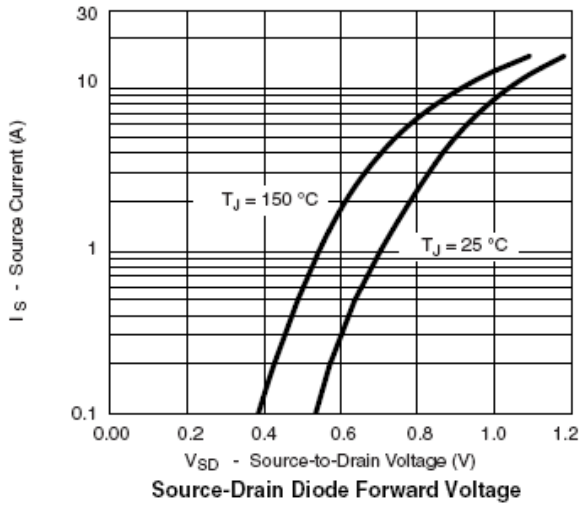
Parameter	Symbol	Test Conditions	Min	Typ	Max	Units
Drain-source breakdown voltage	V _{(BR)DSS}	V _{GS} =0V, I _D =-10μA	-20	-	-	V
Gate threshold voltage*	V _{GS(th)}	V _{DS} =V _{GS} , I _D =-250μA	-0.45	-	-1.0	V
Gate- body leakage	I _{GSS}	V _{GS} =±12V, V _{DS} =0V	-	-	±100	nA
Zero gate voltage drain current	I _{DSS}	V _{DS} =-16V, V _{GS} =0V	-	-	-50	nA
On-state drain current ^a	I _{D(on)}	V _{DS} ≤-5V, V _{GS} =-4.5V	-6	-	-	A
		V _{DS} ≤-5V, V _{GS} =-2.5V	-3	-	-	
Static drain-source on-resistance ^a	R _{DS(on)}	V _{GS} =-4.5V, I _D =-3.5A	-	0.045	0.055	Ω
		V _{GS} =-2.5V, I _D =-3.0A	-	0.06	0.075	
		V _{GS} =-1.8V, I _D =-2.0A	-	0.09	0.095	
Forward transconductance ^a	g _{fs}	V _{DS} =-5V, I _D =-3.5A	-	8.5	-	S
Diode forward voltage	V _{SD}	V _{GS} =0V, I _S =-1.6A	-	-	-1.28	V
Total gate charge	Q _g	V _{DS} =-4.0V, V _{GS} =-4.5V I _D =-3.5A	-	10	15	nC
Gate-source charge	Q _{gs}		-	2	-	
Gate-drain charge	Q _{gd}		-	2	-	
Input capacitance	C _{iss}	V _{DS} =-4V, V _{GS} =0V, f=1MHz	-	1245	-	pF
Output capacitance	C _{oss}		-	375	-	
Reverse transfer capacitance	C _{rss}		-	210	-	
Turn-on delay time	t _{d(on)}	V _{DD} =-4V, I _D =-1.0A, R _L =4Ω, R _G =6Ω, V _{GEN} =-4.5V	-	13	20	ns
Rise time	t _r		-	25	40	
Turn-off delay time	t _{d(off)}		-	55	80	
Fall time	t _f		-	19	35	

Notes

a. For DESIGN AID ONLY, not subject to production testing.

5. Test circuits and waveforms





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