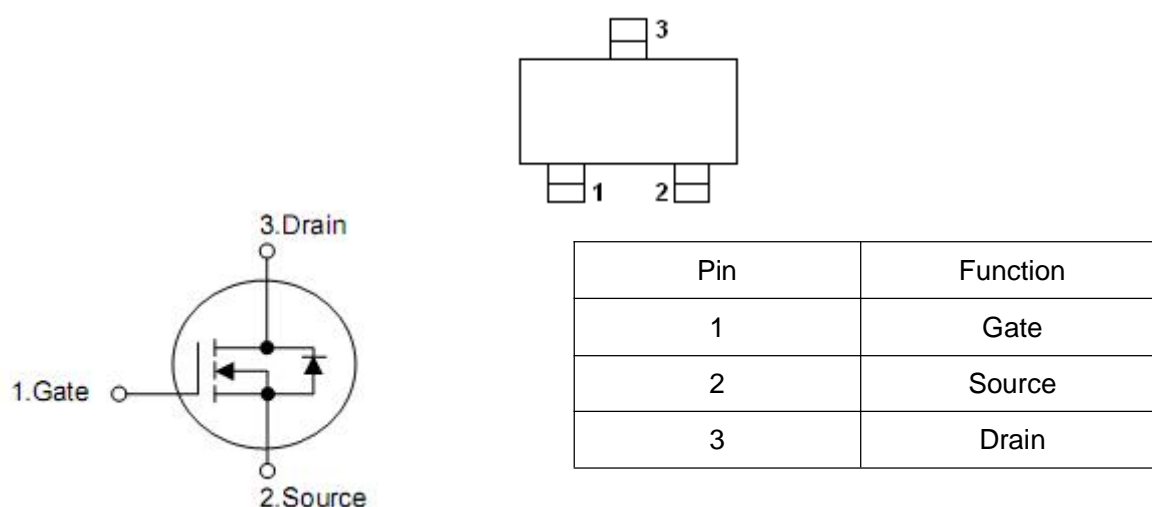


1. Features

- n $V_{DS}=30V, R_{DS(on)}=0.057\Omega @ V_{GS}=10V, I_D=3.5A$
- n $V_{DS}=30V, R_{DS(on)}=0.094\Omega @ V_{GS}=4.5V, I_D=2.8A$
- n Power MOSFET
- n 100% R_g tested

2. Symbol



3. Absolute maximum ratings

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

Parameter	Symbol	Rating	Units
Drain-source voltage	V_{DS}	30	V
Gate-source voltage	V_{GS}	± 20	V
Drain current continuous ($T_J=150^\circ\text{C}$) ^{a, b}	I_D	$T_A=25^\circ\text{C}$	3.5
		$T_A=70^\circ\text{C}$	2.8
Pulsed drain current ^a	I_{DM}	16	A
Continuous source current (diode conduction) ^{a, b}	I_S	1.25	
Power dissipation ^{a, b}	P_D	$T_A=25^\circ\text{C}$	1.25
		$T_A=70^\circ\text{C}$	0.8
Junction and storage temperature range	T_J, T_{STG}	-55 to 150	$^\circ\text{C}$

Parameter	Symbol	Typ	Max	Units
Maximum junction-ambient ^a	R_{thJA}	$t \leq 5$ sec	-	100
		steady state	130	-

Notes

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

4. Electrical characteristics

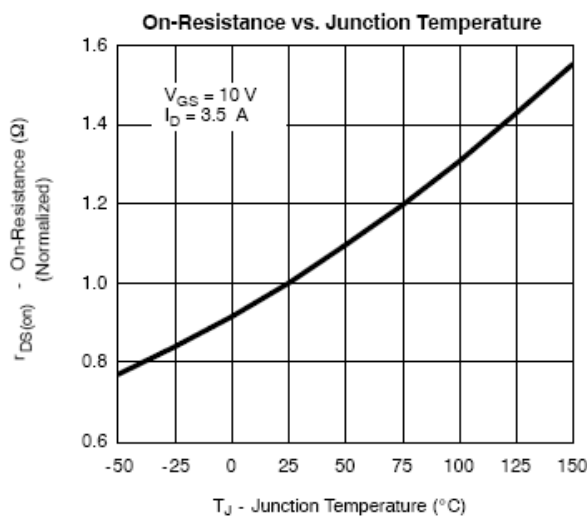
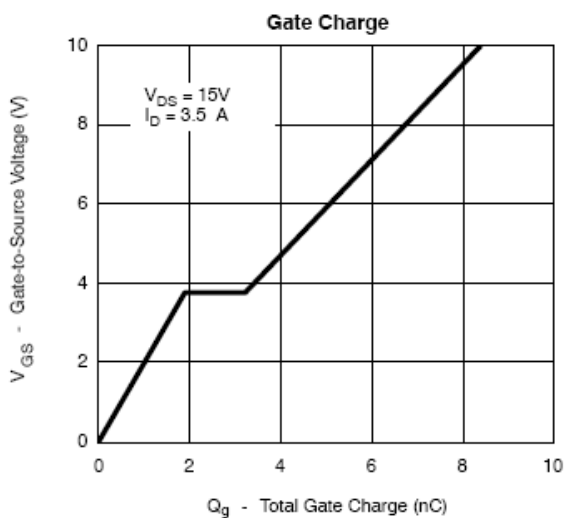
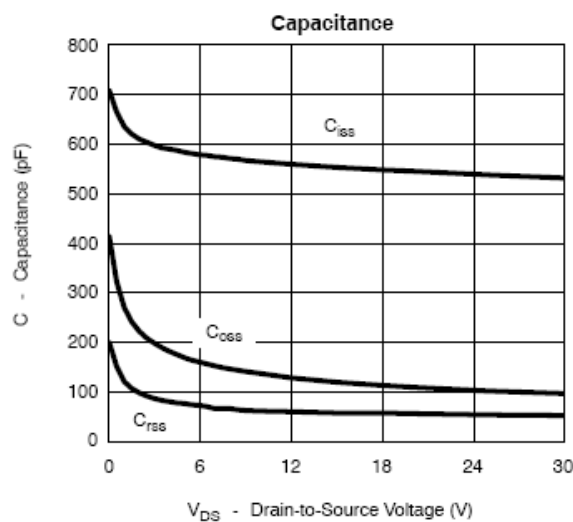
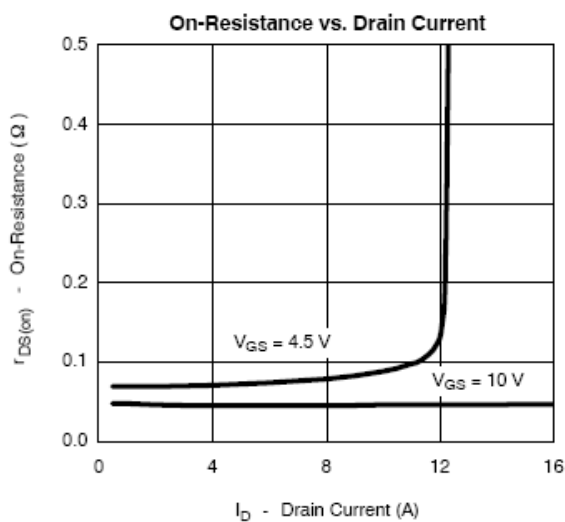
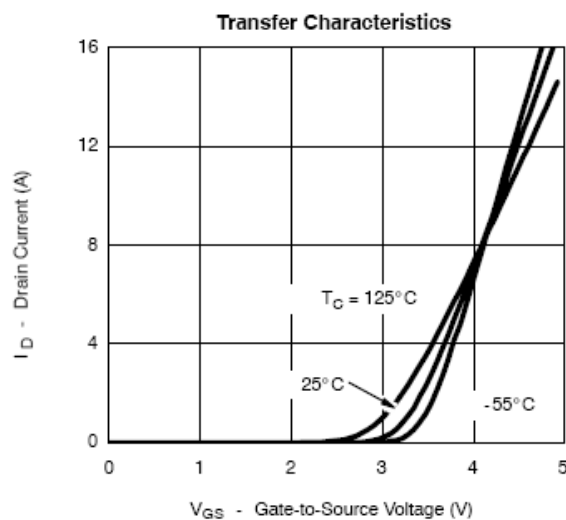
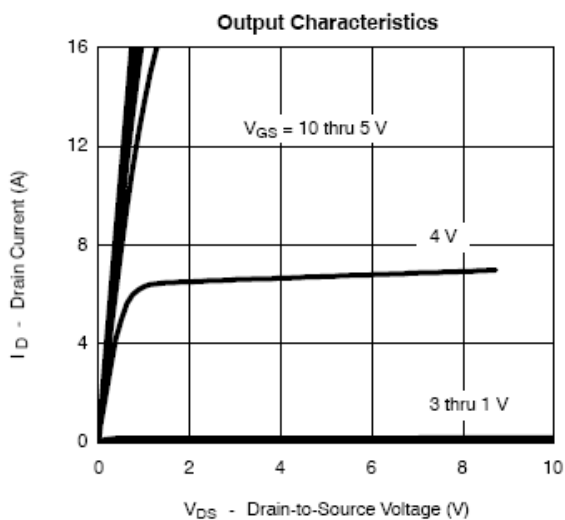
(T_A=25°C, unless otherwise noted)

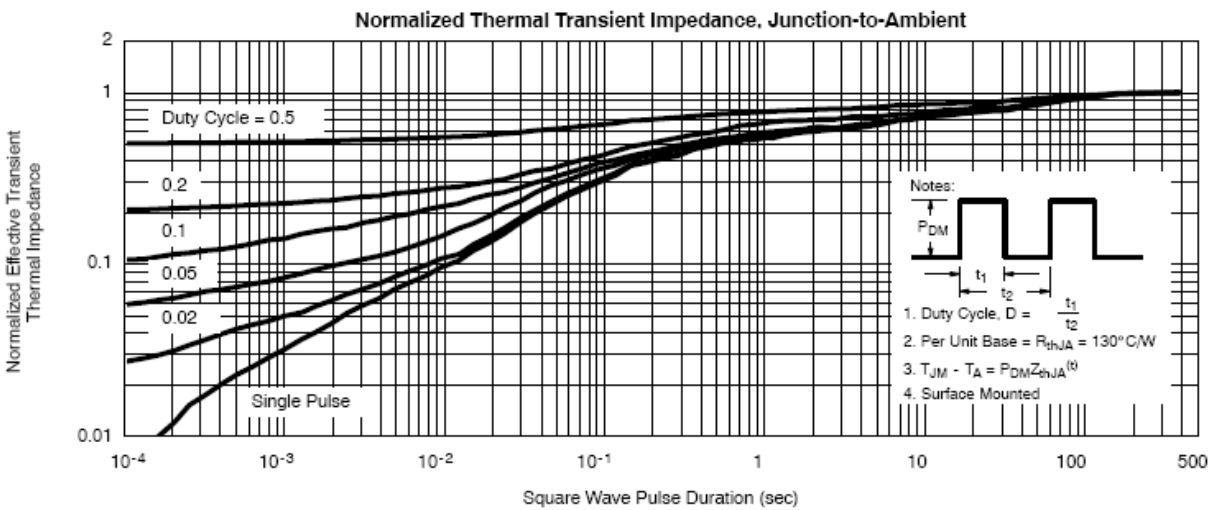
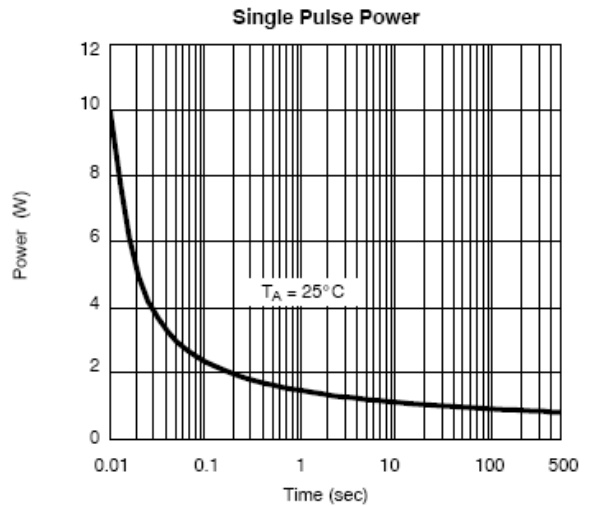
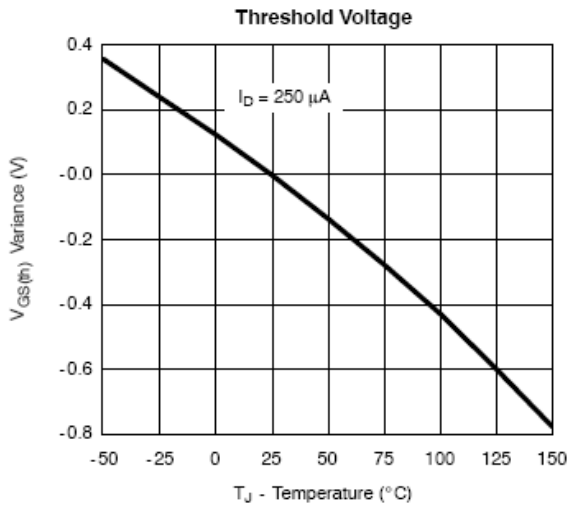
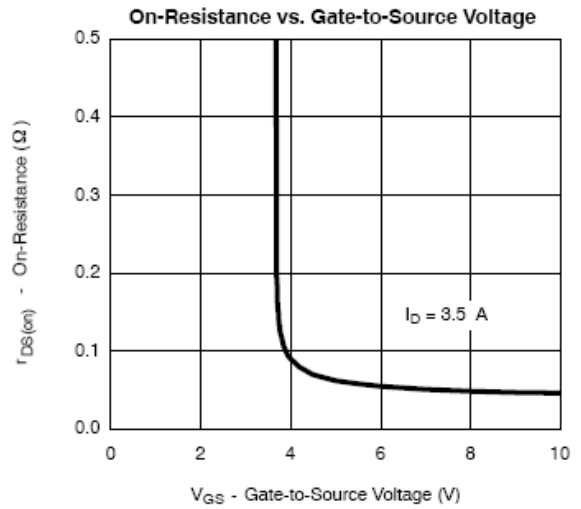
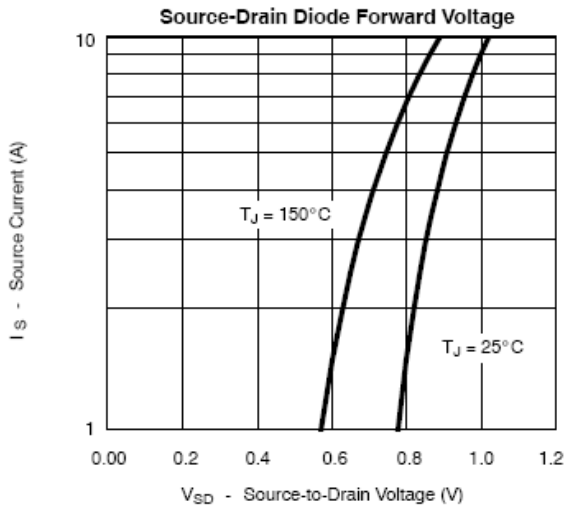
Parameter	Symbol	Test Conditions	Min	Typ	Max	Units
Static						
Drain-source breakdown voltage	V _{(BR)DSS}	V _{DS} =0V, I _D =250μA	30	-	-	V
Gate threshold voltage	V _{GS(th)}	V _{DS} =V _{GS} , I _D =250μA	1	-	1.8	V
Gate- body leakage	I _{GSS}	V _{GS} =±20V, V _{DS} =0V	-	-	±100	nA
Zero gate voltage drain current	I _{DSS}	V _{DS} =25V, V _{GS} =0V	-	-	1	μA
On-state drain current ^a	I _{D(on)}	V _{DS} ≥4.5V, V _{GS} =10V	6	-	-	A
		V _{DS} ≥4.5V, V _{GS} =4.5V	4	-	-	
Static drain-source on-resistance ^a	R _{DS(on)}	V _{GS} =10V, I _D =3.5A	-	-	0.057	Ω
		V _{GS} =4.5V, I _D =2.8A	-	-	0.094	
Forward transconductance ^a	g _{fs}	V _{DS} =4.5V, I _D =-3.5A	-	6.9	-	S
Diode forward voltage	V _{SD}	V _{GS} =0V, I _S =1.25A	-	0.8	1.2	V
Dynamic^b						
Total gate charge	Q _g	V _{DS} =15V, V _{GS} =5V, I _D =3.5A	-	4.2	7	nC
Total gate charge	Q _{gt}	V _{DS} =15V, V _{GS} =10V I _D =3.5A	-	8.5	20	
Gate-source charge	Q _{gs}		-	1.9	-	
Gate-drain charge	Q _{gd}		-	1.35	-	
Gate resistance	R _G		0.5	-	2.4	Ω
Input capacitance	C _{iss}	V _{DS} =15V, V _{GS} =0V, f=1MHz	-	555	-	pF
Output capacitance	C _{oss}		-	120	-	
Reverse transfer capacitance	C _{rss}		-	60	-	
Switching						
Turn-on delay time	t _{d(on)}	V _{DD} =15V, I _D =1A, R _L =15Ω, R _G =6Ω, V _{GEN} =10V	-	9	20	ns
Rise time	t _r		-	7.5	18	
Turn-off delay time	t _{d(off)}		-	17	35	
Fall time	t _f		-	5.2	12	

Notes

- a. Guaranteed by design, not subject to production testing.
- b. Pulse test; pulse width ≤ 300μs, duty cycle ≤ 2%.

5. Test circuits and waveforms





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