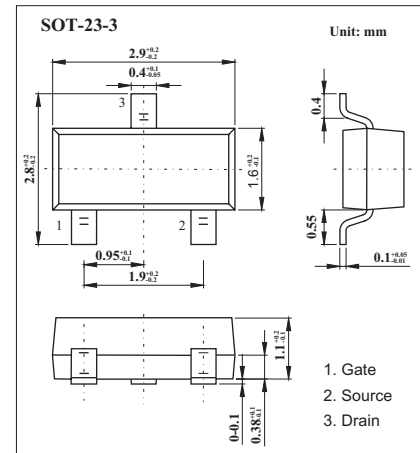
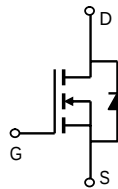


N-Channel Enhancement Mode MOSFET

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■ Features

- $R_{DS(ON)}=0.030\Omega @ V_{GS}=10V$
- $R_{DS(ON)}=0.035\Omega @ V_{GS}=4.5V$
- $R_{DS(ON)}=0.052\Omega @ V_{GS}=2.5V$



■ Absolute Maximum Ratings $T_a = 25$ Unless Otherwise Noted

Parameter	Symbol	5sec	Steady State	Unit
Drain-source voltage	V _{DS}	30		V
Gate-source voltage	V _{GS}	± 12		
Continuous drain current @T _A =25	I _D	4	3.16	A
@ T _A =70		3.5	2.7	
Pulsed drain current	I _{DM}	20		
Maximum Power dissipation @ T _A =25	P _D	1.25	0.75	W
@ T _A =70		0.8	0.48	
Maximum Body-Diode Continuous Current	I _S	1.04	0.62	A
Thermal Resistance-Junction to Case (Note 1)	R _{θJC}	65		°/W
Maximum Junction to Ambient (Note 1) t ≤ 10 sec	R _{θJA}	70		
Steady State		95		
Operating junction and storage temperature range	T _J ,T _{stg}	-55 to +150		

Note: 1. The device mounted on 1in2 FR4 board with 2 oz copper

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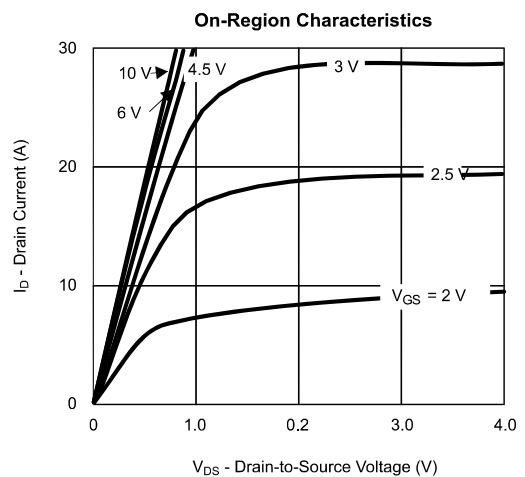
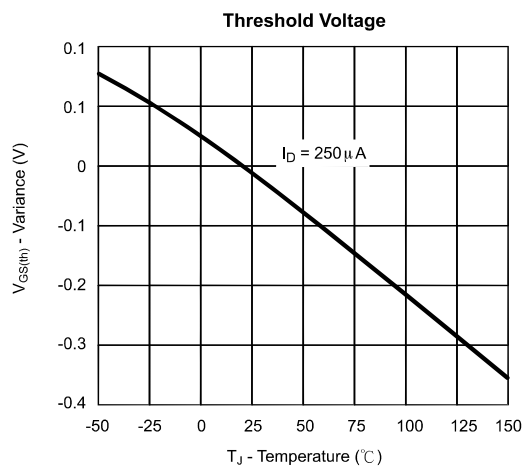
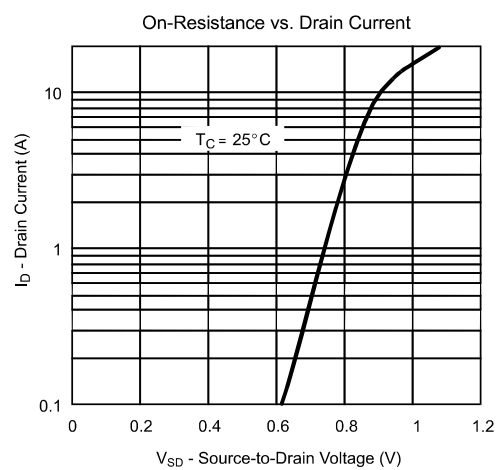
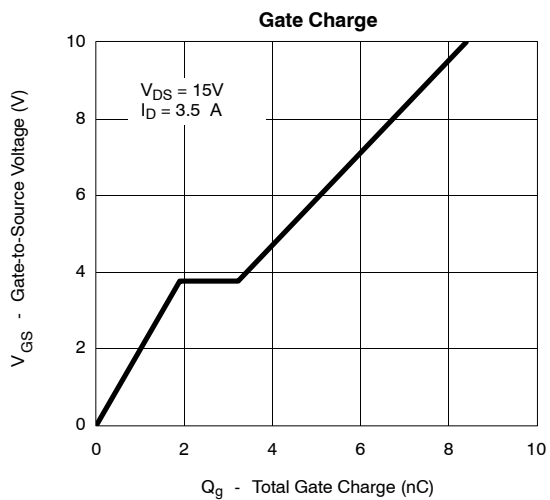
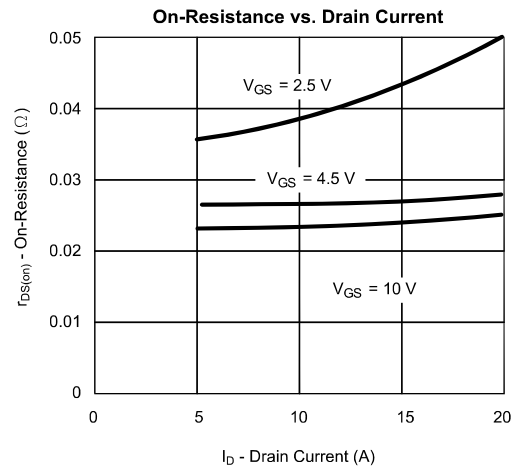
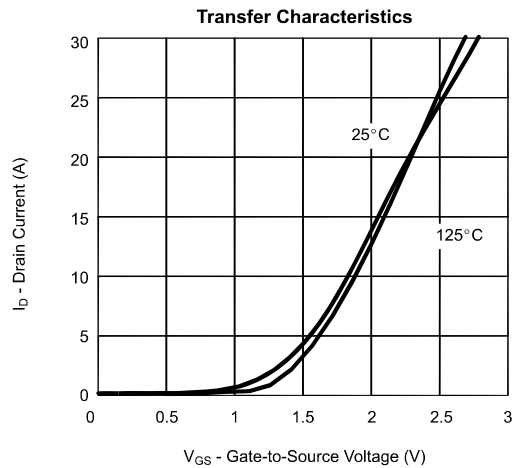
■ Electrical Characteristics $T_a = 25$ Unless Otherwise Noted

Parameter	Symbol	Testconditions	Min	Typ	Max	Unit
Drain-source breakdown voltage	V_{DS}	$V_{GS} = 0\text{ V}$, $I_D = 250\text{ }\mu\text{A}$	30			V
Zero gate voltage drain current	I_{DSS}	$V_{DS} = 30\text{ V}$, $V_{GS} = 0\text{ V}$			1	μA
		$V_{DS} = 30\text{ V}$, $V_{GS} = 0\text{ V}$, $T_J = 55$			10	
Gate-body leakage	I_{GSS}	$V_{DS} = 0\text{ V}$, $V_{GS} = \pm 12\text{ V}$			± 100	nA
Gate threshold voltage	$V_{GS(th)}$	$V_{DS} = V_{GS}$, $I_D = 250\text{ }\mu\text{A}$	0.7		1.4	V
Drain-source on-state resistance (Note 2)	$R_{DS(on)}$	$V_{GS} = 10\text{ V}$, $I_D = 4.0\text{ A}$		0.024	0.030	Ω
		$V_{GS} = 4.5\text{ V}$, $I_D = 3.5\text{ A}$		0.027	0.035	
		$V_{GS} = 2.5\text{ V}$, $I_D = 2.8\text{ A}$		0.037	0.052	
On-state drain current (Note 2)	$I_{D(on)}$	$V_{DS} \geq 5\text{ V}$, $V_{GS} = 10\text{ V}$	20			A
Forward transconductance	g_{fs}	$V_{DS} = 4.5\text{ V}$, $I_D = 4.0\text{ A}$		6.9		S
gate charge	Q_g	$V_{DS} = 15\text{ V}$, $V_{GS} = 10\text{ V}$, $I_D = 4.0\text{ A}$		13		nC
Total gate charge	Q_g	$V_{DS} = 15\text{ V}$, $V_{GS} = 4.5\text{ V}$, $I_D = 4.0\text{ A}$		6.3		nC
Gate-source charge	Q_{gs}			2.9		
Gate-drain charge	Q_{gd}			2.4		
Gate Resistance	R_g	$f = 1\text{ MHz}$		0.6		Ω
Input capacitance	C_{iss}	$V_{DS} = 15\text{ V}$, $V_{GS} = 0$, $f = 1\text{ MHz}$		380		pF
Output capacitance	C_{oss}			64		
Reverse transfer capacitance	C_{rss}			15		
Turn-on time	$t_{d(on)}$	$V_{DD} = 15\text{ V}$, $R_L = 15\Omega$, $I_D = 1\text{ A}$, $V_{GEN} = -10\text{ V}$, $R_G = 6\Omega$		9		ns
	t_r			14		
Turn-off time	$t_{d(off)}$			33		
	t_f			3		
Diode Forward Voltage	V_{SD}	$I_S = 1.25\text{ A}$, $V_{GS} = 0\text{ V}$		0.8	1.2	V

Notes: 2. Pulse test: pulse width $\leq 300\mu\text{s}$, duty cycle $\leq 2\%$

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■ Typical Characteristics



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■ Typical Characteristics

