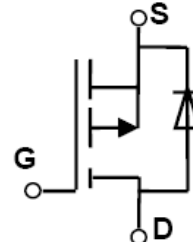
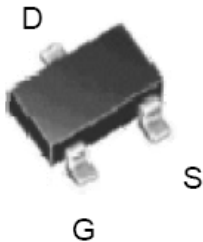


**FEATURES**

- ◆ Super high dense cell design for low RDS(ON)
- ◆ Rugged and reliable.
- ◆ Simple drive requirement.
- ◆ SOT-23 package.

PRODUCT SUMMARY		
$V_{DSS}$	$I_D$	$R_{DS(ON)}$ (m $\Omega$ )Typ
20V	-2.5A	70@ $V_{GS}=-4.5V$
	-2.0A	82 @ $V_{GS}=-2.5V$



**ABSOLUTEMAXIMUM RATINGS (TA=25°C unless otherwise noted)**

Parameter	Symbol	Limit	Unit
Drain-Source Voltage	$V_{DS}$	-20	V
Gate-Source Voltage	$V_{GS}$	$\pm 12$	V
Drain Current-Continuous <sup>a</sup> @Tj=125°C -Pulse d <sup>b</sup>	$I_D$	-2.5	A
	$I_{DM}$	-8	A
Drain-Source Diode Forward Current <sup>a</sup>	$I_S$	-1.25	A
Maximum Power Dissipation <sup>a</sup>	$P_D$	1.25	W
Operating Junction and Storage Temperature Range	$T_J, T_{STG}$	-55 to 150	←

**THERMAL CHARACTERISTICS**

Thermal Resistance, Junction-to-Ambient <sup>a</sup>	$R_{th J_A}$	120	$^{\circ}C/W$
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**ELECTRICAL CHARACTERISTICS** (TA = 25 °C unless otherwise noted)

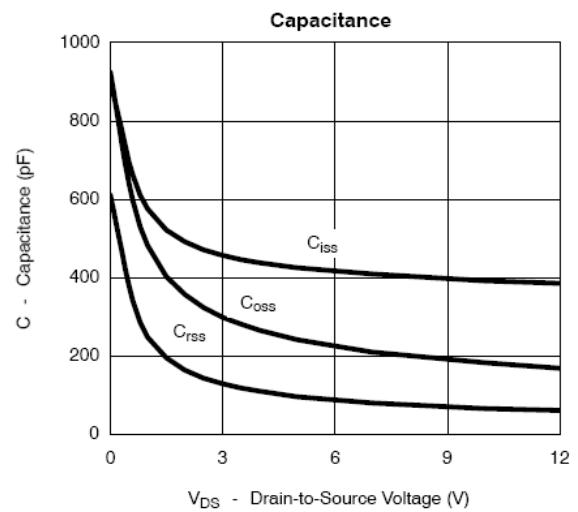
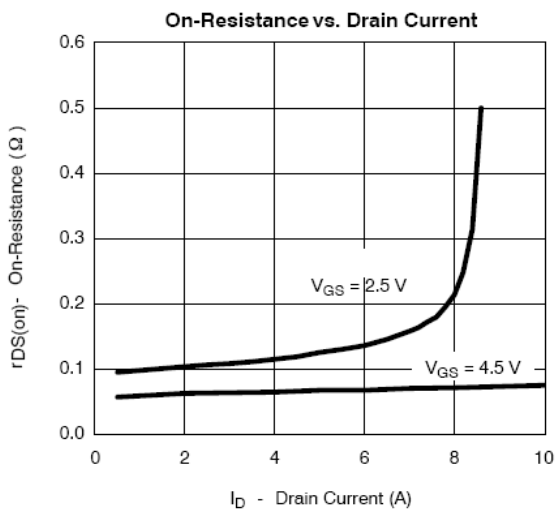
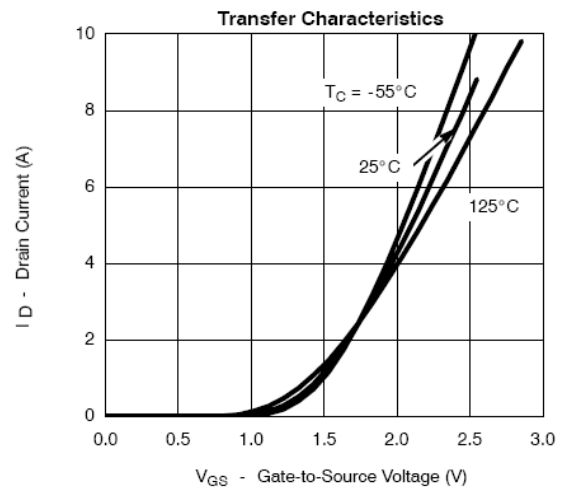
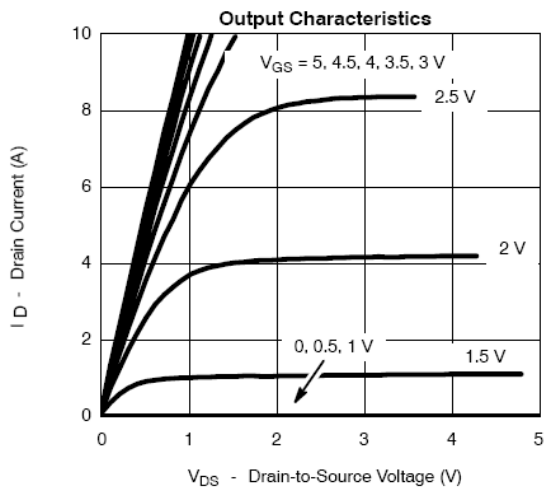
Parameter	Symbol	Condition	Min.	Typ.	Max.	Unit
OFF CHARACTERISTICS						
Drain-Source Breakdown Voltage	BV <sub>DSS</sub>	V <sub>GS</sub> =0V, I <sub>D</sub> =250μA	-20			V
Zero Gate Voltage Drain Current	I <sub>DSS</sub>	V <sub>DS</sub> =-10V, V <sub>GS</sub> =0V			1	μA
Gate-Body Leakage	I <sub>GSS</sub>	V <sub>GS</sub> =±8V, V <sub>DS</sub> =0V			±100	nA
ON CHARACTERISTICS						
Gate Threshold Voltage	V <sub>GS(th)</sub>	V <sub>DS</sub> =V <sub>GS</sub> , I <sub>D</sub> =250μA	-0.5	-0.7	-0.9	V
Drain-Source On-State Resistance	R <sub>DS(ON)</sub>	V <sub>GS</sub> =4.5V, I <sub>D</sub> =-2.5A		70	100	mΩ
		V <sub>GS</sub> =2.5V, I <sub>D</sub> =2.0A		82	150	
Forward Transconductance	g <sub>FS</sub>	V <sub>DS</sub> =-5V, I <sub>D</sub> =-5A		5		S
DYNAMIC CHARACTERISTICS						
Input Capacitance	C <sub>ISS</sub>	V <sub>DS</sub> =-6V V <sub>GS</sub> =0V f=1.0MHz		566		pF
Output Capacitance	C <sub>OSS</sub>			120		pF
Reverse Transfer Capacitance	C <sub>RSS</sub>			79		pF
SWITCHING CHARACTERISTICS						
Turn-On Delay Time	t <sub>D(ON)</sub>	V <sub>DD</sub> = -6V R <sub>L</sub> = 6Ω I <sub>D</sub> = -1A, V <sub>GEN</sub> = -4.5V R <sub>G</sub> = 6Ω		8		ns
Rise Time	t <sub>f</sub>			35		ns
Turn-Off Delay Time	t <sub>D(OFF)</sub>			58		ns
Fall Time	t <sub>f</sub>			48		ns
Total Gate Charge	Q <sub>g</sub>	V <sub>DS</sub> =-10V, I <sub>D</sub> =-3A, V <sub>GS</sub> =-4.5V		6		nC
Gate-Source Charge	Q <sub>gs</sub>			1.35		nC
Gate-Drain Charge	Q <sub>gd</sub>			1.5		nC

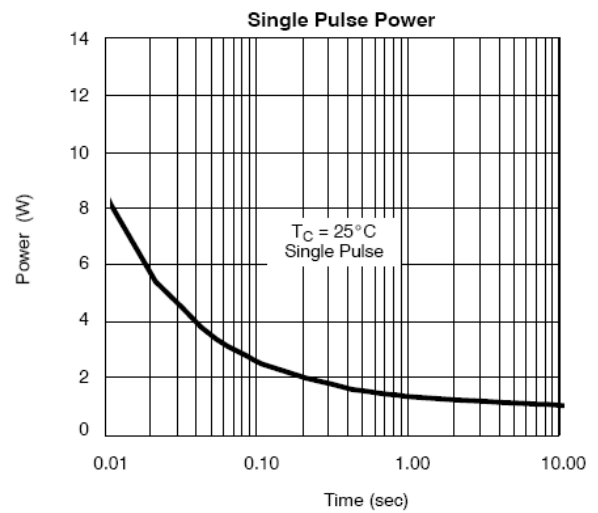
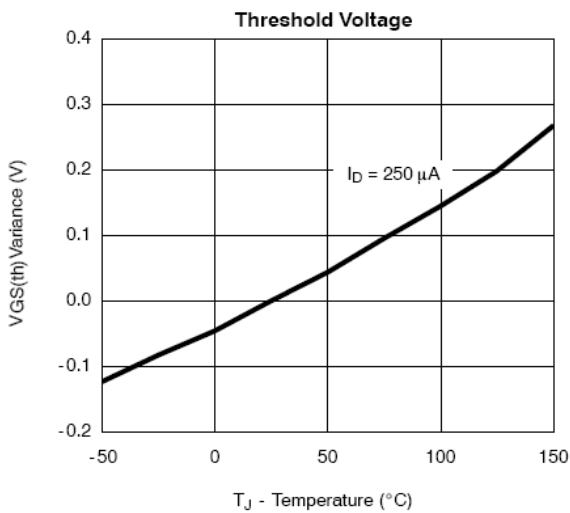
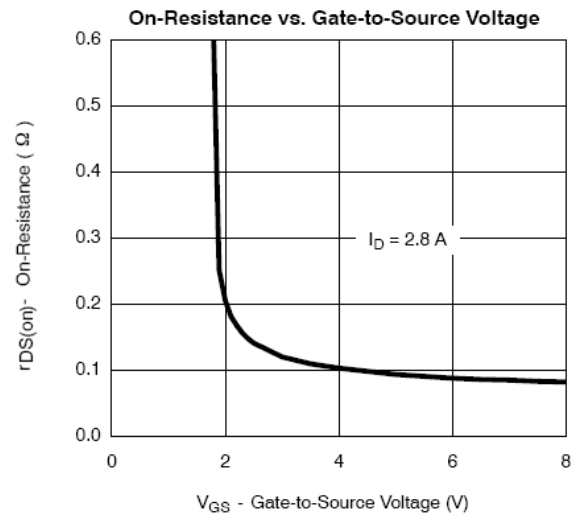
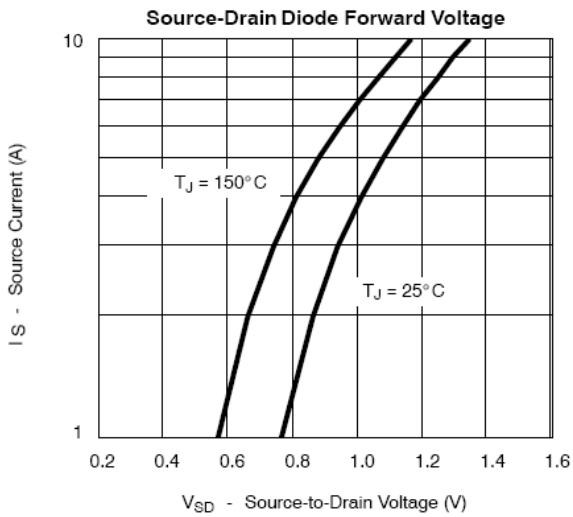
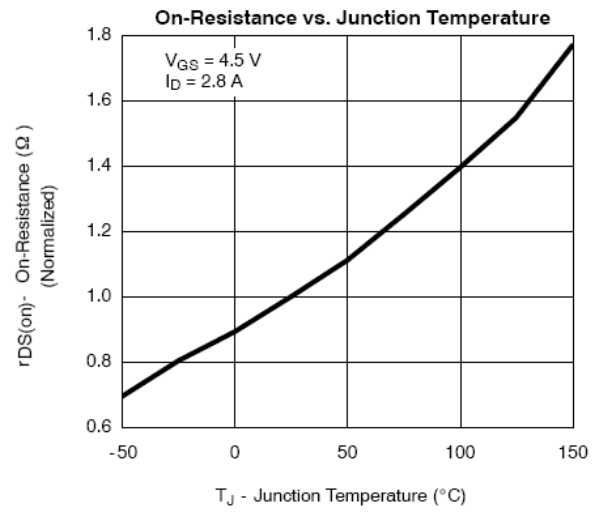
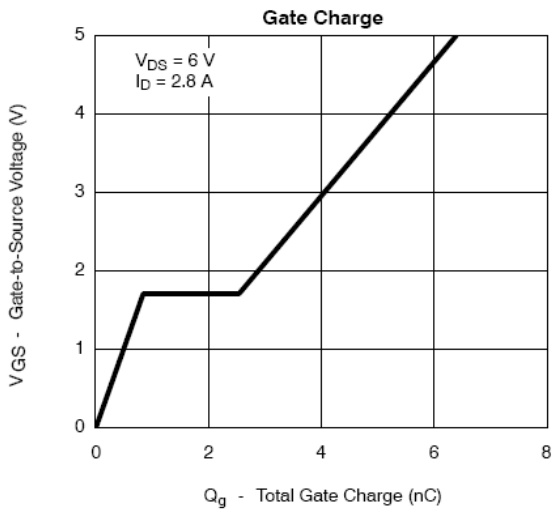
**ELECTRICAL CHARACTERISTICS (TA=25°C unless otherwise noted)**

Parameter	Symbol	Condition	Min	Typ	Max	Unit
<b>DRAIN-SOURCE DIODE CHARACTERISTICS</b>						
Diode Forward Voltage	VSD	VGS=0V, IS=-1.25A		-0.81	-1.2	V

**Notes**

- a. Surface Mounted on FR4 Board,  $t \leq 10\text{sec}$
- b. Pulse Test: PulseWidth  $\leq 300\mu\text{s}$ , Duty Cycle  $\leq 2\%$
- c. Guaranteed by design, not subject to production testing.





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