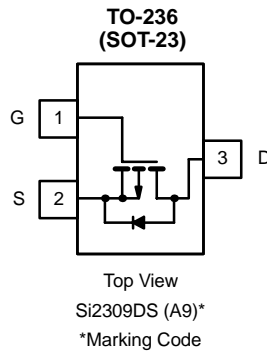




## P-Channel 60-V (D-S) MOSFET

PRODUCT SUMMARY		
$V_{DS}$ (V)	$r_{DS(on)}$ ( $\Omega$ )	$I_D$ (A)
-60	0.340 @ $V_{GS} = -10$ V	-1.25
	0.550 @ $V_{GS} = -4.5$ V	-1



ABSOLUTE MAXIMUM RATINGS ( $T_A = 25^\circ\text{C}$ UNLESS OTHERWISE NOTED)				
Parameter		Symbol	Limit	Unit
Drain-Source Voltage		$V_{DS}$	-60	V
Gate-Source Voltage		$V_{GS}$	$\pm 20$	
Continuous Drain Current ( $T_J = 150^\circ\text{C}$ ) <sup>a, b</sup>	$T_A = 25^\circ\text{C}$	$I_D$	-1.25	A
	$T_A = 100^\circ\text{C}$		-0.85	
Pulsed Drain Current		$I_{DM}$	-8	
Avalanche Current		$L = 0.1$ mH	$I_{AS}$	
Maximum Power Dissipation <sup>a, b</sup>	$T_A = 25^\circ\text{C}$	$P_D$	1.25	W
	$T_A = 70^\circ\text{C}$		0.8	
Operating Junction and Storage Temperature Range		$T_J, T_{stg}$	-55 to 150	$^\circ\text{C}$

THERMAL RESISTANCE RATINGS					
Parameter		Symbol	Typical	Maximum	Unit
Maximum Junction-to-Ambient <sup>a</sup>	$t \leq 5$ sec	$R_{thJA}$		100	$^\circ\text{C/W}$
	Steady State		130	166	
Maximum Junction-to-Lead <sup>a</sup>	Steady State	$R_{thJL}$	45	60	

**Notes**

- a. Surface Mounted on FR4 Board.
- b.  $t \leq 5$  sec.

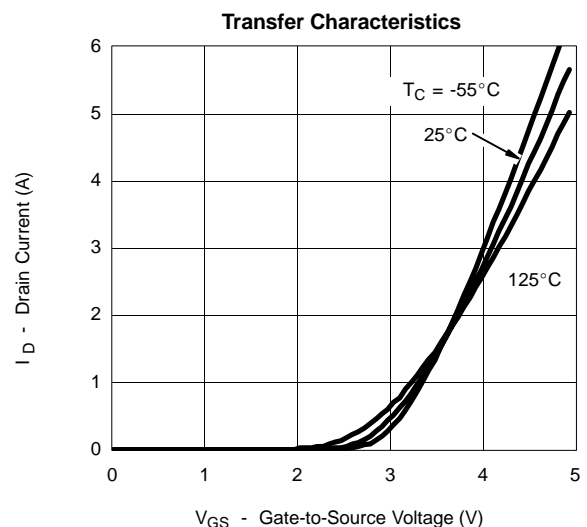
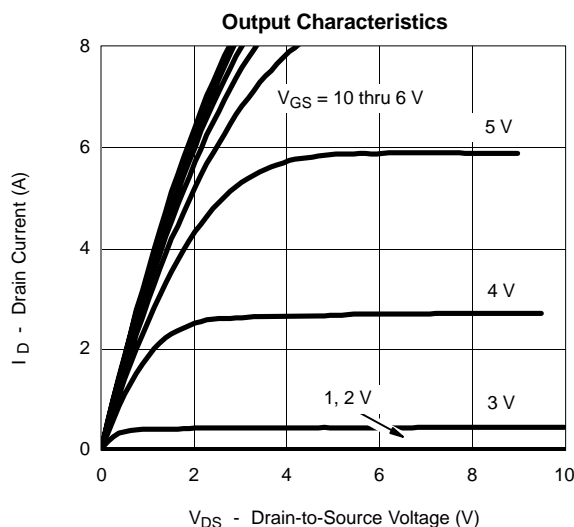


SPECIFICATIONS (T <sub>J</sub> = 25 °C UNLESS OTHERWISE NOTED)						
Parameter	Symbol	Test Condition	Min	Typ	Max	Unit
<b>Static</b>						
Drain-Source Breakdown Voltage	V <sub>(BR)DSS</sub>	V <sub>DS</sub> = 0 V, I <sub>D</sub> = -250 μA	-60			V
Gate Threshold Voltage	V <sub>GS(th)</sub>	V <sub>DS</sub> = V <sub>GS</sub> , I <sub>D</sub> = -250 μA	-1			
Gate-Body Leakage	I <sub>GSS</sub>	V <sub>DS</sub> = 0 V, V <sub>GS</sub> = ±20 V			±100	nA
Zero Gate Voltage Drain Current	I <sub>DSS</sub>	V <sub>DS</sub> = -48 V, V <sub>GS</sub> = 0 V			-1	μA
		V <sub>DS</sub> = -48 V, V <sub>GS</sub> = 0 V, T <sub>J</sub> = 125 °C			-50	
On-State Drain Current <sup>a</sup>	I <sub>D(on)</sub>	V <sub>DS</sub> ≥ -4.5 V, V <sub>GS</sub> = -10 V	-6			A
Drain-Source On-State Resistance <sup>a</sup>	r <sub>DS(on)</sub>	V <sub>GS</sub> = -10 V, I <sub>D</sub> = -1.25 A		0.275	0.340	Ω
		V <sub>GS</sub> = -4.5 V, I <sub>D</sub> = -1 A		0.406	0.550	
Forward Transconductance <sup>a</sup>	g <sub>fs</sub>	V <sub>DS</sub> = -4.5 V, I <sub>D</sub> = -1 A		1.9		S
<b>Dynamic<sup>b</sup></b>						
Total Gate Charge	Q <sub>g</sub>	V <sub>DS</sub> = -30 V, V <sub>GS</sub> = -10 V, I <sub>D</sub> = -1.25 A		5.4	12	nC
Gate-Source Charge	Q <sub>gs</sub>			1.15		
Gate-Drain Charge	Q <sub>gd</sub>			0.92		
Turn-On Delay Time	t <sub>d(on)</sub>	V <sub>DD</sub> = -30 V, R <sub>L</sub> = 30 Ω I <sub>D</sub> ≅ -1 A, V <sub>GEN</sub> = -4.5 V, R <sub>G</sub> = 6 Ω		10.5	20	ns
Rise Time	t <sub>r</sub>			11.5	20	
Turn-Off Delay Time	t <sub>d(off)</sub>			15.5	30	
Fall Time	t <sub>f</sub>			7.5	15	
<b>Source-Drain Rating Characteristics<sup>b</sup></b>						
Continuous Current	I <sub>S</sub>				-1.25	A
Pulsed Current	I <sub>SM</sub>				-8	
Diode Forward Voltage <sup>a</sup>	V <sub>SD</sub>	I <sub>S</sub> = -1.25 A, V <sub>GS</sub> = 0 V		-0.82	-1.2	V
Source-Drain Reverse Recovery Time	t <sub>rr</sub>	I <sub>F</sub> = -1.25 A, di/dt = 100 A/μs		30	55	ns

Notes

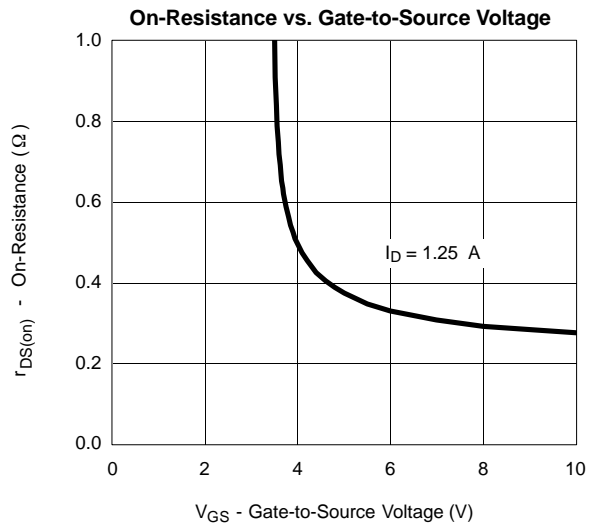
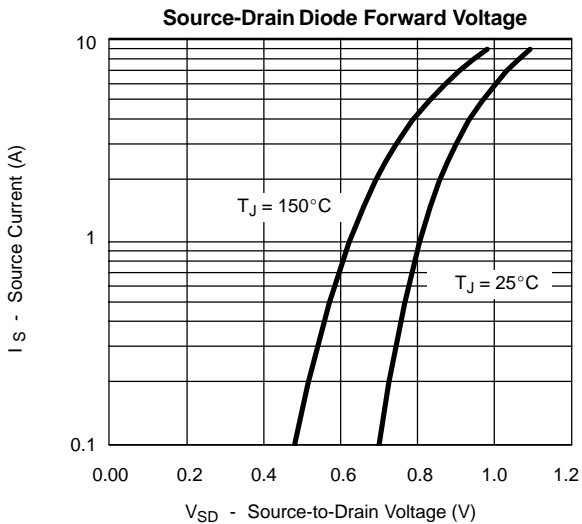
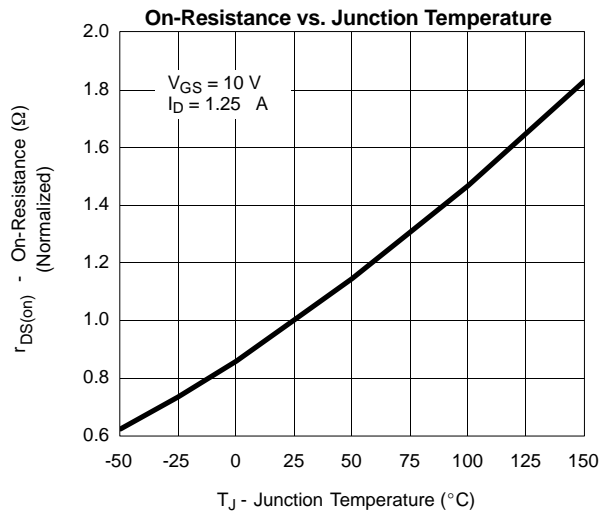
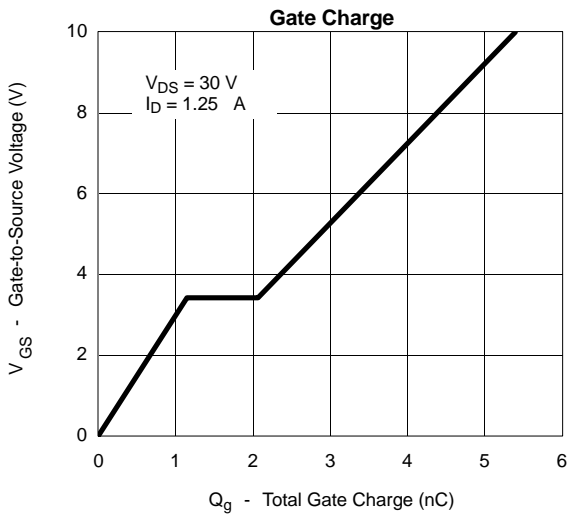
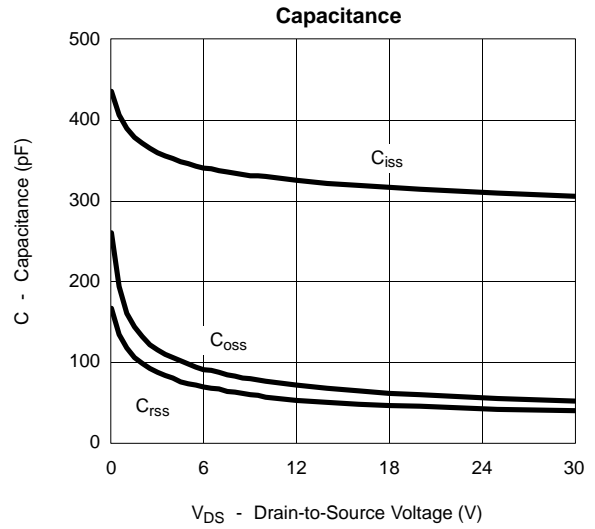
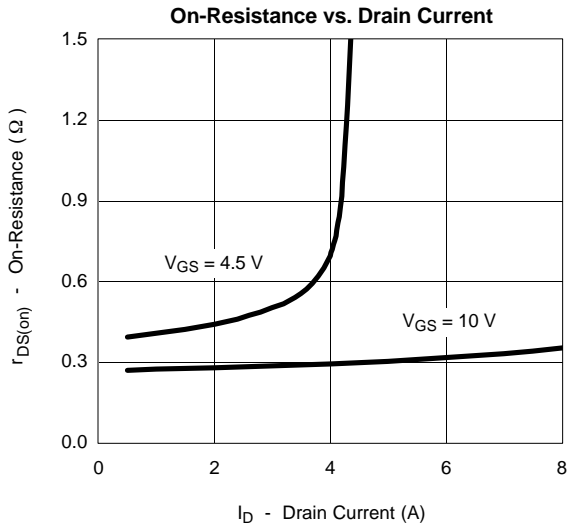
- a. Pulse test; pulse width ≤ 300 μs, duty cycle ≤ 2%.
- b. Guaranteed by design, not subject to production testing.

**TYPICAL CHARACTERISTICS (25 °C UNLESS NOTED)**





**TYPICAL CHARACTERISTICS (25°C UNLESS NOTED)**



**TYPICAL CHARACTERISTICS (25 °C UNLESS NOTED)**

