

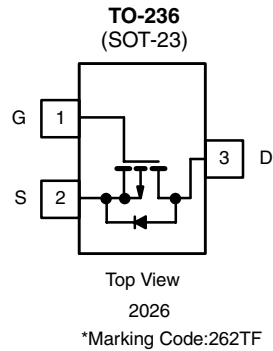
P-Channel 1.25-W, 1.8-V (G-S) MOSFET

PRODUCT SUMMARY

V_{DS} (V)	$r_{DS(on)}$ (Ω)	I_D (A)
- 20	0.056 at $V_{GS} = - 4.5$ V	- 3.2
	0.069 at $V_{GS} = - 2.5$ V	- 2.8
	0.086 at $V_{GS} = - 1.8$ V	-2.3

FEATURES

Power MOSFETs: 1.8 V Rated


RoHS*
COMPLIANT


ABSOLUTE MAXIMUM RATINGS $T_A = 25^\circ\text{C}$, unless otherwise noted

Parameter	Symbol	Limit	Unit
Drain-Source Voltage	V_{DS}	- 20	V
Gate-Source Voltage	V_{GS}	± 12	
Continuous Drain Current ($T_J = 150^\circ\text{C}$)	I_D	- 3.2	A
Pulsed Drain Current	I_{DM}	-12	
Continuous Source Current (Diode Conduction) ^{a, b}	I_S	- 1.6	
Maximum Power Dissipation ^{a, b}	P_D	1.25	W
Operating Junction and Storage Temperature Range	T_J, T_{stg}	- 55 to 150	

THERMAL RESISTANCE RATINGS

Parameter	Symbol	Typical	Maximum	Unit
Maximum Junction-to-Ambient ^a	R_{thJA}		100	$^\circ\text{C/W}$
		130		

Notes:

a. Surface Mounted on FR4 Board.

b. $t \leq 5$ sec.

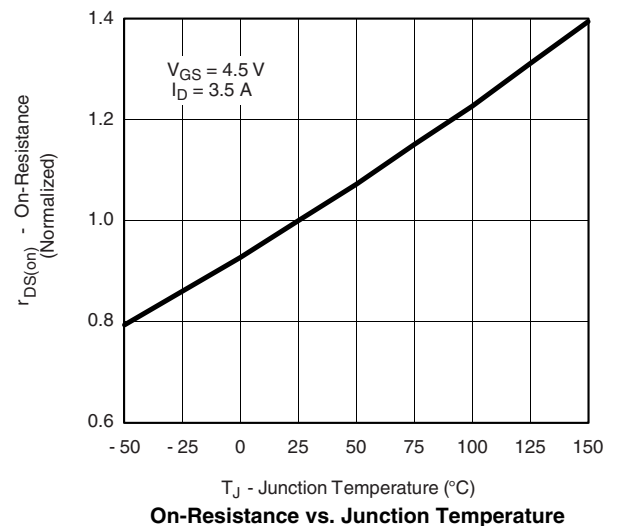
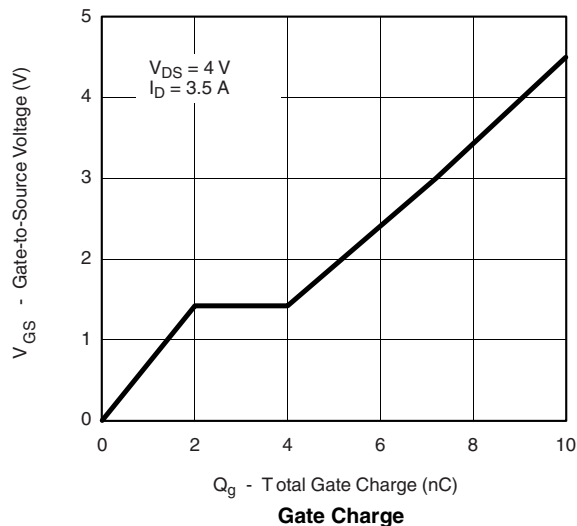
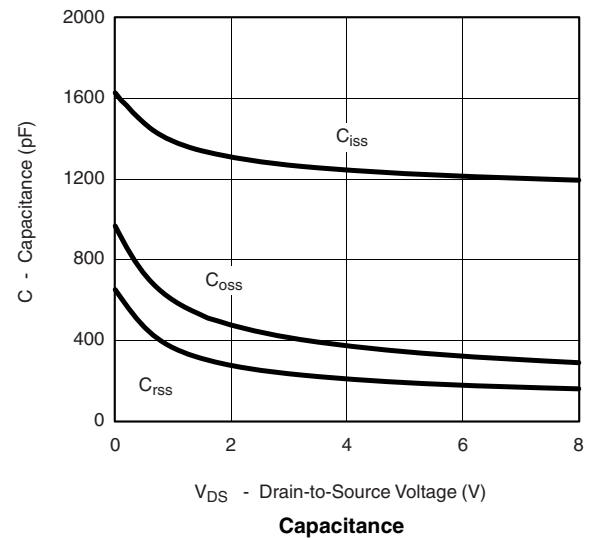
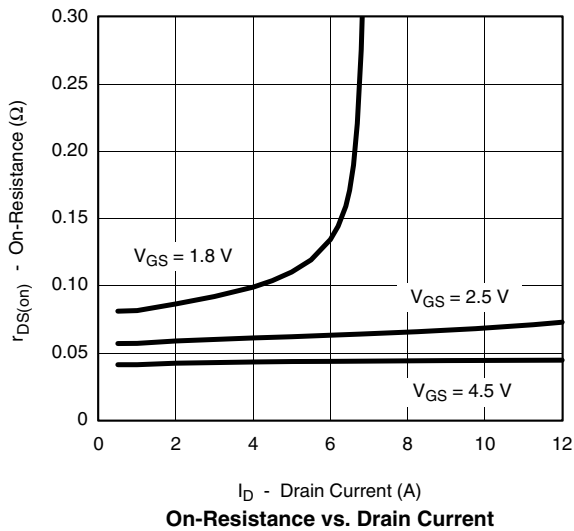
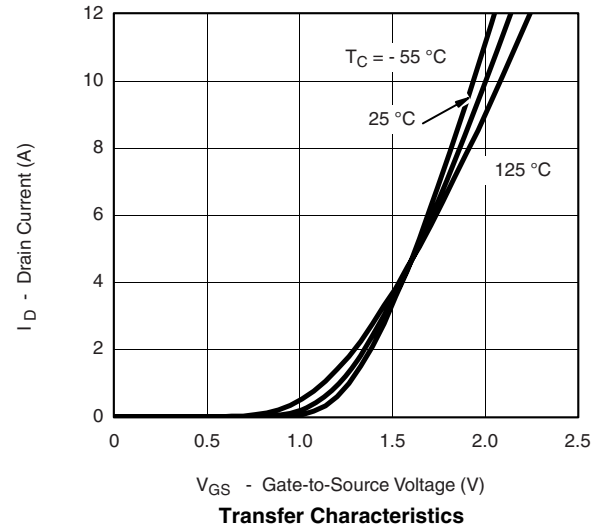
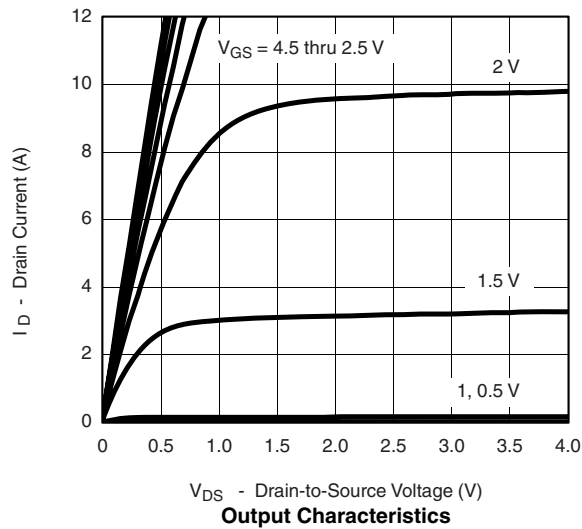


SPECIFICATIONS T _J = 25 °C, unless otherwise noted						
Parameter	Symbol	Test Conditions	Limits			Unit
			Min	Typ	Max	
Static						
Drain-Source Breakdown Voltage	V _{(BR)DSS}	V _{GS} = 0 V, I _D = - 10 μA	- 20			V
Gate-Threshold Voltage	V _{GS(th)}	V _{DS} = V _{GS} , I _D = - 250 μA	- 0.6		- 1	
Gate-Body Leakage	I _{GSS}	V _{DS} = 0 V, V _{GS} = ± 12 V			± 100	nA
Zero Gate Voltage Drain Current	I _{DSS}	V _{DS} = - 16 V, V _{GS} = 0 V			- 50	nA
On-State Drain Current ^a	I _{D(on)}	V _{DS} ≤ - 5 V, V _{GS} = - 4.5 V	- 6			A
		V _{DS} ≤ - 5 V, V _{GS} = - 2.5 V	- 3			
Drain-Source On-Resistance ^a	r _{DS(on)}	V _{GS} = - 4.5 V, I _D = - 3.2A			0.056	Ω
		V _{GS} = - 2.5 V, I _D = - 2.8A			0.069	
		V _{GS} = - 1.8 V, I _D = - 2.3A			0.086	
Forward Transconductance ^a	g _{fs}	V _{DS} = - 5 V, I _D = - 3.2 A		8.5		S
Diode Forward Voltage	V _{SD}	I _S = - 1.6 A, V _{GS} = 0 V			- 1.28	V
Dynamic ^b						
Total Gate Charge	Q _g	V _{DS} = - 4 V, V _{GS} = - 4.5 V, I _D ≅ - 3.5 A		10	15	nC
Gate-Source Charge	Q _{gs}			2		
Gate-Drain Charge	Q _{gd}			2		
Input Capacitance	C _{iss}	V _{DS} = - 4 V, V _{GS} = 0 V, f = 1 MHz		1245		pF
Output Capacitance	C _{oss}			375		
Reverse Transfer Capacitance	C _{rss}			210		
Switching ^b						
Turn-On Time	t _{d(on)}	V _{DD} = - 4 V, R _L = 4 Ω I _D ≅ - 1.0 A, V _{GEN} = - 4.5 V, R _G = 6 Ω		13	20	ns
	t _r			25	40	
Turn-Off Time	t _{d(off)}			55	80	
	t _f			19	35	

Notes:

- For DESIGN AID ONLY, not subject to production testing.
- Pulse test: $PW \leq 300\text{ }\mu\text{s}$, duty cycle $\leq 2\%$.
- Switching time is essentially independent of operating temperature.

TYPICAL CHARACTERISTICS 25 °C, unless noted



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