

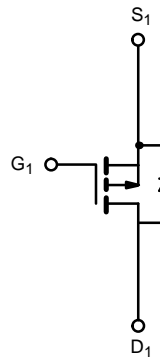
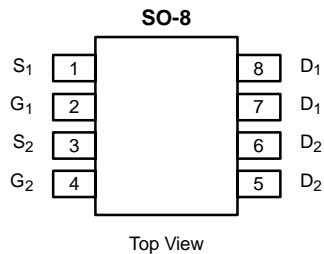


## Dual P-Channel 30-V (D-S) MOSFET

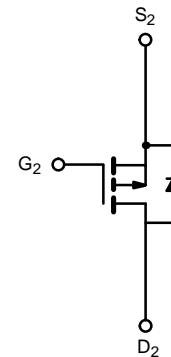
PRODUCT SUMMARY		
$V_{DS}$ (V)	$r_{DS(on)}$ ( $\Omega$ )	$I_D$ (A)
-30	0.032 @ $V_{GS} = -10$ V	-6.3
	0.045 @ $V_{GS} = -4.5$ V	-5.3

### FEATURES

- TrenchFET® Power MOSFET



P-Channel MOSFET



P-Channel MOSFET

ABSOLUTE MAXIMUM RATINGS ( $T_A = 25^\circ\text{C}$ UNLESS OTHERWISE NOTED)					
Parameter	Symbol	10 secs	Steady State	Unit	
Drain-Source Voltage	$V_{DS}$	-30		V	
Gate-Source Voltage	$V_{GS}$	$\pm 20$			
Continuous Drain Current ( $T_J = 150^\circ\text{C}$ ) <sup>a</sup>	$I_D$	$T_A = 25^\circ\text{C}$	-6.3	-4.7	A
		$T_A = 70^\circ\text{C}$	-5.0	-3.7	
Pulsed Drain Current	$I_{DM}$	-40			
Continuous Source Current (Diode Conduction) <sup>a</sup>	$I_S$	-1.7	-0.9		
Maximum Power Dissipation <sup>a</sup>	$P_D$	$T_A = 25^\circ\text{C}$	2	1.1	W
		$T_A = 70^\circ\text{C}$	1.3	0.70	
Operating Junction and Storage Temperature Range	$T_J, T_{stg}$	-55 to 150		$^\circ\text{C}$	

THERMAL RESISTANCE RATINGS					
Parameter	Symbol	Typ	Max	Unit	
Maximum Junction-to-Ambient <sup>a</sup>	$R_{thJA}$	$t \leq 10$ sec	45	62.5	$^\circ\text{C/W}$
		Steady-State	85	110	
Maximum Junction-to-Foot (Drain)	$R_{thJF}$	28	35		

Notes

a. Surface Mounted on FR4 Board,  $t \leq 10$  sec.

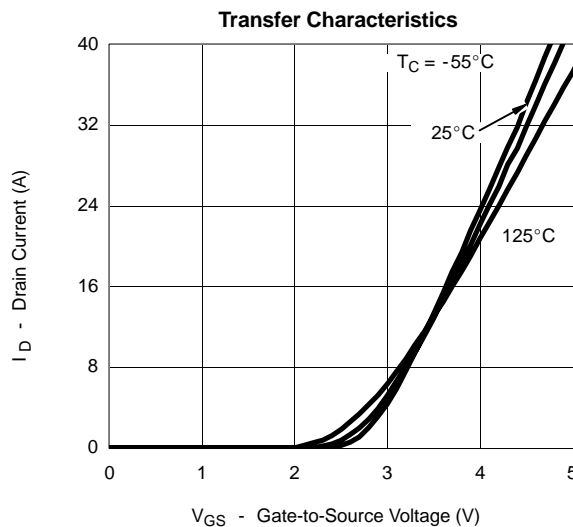
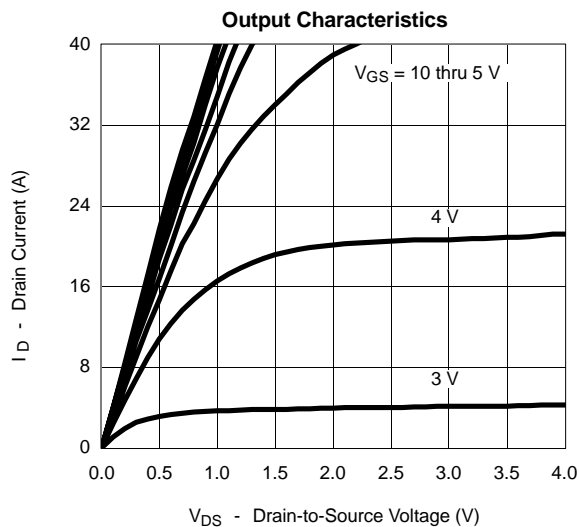


<b>SPECIFICATIONS (T<sub>J</sub> = 25 °C UNLESS OTHERWISE NOTED)</b>						
Parameter	Symbol	Test Condition	Min	Typ <sup>a</sup>	Max	Unit
<b>Static</b>						
Gate Threshold Voltage	V <sub>GS(th)</sub>	V <sub>DS</sub> = V <sub>GS</sub> , I <sub>D</sub> = -250 μA	-1			V
Gate-Body Leakage	I <sub>GSS</sub>	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> = -30 V, V <sub>GS</sub> = 0 V			-1	μA
		V <sub>DS</sub> = -30 V, V <sub>GS</sub> = 0 V, T <sub>J</sub> = 55 °C			-25	
On-State Drain Current <sup>b</sup>	I <sub>D(on)</sub>	V <sub>DS</sub> ≤ -5 V, V <sub>GS</sub> = -10 V	-20			A
Drain-Source On-State Resistance <sup>b</sup>	r <sub>DS(on)</sub>	V <sub>GS</sub> = -10 V, I <sub>D</sub> = -6.3 A		0.024	0.032	Ω
		V <sub>GS</sub> = -4.5 V, I <sub>D</sub> = -5.3 A		0.036	0.045	
Forward Transconductance <sup>b</sup>	g <sub>fs</sub>	V <sub>DS</sub> = -15 V, I <sub>D</sub> = -6.3 A		14		S
Diode Forward Voltage <sup>b</sup>	V <sub>SD</sub>	I <sub>S</sub> = -1.7 A, V <sub>GS</sub> = 0 V		-0.8	-1.2	V
<b>Dynamic<sup>a</sup></b>						
Total Gate Charge	Q <sub>g</sub>	V <sub>DS</sub> = -15 V, V <sub>GS</sub> = -10 V, I <sub>D</sub> = -6.3 A		27	50	nC
Gate-Source Charge	Q <sub>gs</sub>		6			
Gate-Drain Charge	Q <sub>gd</sub>		4.5			
Turn-On Delay Time	t <sub>d(on)</sub>	V <sub>DD</sub> = -15 V, R <sub>L</sub> = 15 Ω I <sub>D</sub> ≅ -1 A, V <sub>GEN</sub> = -10 V, R <sub>G</sub> = 6 Ω		16	20	ns
Rise Time	t <sub>r</sub>		10	20		
Turn-Off Delay Time	t <sub>d(off)</sub>		55	80		
Fall Time	t <sub>f</sub>		20	40		
Source-Drain Reverse Recovery Time	t <sub>rr</sub>		I <sub>F</sub> = -1.7 A, di/dt = 100 A/μs		40	

**Notes**

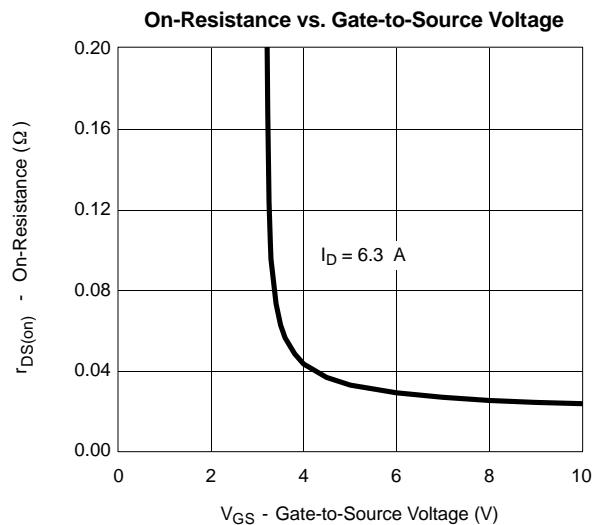
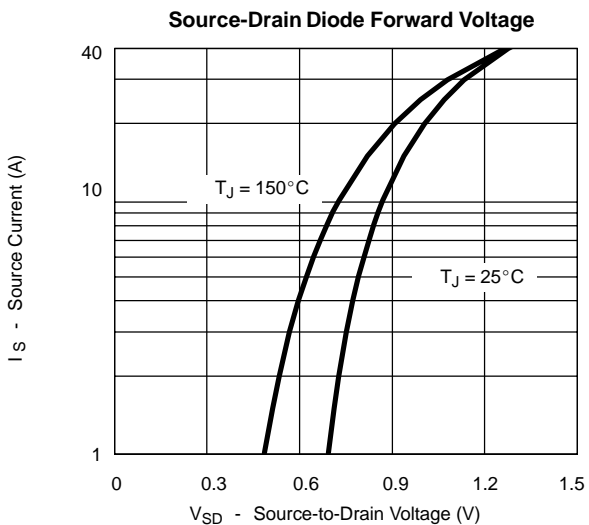
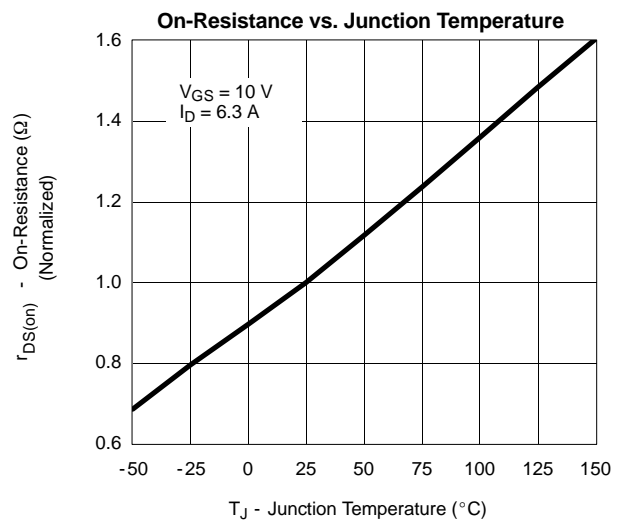
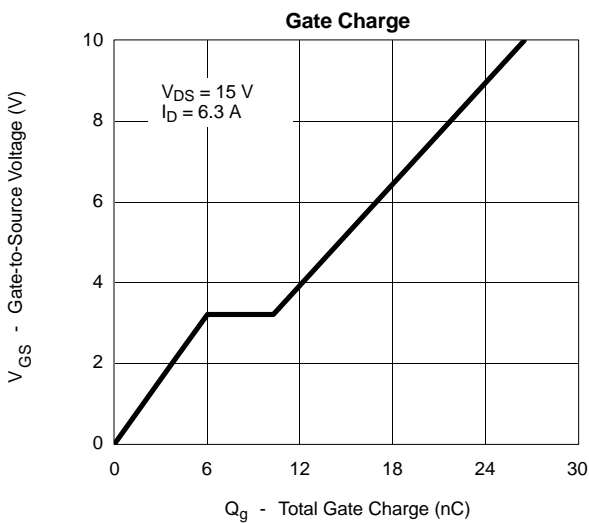
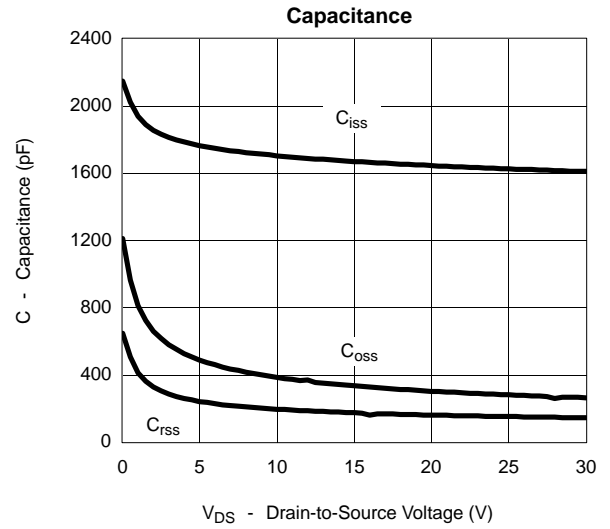
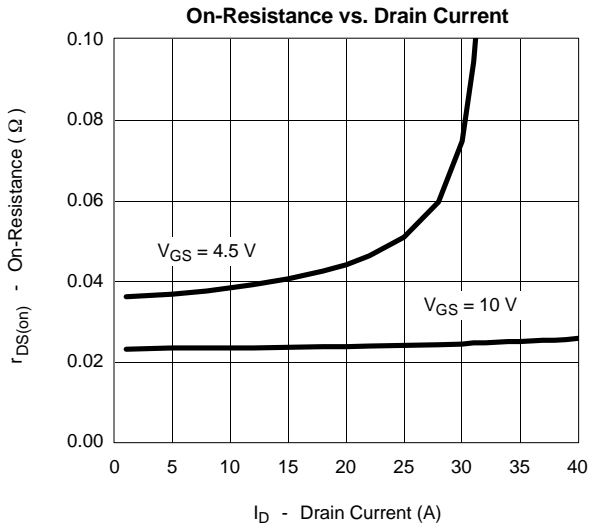
- a. For design aid only; not subject to production testing.
- b. Pulse test; pulse width ≤ 300 μs, duty cycle ≤ 2%.

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





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