

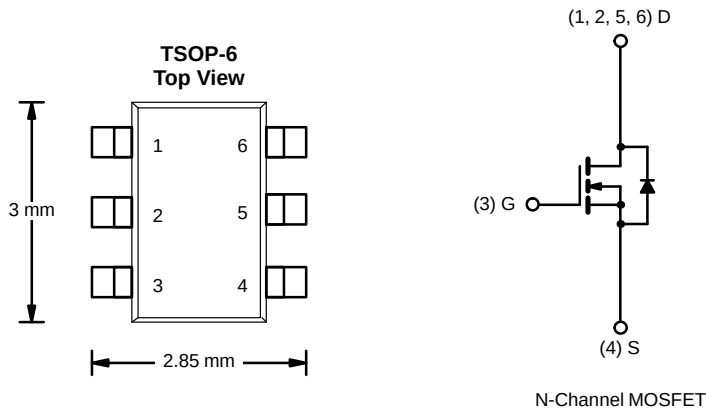


N-Channel 30-V (D-S) MOSFET

PRODUCT SUMMARY

V_{DS} (V)	$r_{DS(on)}$ (Ω)	I_D (A)
30	0.045 @ $V_{GS} = 10$ V	± 5.1
	0.065 @ $V_{GS} = 4.5$ V	± 4.3

TrenchFET[®]
Power MOSFETs



ABSOLUTE MAXIMUM RATINGS ($T_A = 25^\circ\text{C}$ UNLESS OTHERWISE NOTED)

Parameter		Symbol	Limit	Unit
Drain-Source Voltage		V_{DS}	± 30	V
Gate-Source Voltage		V_{GS}	± 20	
Continuous Drain Current ($T_J = 150^\circ\text{C}$) ^a	$T_A = 25^\circ\text{C}$	I_D	± 5.1	A
	$T_A = 70^\circ\text{C}$		± 4.1	
Pulsed Drain Current		I_{DM}	± 20	
Continuous Source Current (Diode Conduction) ^a		I_S	± 1.7	
Maximum Power Dissipation ^a	$T_A = 25^\circ\text{C}$	P_D	2	W
	$T_A = 70^\circ\text{C}$		1.3	
Operating Junction and Storage Temperature Range		T_J, T_{stg}	-55 to 150	$^\circ\text{C}$

THERMAL RESISTANCE RATINGS

Parameter	Symbol	Limit	Unit
Maximum Junction-to-Ambient ^a	R_{thJA}	62.5	$^\circ\text{C/W}$

Notes

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

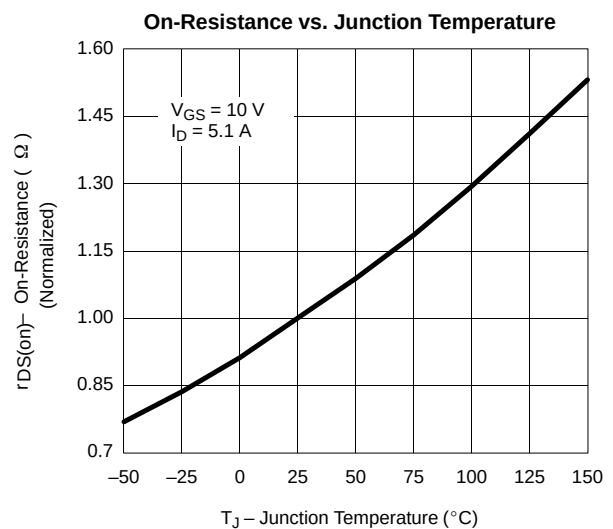
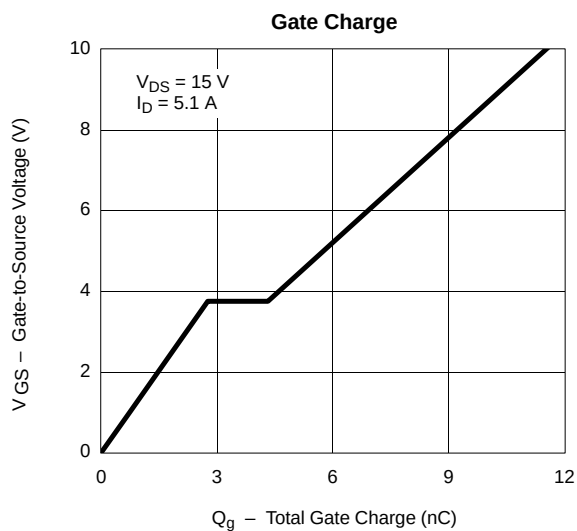
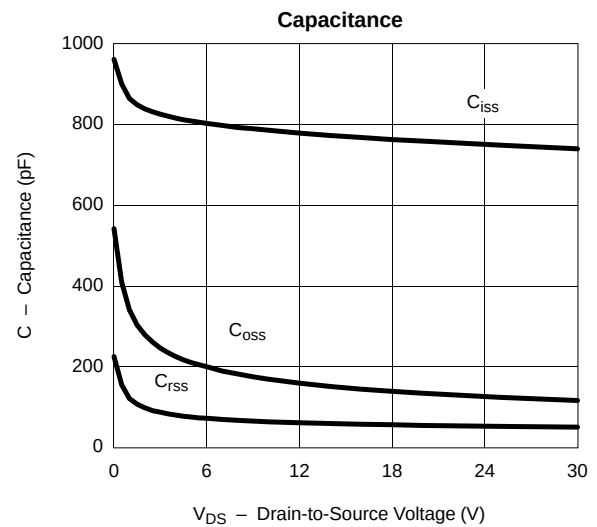
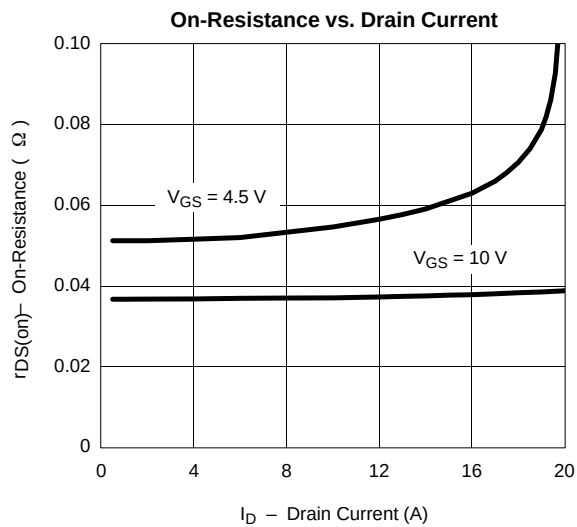
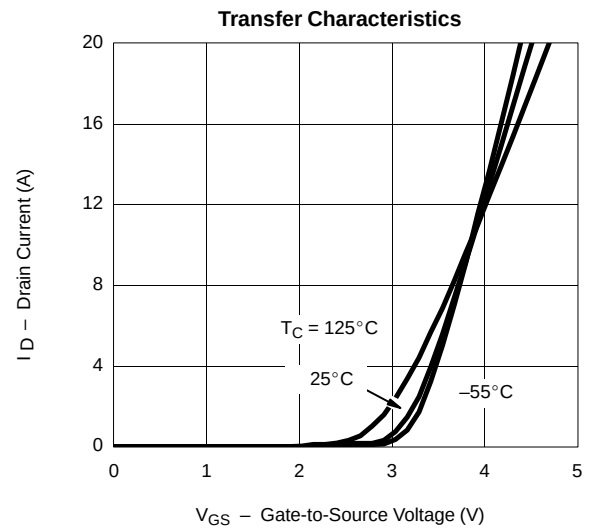
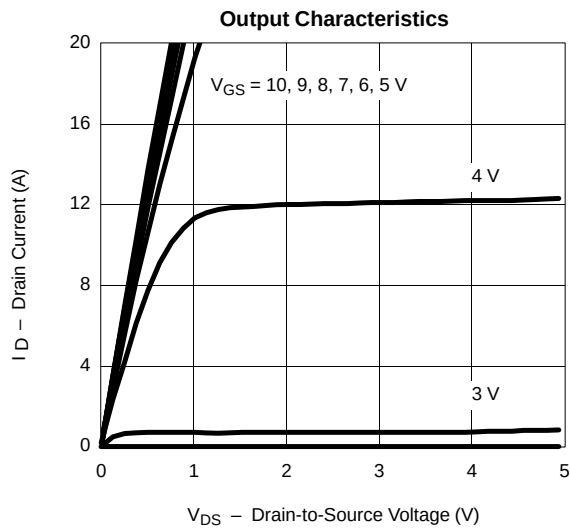
SPECIFICATIONS (T_J = 25°C UNLESS OTHERWISE NOTED)						
Parameter	Symbol	Test Condition	Min	Typ	Max	Unit
Static						
Gate Threshold Voltage	V _{GS(th)}	V _{DS} = V _{GS} , I _D = 250 μA	1.0			V
Gate-Body Leakage	I _{GSS}	V _{DS} = 0 V, V _{GS} = ±20 V			±100	nA
Zero Gate Voltage Drain Current	I _{DSS}	V _{DS} = 30 V, V _{GS} = 0 V			1	μA
		V _{DS} = 30 V, V _{GS} = 0 V, T _J = 70°C			5	
On-State Drain Current ^a	I _{D(on)}	V _{DS} = 5 V, V _{GS} = 10 V	15			A
Drain-Source On-State Resistance ^a	r _{DS(on)}	V _{GS} = 10 V, I _D = 5.1 A		0.037	0.045	Ω
		V _{GS} = 4.5 V, I _D = 4.3 A		0.051	0.065	
Forward Transconductance ^a	g _{fs}	V _{DS} = 10 V, I _D = 5.1 A		13		S
Diode Forward Voltage ^a	V _{SD}	I _S = 1.7 A, V _{GS} = 0 V			1.2	V
Dynamic^b						
Gate Charge	Q _g	V _{DS} = 15 V, V _{GS} = 5 V, I _D = 5.1 A		5.7	9	nC
Total Gate Charge	Q _{gt}	V _{DS} = 15 V, V _{GS} = 10 V, I _D = 5.1 A		12	20	
Gate-Source Charge	Q _{gs}			2.8		
Gate-Drain Charge	Q _{gd}			1.6		
Turn-On Delay Time	t _{d(on)}	V _{DD} = 15 V, R _L = 15 Ω I _D ≈ 1 A, V _{GEN} = 10 V, R _G = 6 Ω		10	20	ns
Rise Time	t _r			10	20	
Turn-Off Delay Time	t _{d(off)}			25	50	
Fall Time	t _f			10	20	
Source-Drain Reverse Recovery Time	t _{rr}	I _F = 1.7 A, di/dt = 100 A/μs		60	80	

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)

