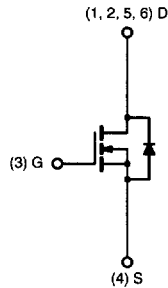
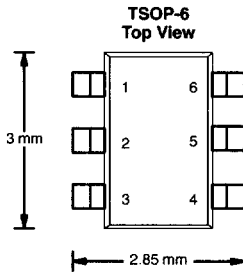




N-Channel 60-V (D-S) MOSFET

PRODUCT SUMMARY		
V_{DS} (V)	$r_{DS(on)}$ (Ω)	I_D (A)
60	0.10 @ $V_{GS} = 10$ V	± 3.2
	0.13 @ $V_{GS} = 4.5$ V	± 2.8

TrenchFET[®]
Power MOSFETs



N-Channel MOSFET

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}	± 20	
Continuous Drain Current ($T_J = 150^\circ\text{C}$) ^{a, b}	I_D	$T_A = 25^\circ\text{C}$	± 3.2
		$T_A = 70^\circ\text{C}$	± 2.5
Pulsed Drain Current	I_{DM}	± 15	A
Single Avalanche Current	I_{AS}	± 10	
Maximum Power Dissipation ^{a, b}	P_D	$T_A = 25^\circ\text{C}$	2
		$T_A = 70^\circ\text{C}$	1.3
Operating Junction and Storage Temperature Range	T_J, T_{stg}	-55 to 150	$^\circ\text{C}$

THERMAL RESISTANCE RATINGS				
Parameter	Symbol	Typical	Maximum	Unit
Maximum Junction-to-Ambient ^a	$R_{\theta JA}$	106	62.5	$^\circ\text{C/W}$
			Steady State	
Maximum Junction-to-Lead	$R_{\theta JL}$	35		

Notes

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



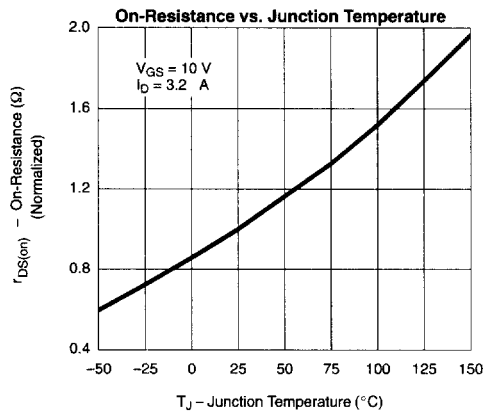
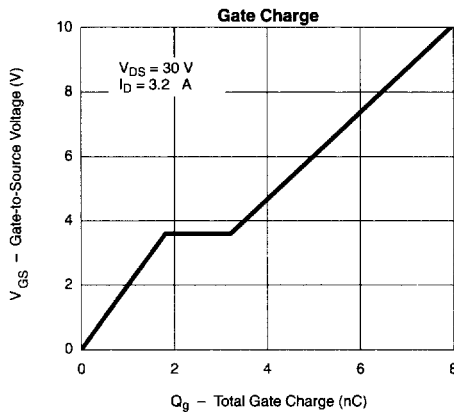
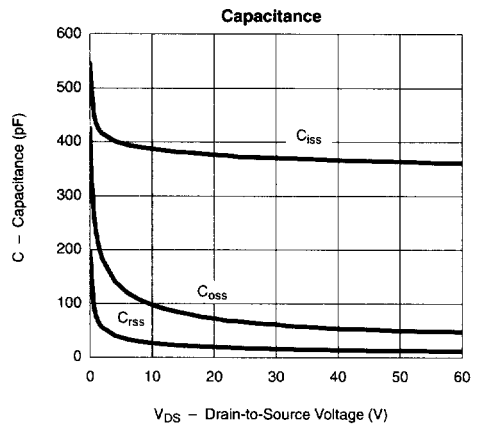
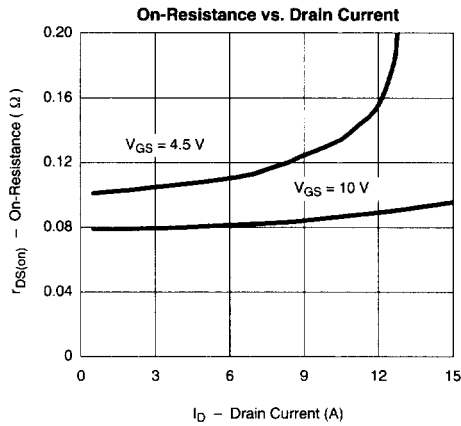
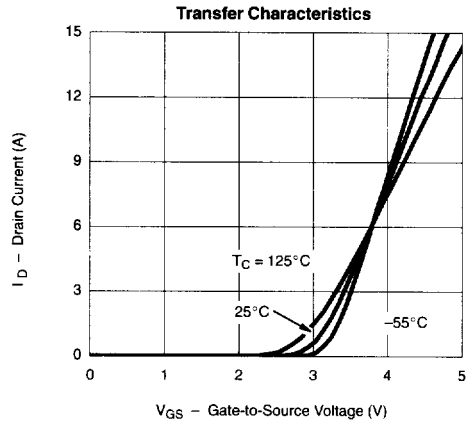
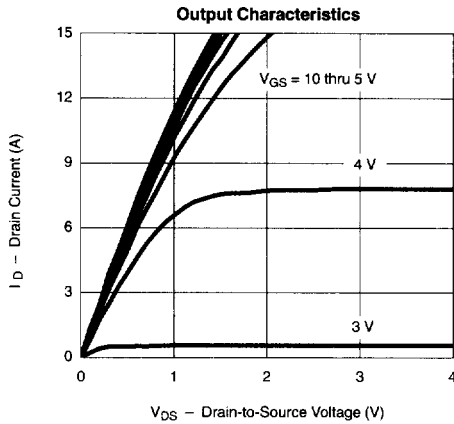
SPECIFICATIONS ($T_J = 25^\circ\text{C}$ UNLESS OTHERWISE NOTED)						
Parameter	Symbol	Test Condition	Min	Typ	Max	Unit
Static						
Drain-Source Breakdown Voltage	$V_{(BR)DSS}$	$V_{DS} = 0\text{ V}, I_D = 250\ \mu\text{A}$	60			V
Gate Threshold Voltage	$V_{GS(th)}$	$V_{DS} = V_{GS}, I_D = 250\ \mu\text{A}$	1			
Gate-Body Leakage	I_{GSS}	$V_{DS} = 0\text{ V}, V_{GS} = \pm 20\text{ V}$			± 100	nA
Zero Gate Voltage Drain Current	I_{DSS}	$V_{DS} = 48\text{ V}, V_{GS} = 0\text{ V}$			1	μA
		$V_{DS} = 48\text{ V}, V_{GS} = 0\text{ V}, T_J = 150^\circ\text{C}$			50	
On-State Drain Current ^a	$I_{D(on)}$	$V_{DS} = 5\text{ V}, V_{GS} = 10\text{ V}$	10			A
Drain-Source On-State Resistance ^a	$r_{DS(on)}$	$V_{GS} = 10\text{ V}, I_D = 3.2\text{ A}$		0.085	0.10	Ω
		$V_{GS} = 4.5\text{ V}, I_D = 2.8\text{ A}$		0.110	0.13	
Forward Transconductance ^a	g_{fs}	$V_{DS} = 4.5\text{ V}, I_D = 3.2\text{ A}$		8		S
Dynamic^b						
Total Gate Charge	Q_g	$V_{DS} = 30\text{ V}, V_{GS} = 10\text{ V}, I_D = 3.2\text{ A}$		8	16	nC
Gate-Source Charge	Q_{gs}		4.0			
Gate-Drain Charge	Q_{gd}		2.0			
Turn-On Delay Time	$t_{d(on)}$	$V_{DD} = 30\text{ V}, R_L = 30\ \Omega$ $I_D \cong 1\text{ A}, V_{GEN} = 10\text{ V}, R_G = 6\ \Omega$		10	20	ns
Rise Time	t_r			10	20	
Turn-Off Delay Time	$t_{d(off)}$			20	40	
Fall Time	t_f			10	20	
Source-Drain Rating Characteristics^b						
Continuous Current	I_S				1.7	A
Pulsed Current	I_{SM}				15	
Diode Forward Voltage ^a	V_{SD}	$I_S = 1.7\text{ A}, V_{GS} = 0\text{ V}$			1.2	V
Source-Drain Reverse Recovery Time	t_{rr}	$I_F = 1.7\text{ A}, di/dt = 100\text{ A}/\mu\text{s}$		50	90	ns

Notes

- a. Pulse test; pulse width $\leq 300\ \mu\text{s}$, duty cycle $\leq 2\%$.
 b. Guaranteed by design, not subject to production testing.



TYPICAL CHARACTERISTICS (25°C UNLESS NOTED)





TYPICAL CHARACTERISTICS (25°C UNLESS NOTED)

