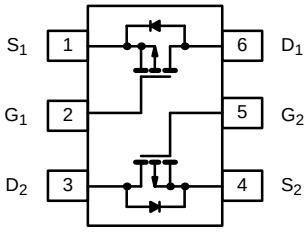
Dual P-Channel 1.8-V (G-S) MOSFET

PRODUCT SUMMARY		
V_{DS} (V)	$r_{DS(on)}$ (Ω)	I_D (A)
–8	0.600 @ V_{GS} = –4.5 V	±0.60
	0.850 @ V_{GS} = –2.5 V	±0.50
	1.200 @ V_{GS} = –1.8 V	±0.42

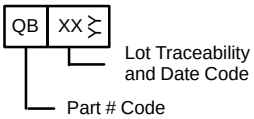
TrenchFET® Power MOSFETs
1.8-V Rated

SOT-363
SC-70 (6-LEADS)



Top View

Marking Code



ABSOLUTE MAXIMUM RATINGS (T_A = 25°C UNLESS OTHERWISE NOTED)					
Parameter		Symbol	5 secs	Steady State	Unit
Drain-Source Voltage		V_{DS}	–8		V
Gate-Source Voltage		V_{GS}	±8		
Continuous Drain Current (T_J = 150°C)[a]	T_A = 25°C	I_D	±0.60	±0.57	A
	T_A = 85°C		±0.43	±0.41	
Pulsed Drain Current		I_{DM}	±1.0		
Continuous Diode Current (Diode Conduction)[a]		I_S	–0.25	–0.23	
Maximum Power Dissipation[a]	T_A = 25°C	P_D	0.30	0.27	W
	T_A = 85°C		0.16	0.14	
Operating Junction and Storage Temperature Range		T_J, T_{stg}	–55 to 150		°C

THERMAL RESISTANCE RATINGS					
Parameter		Symbol	Typical	Maximum	Unit
Maximum Junction-to-Ambient[a]	t ≤ 5 sec	R_{thJA}	360	415	°C/W
	Steady State		400	460	
Maximum Junction-to-Foot (Drain)	Steady State	R_{thJF}	300	350	

Notes
a. Surface Mounted on 1” x 1” FR4 Board.

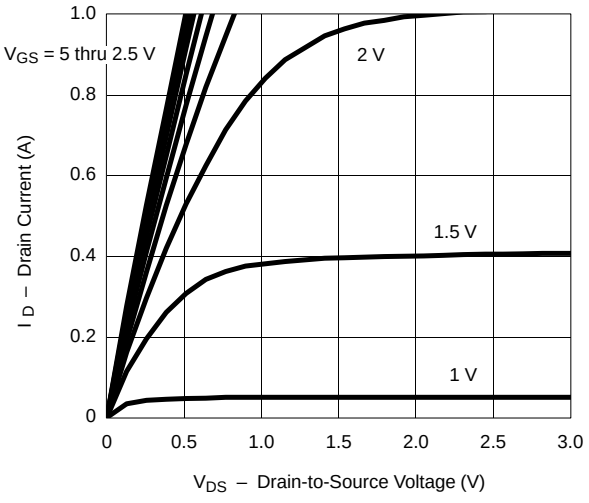
SPECIFICATIONS (T_J = 25°C UNLESS OTHERWISE NOTED)

Parameter	Symbol	Test Condition	Min	Typ	Max	Unit
Static						
Gate Threshold Voltage	$V_{GS(th)}$	V_{DS} = V_{GS}, I_D = –250 μA	–0.45			V
Gate-Body Leakage	I_{GSS}	V_{DS} = 0 V, V_{GS} = ±8 V			±100	nA
Zero Gate Voltage Drain Current	I_{DSS}	V_{DS} = –6.4 V, V_{GS} = 0 V			–1	μA
		V_{DS} = –6.4 V, V_{GS} = 0 V, T_J = 85°C			–5	
On-State Drain Current[a]	$I_{D(on)}$	V_{DS} = –5 V, V_{GS} = –4.5 V	–1.0			A
Drain-Source On-State Resistance[a]	$r_{DS(on)}$	V_{GS} = –4.5 V, I_D = –0.57 A		0.51	0.600	Ω
		V_{GS} = –2.5 V, I_D = –0.48 A		0.720	0.850	
		V_{GS} = –1.8 V, I_D = –0.20 A		1.0	1.200	
Forward Transconductance[a]	g_{fs}	V_{DS} = –10 V, I_D = –0.57 A		1.2		S
Diode Forward Voltage[a]	V_{SD}	I_S = –0.23 A, V_{GS} = 0 V		–0.8	–1.2	V
Dynamic[b]						
Total Gate Charge	Q_g	V_{DS} = –4 V, V_{GS} = –4.5 V, I_D = –0.57 A		1.5	2.3	nC
Gate-Source Charge	Q_{gs}			0.17		
Gate-Drain Charge	Q_{gd}			0.16		
Turn-On Delay Time	$t_{d(on)}$	V_{DD} = –4 V, R_L = 8 Ω I_D ≅ –0.5 A, V_{GEN} = –4.5 V, R_G = 6 Ω		6	12	ns
Rise Time	t_r			25	50	
Turn-Off Delay Time	$t_{d(off)}$			10	20	
Fall Time	t_f			10	20	
Source-Drain Reverse Recovery Time	t_{rr}	I_F = –0.23 A, di/dt = 100 A/μs		20	40	

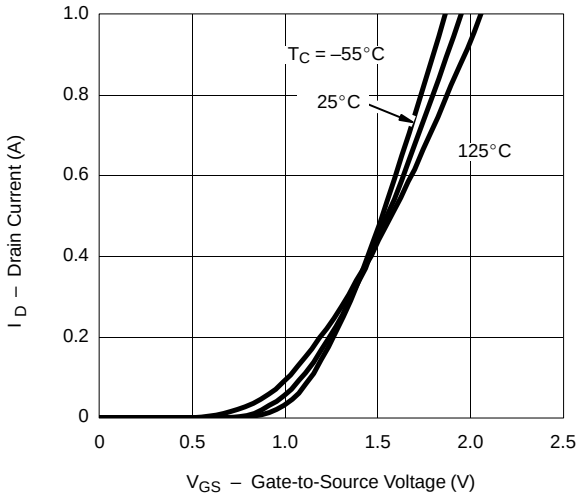
Notes
a. Pulse test; pulse width ≤ 300 μs, duty cycle ≤ 2%.
b. Guaranteed by design, not subject to production testing.

TYPICAL CHARACTERISTICS (25°C UNLESS NOTED)

Output Characteristics

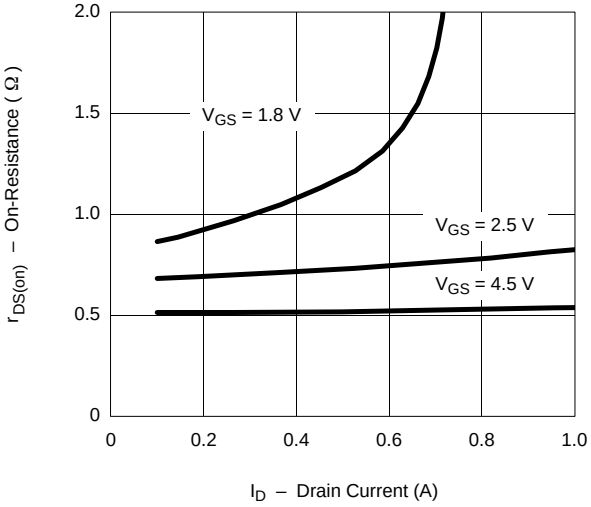


Transfer Characteristics

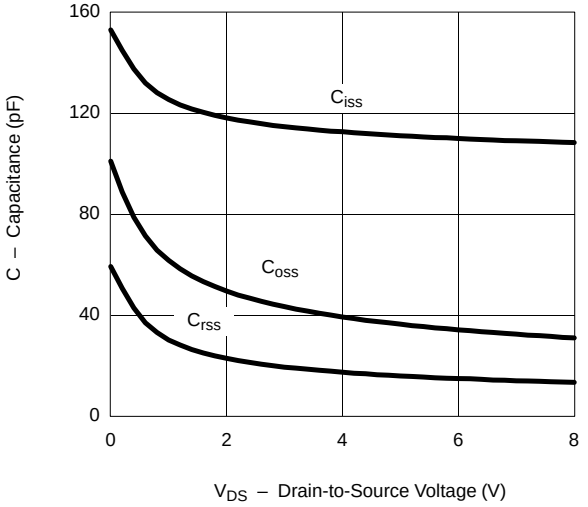


TYPICAL CHARACTERISTICS (25°C UNLESS NOTED)

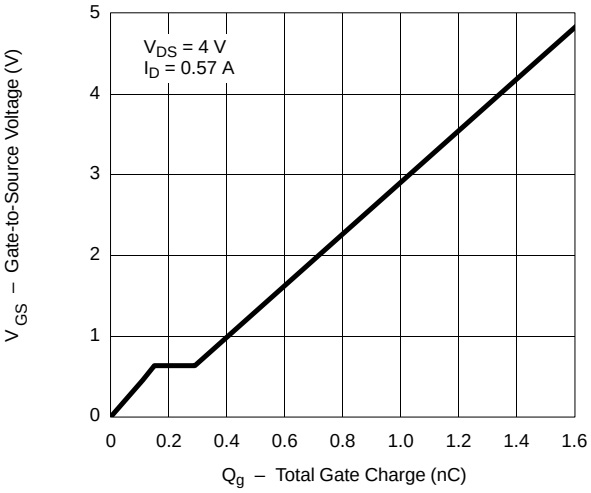
On-Resistance vs. Drain Current



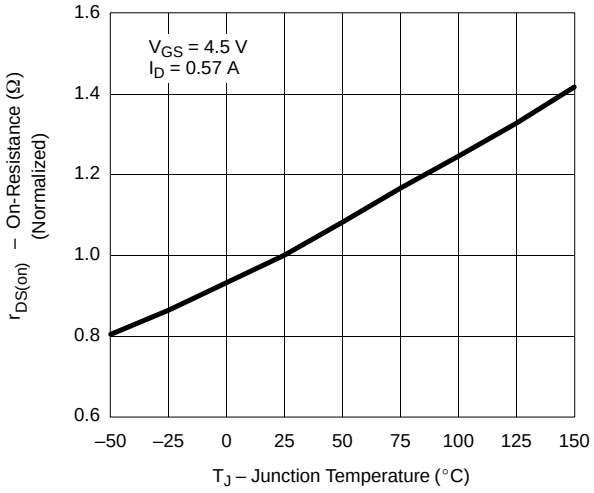
Capacitance



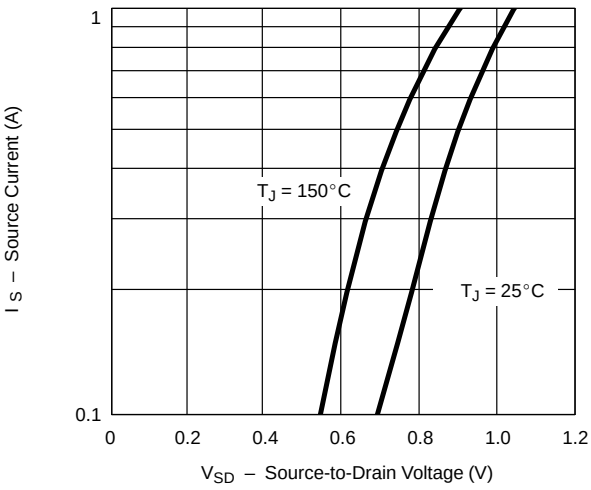
Gate Charge



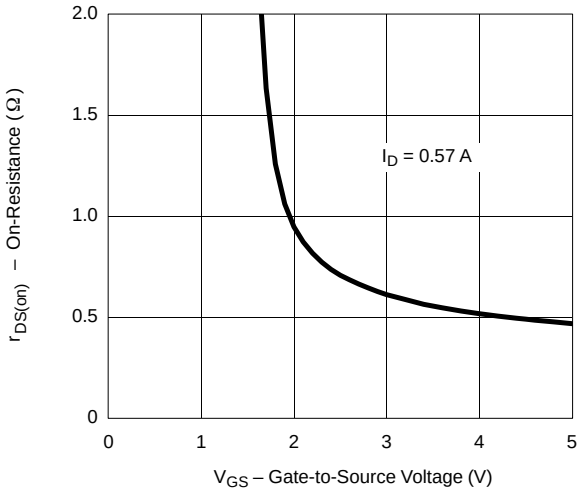
On-Resistance vs. Junction Temperature



Source-Drain Diode Forward Voltage

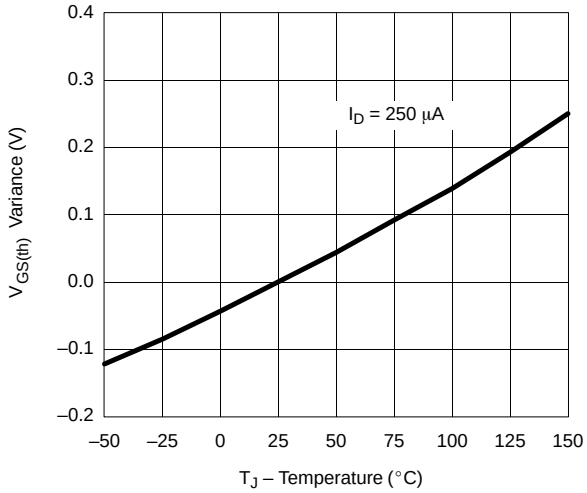


On-Resistance vs. Gate-to-Source Voltage

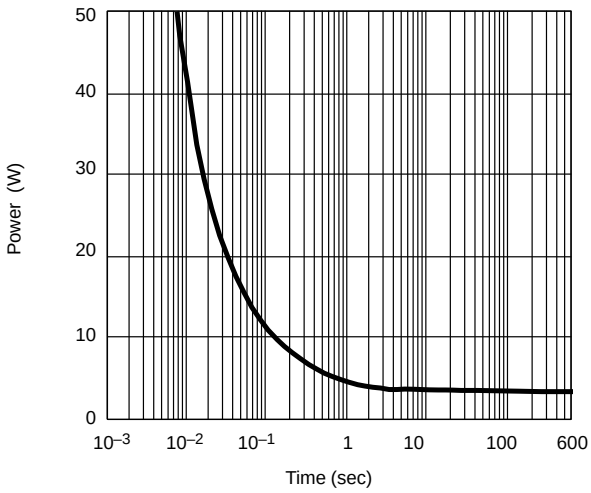


TYPICAL CHARACTERISTICS (25°C UNLESS NOTED)

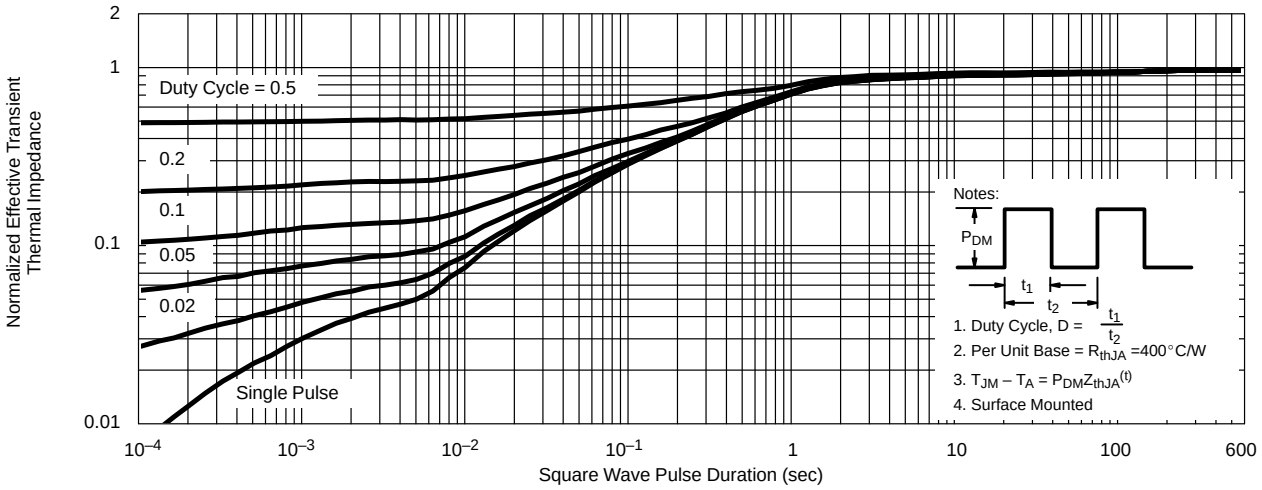
Threshold Voltage



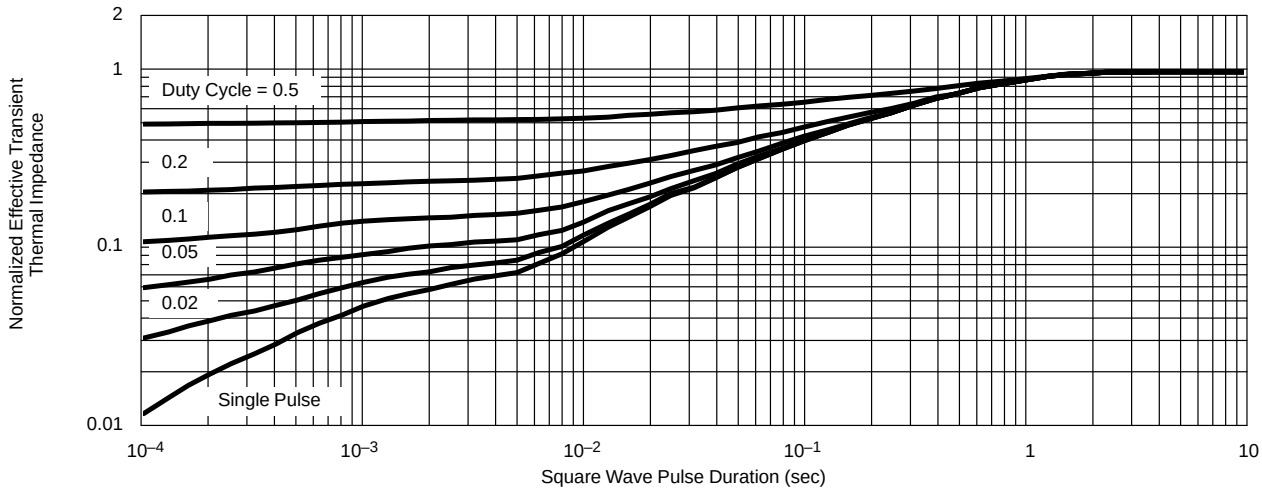
Single Pulse Power



Normalized Thermal Transient Impedance, Junction-to-Ambient



Normalized Thermal Transient Impedance, Junction-to-Foot



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