



## Dual N-Channel 25-V (D-S) MOSFET

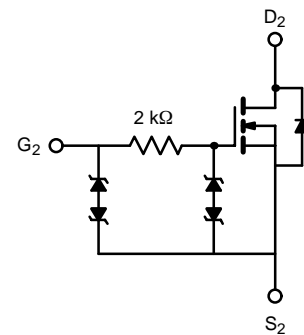
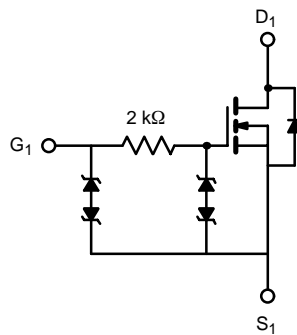
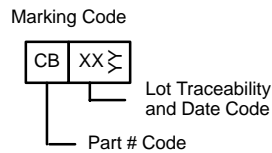
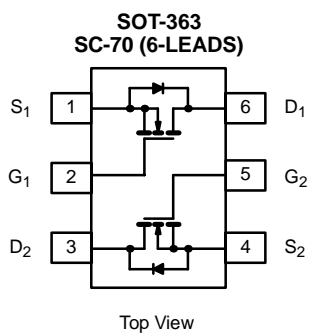
PRODUCT SUMMARY		
V <sub>DS</sub> (V)	r <sub>DS(on)</sub> (Ω)	I <sub>D</sub> (A)
25	0.810 @ V <sub>GS</sub> = 4.5 V	0.73
	1.04 @ V <sub>GS</sub> = 2.5 V	0.65

### FEATURES

- TrenchFET® Power MOSFETS: 2.5-V Rated
- ESD Protected: 1800 V
- Thermally Enhanced SC-70 Package

### APPLICATIONS

- Load Switching
- PA Switch
- Level Switch



ABSOLUTE MAXIMUM RATINGS (T <sub>A</sub> = 25°C UNLESS OTHERWISE NOTED)					
Parameter	Symbol	5 secs	Steady State	Unit	
Drain-Source Voltage	V <sub>DS</sub>	25		V	
Gate-Source Voltage	V <sub>GS</sub>	± 8			
Continuous Drain Current (T <sub>J</sub> = 150°C) <sup>a</sup>	I <sub>D</sub>	T <sub>A</sub> = 25°C	0.73	0.64	A
		T <sub>A</sub> = 85°C	0.53	0.46	
Pulsed Drain Current	I <sub>DM</sub>	2			
Continuous Diode Current (Diode Conduction) <sup>a</sup>	I <sub>S</sub>	0.61	0.48		
Maximum Power Dissipation <sup>a</sup>	P <sub>D</sub>	T <sub>A</sub> = 25°C	0.74	0.57	W
		T <sub>A</sub> = 85°C	0.38	0.30	
Operating Junction and Storage Temperature Range	T <sub>J</sub> , T <sub>stg</sub>	-55 to 150		°C	

THERMAL RESISTANCE RATINGS					
Parameter	Symbol	Typical	Maximum	Unit	
Maximum Junction-to-Ambient <sup>a</sup>	R <sub>thJA</sub>	t ≤ 5 sec	130	170	°C/W
		Steady State	170	220	
Maximum Junction-to-Foot (Drain)	R <sub>thJF</sub>	80	100		

Notes

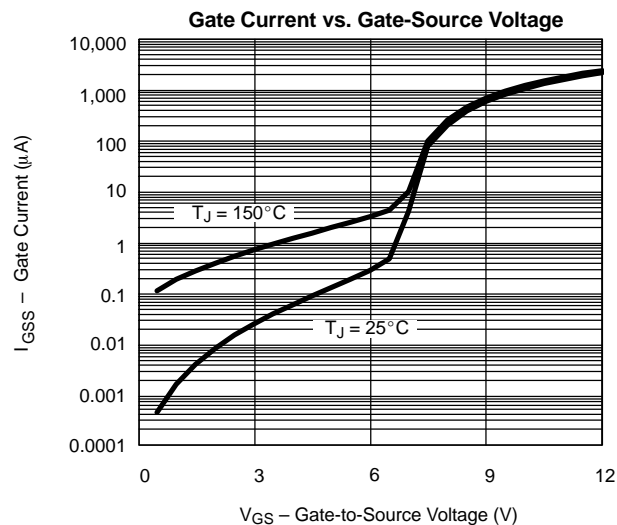
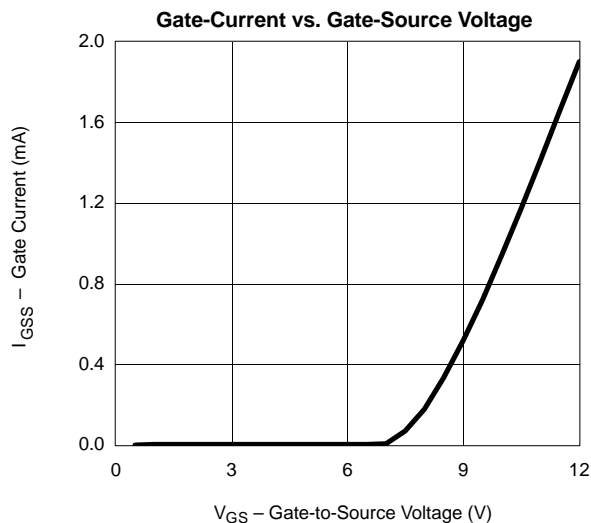
a. Surface Mounted on 1" x 1" FR4 Board.

**SPECIFICATIONS (T<sub>J</sub> = 25 °C UNLESS OTHERWISE NOTED)**

Parameter	Symbol	Test Condition	Min	Typ	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	0.6			V
Gate-Body Leakage	I <sub>GSS</sub>	V <sub>DS</sub> = 0 V, V <sub>GS</sub> = ±4.5 V			±1	μA
		V <sub>DS</sub> = 0 V, V <sub>GS</sub> = ±8 V			±1	mA
Zero Gate Voltage Drain Current	I <sub>DSS</sub>	V <sub>DS</sub> = 20 V, V <sub>GS</sub> = 0 V			1	μA
		V <sub>DS</sub> = 20 V, V <sub>GS</sub> = 0 V, T <sub>J</sub> = 85 °C			5	μA
On-State Drain Current <sup>a</sup>	I <sub>D(on)</sub>	V <sub>DS</sub> = 5 V, V <sub>GS</sub> = 4.5 V	2			A
Drain-Source On-State Resistance <sup>a</sup>	r <sub>DS(on)</sub>	V <sub>GS</sub> = 4.5 V, I <sub>D</sub> = 0.64 A		0.630	0.810	Ω
		V <sub>GS</sub> = 2.5 V, I <sub>D</sub> = 0.2 A		0.830	1.04	Ω
Forward Transconductance <sup>a</sup>	g <sub>fs</sub>	V <sub>DS</sub> = 10 V, I <sub>D</sub> = 0.64 A		1.1		S
Diode Forward Voltage <sup>a</sup>	V <sub>SD</sub>	I <sub>S</sub> = 0.48 A, V <sub>GS</sub> = 0 V		0.80	1.2	V
<b>Dynamic<sup>b</sup></b>						
Total Gate Charge	Q <sub>g</sub>	V <sub>DS</sub> = 15 V, V <sub>GS</sub> = 4.5 V, I <sub>D</sub> = 0.64 A		0.66	1.0	nC
Gate-Source Charge	Q <sub>gs</sub>			0.14		
Gate-Drain Charge	Q <sub>gd</sub>			0.26		
Turn-On Delay Time	t <sub>d(on)</sub>	V <sub>DD</sub> = 15 V, R <sub>L</sub> = 30 Ω I <sub>D</sub> ≅ 0.5 A, V <sub>GEN</sub> = 4.5 V, R <sub>G</sub> = 6 Ω		42	65	ns
Rise Time	t <sub>r</sub>			85	130	
Turn-Off Delay Time	t <sub>d(off)</sub>			200	300	
Fall Time	t <sub>f</sub>			160	240	

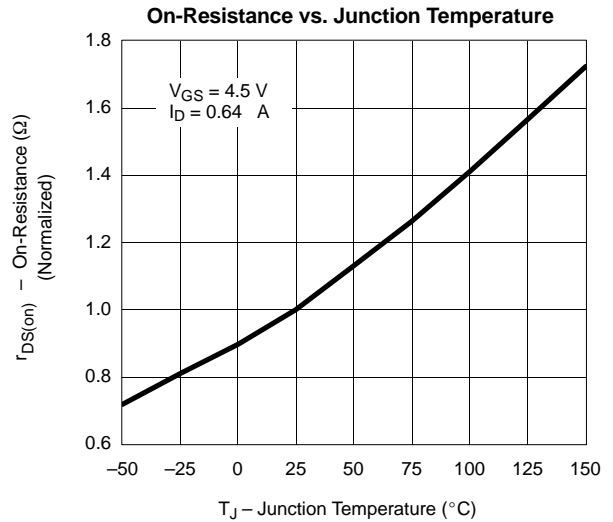
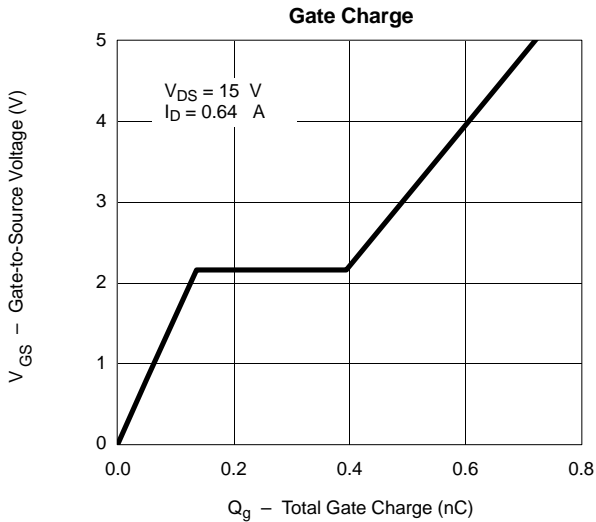
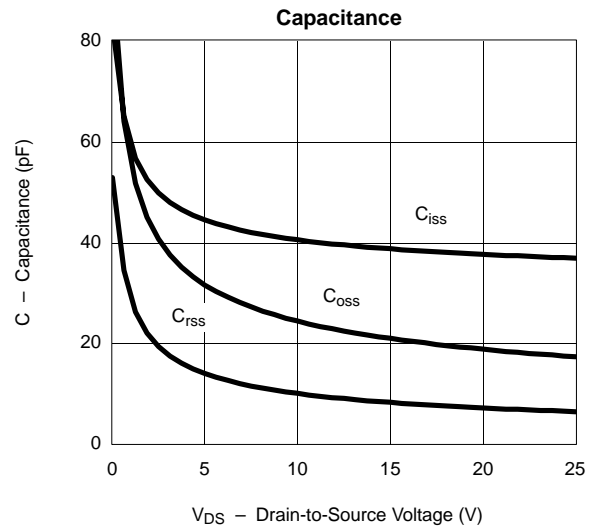
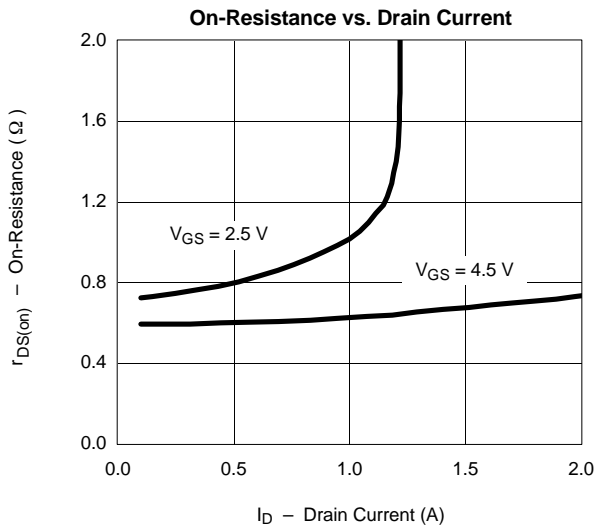
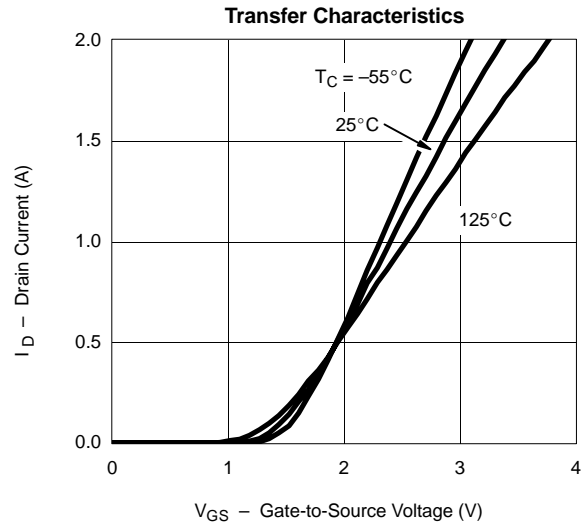
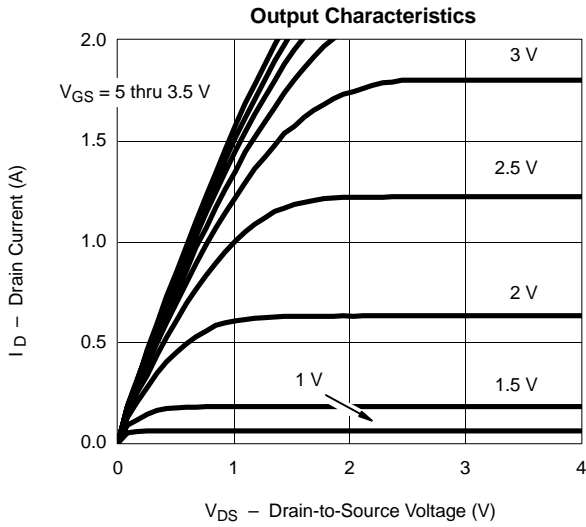
## Notes

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

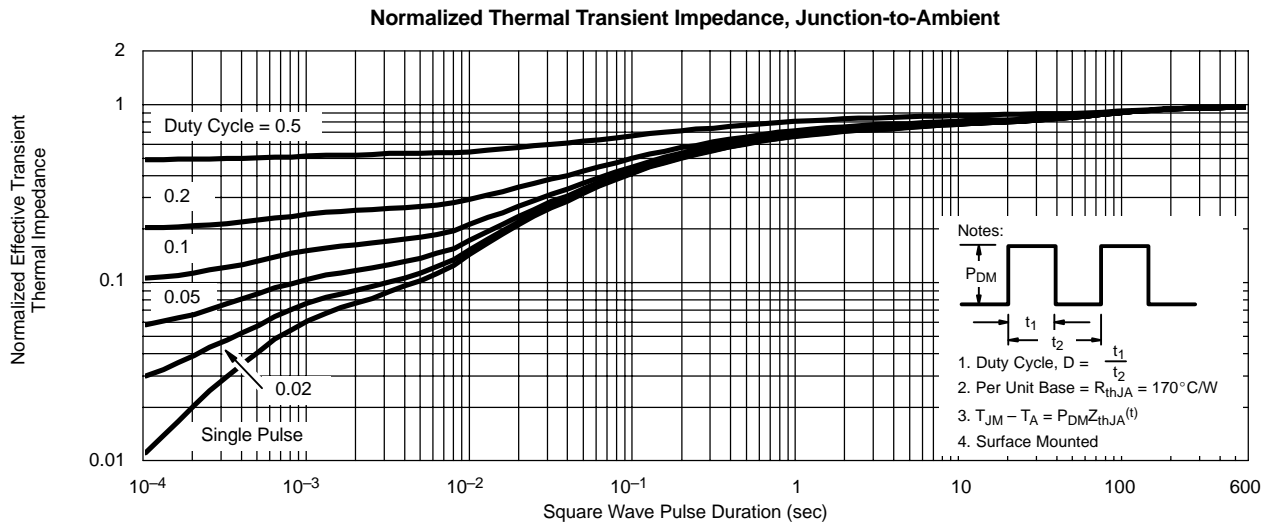
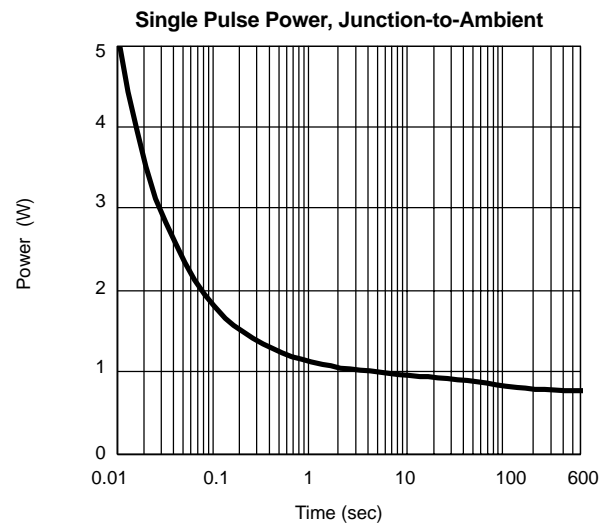
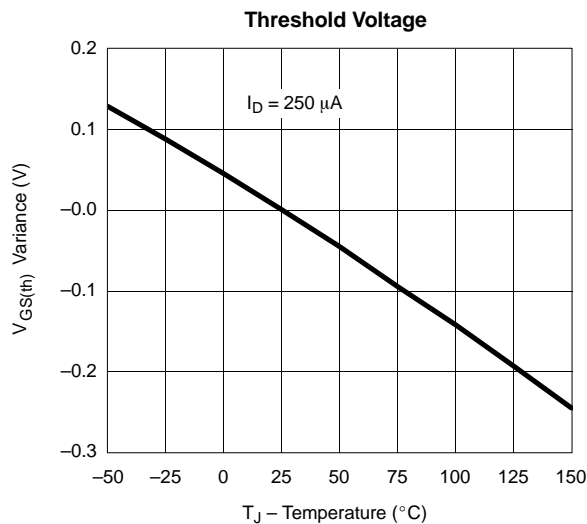
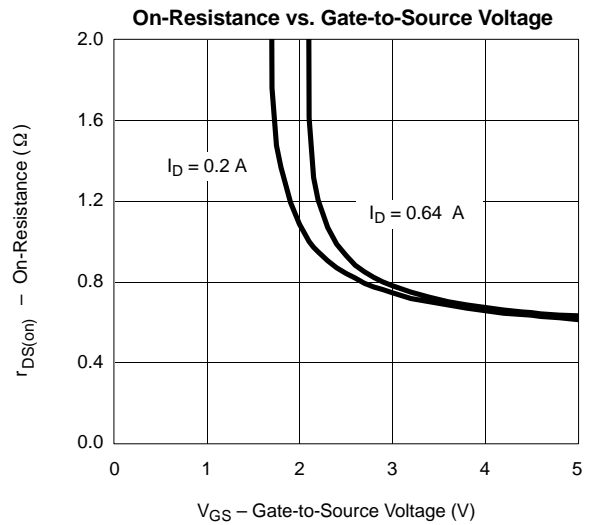
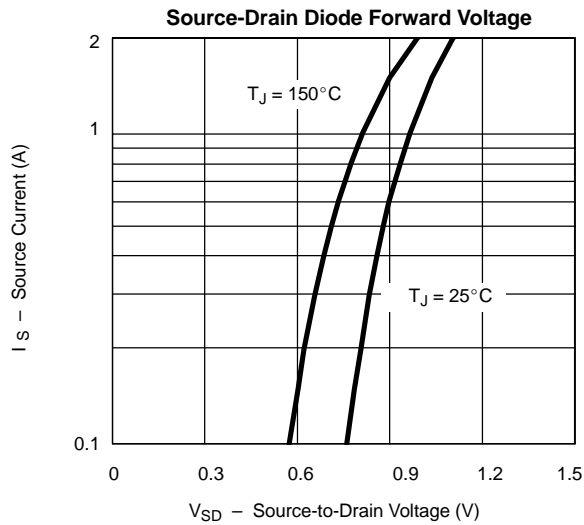
**TYPICAL CHARACTERISTICS (25 °C UNLESS NOTED)**



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