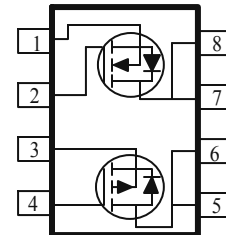


P & N-Channel 30-V (D-S) MOSFET

These miniature surface mount MOSFETs utilize a high cell density trench process to provide low $r_{DS(on)}$ and to ensure minimal power loss and heat dissipation. Typical applications are DC-DC converters and power management in portable and battery-powered products such as computers, printers, PCMCIA cards, cellular and cordless telephones.

PRODUCT SUMMARY		
V_{DS} (V)	$r_{DS(on)}$ m(Ω)	I_D (A)
30	60 @ $V_{GS} = 4.5V$	5.0
-30	80 @ $V_{GS} = -4.5V$	-4.2

- Low $r_{DS(on)}$ provides higher efficiency and extends battery life
- Low thermal impedance copper leadframe SOIC-8 saves board space
- Fast switching speed
- High performance trench technology



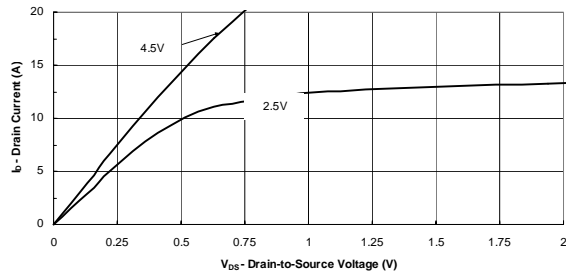
ABSOLUTE MAXIMUM RATINGS ($T_A = 25\text{ }^\circ\text{C}$ UNLESS OTHERWISE NOTED)					
Parameter	Symbol	N-Channel	P-Channel	Units	
Drain-Source Voltage	V_{DS}	30	-30	V	
Gate-Source Voltage	V_{GS}	± 12	± 20		
Continuous Drain Current ^a	I_D	$T_A=25\text{ }^\circ\text{C}$	5.0	-5.2	A
		$T_A=70\text{ }^\circ\text{C}$	4.1	-6.8	
Pulsed Drain Current ^b	I_{DM}	20	-20		
Continuous Source Current (Diode Conduction) ^a	I_S	1.3	-1.3	A	
Power Dissipation ^a	P_D	$T_A=25\text{ }^\circ\text{C}$	2.1	2.1	W
		$T_A=70\text{ }^\circ\text{C}$	1.3	1.3	
Operating Junction and Storage Temperature Range	T_J, T_{stg}	-55 to 150		$^\circ\text{C}$	

THERMAL RESISTANCE RATINGS			
Parameter	Symbol	Maximum	Units
Maximum Junction-to-Ambient ^a	$t \leq 10\text{ sec}$	62.5	$^\circ\text{C/W}$
	Steady-State	110	$^\circ\text{C/W}$

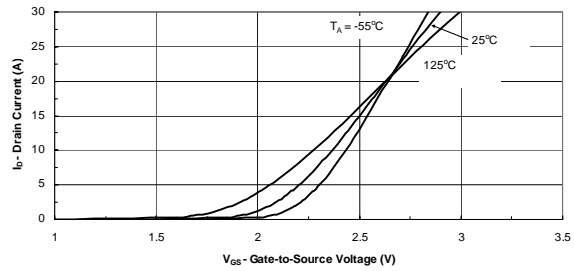
Notes

- Surface Mounted on 1" x 1" FR4 Board.
- Pulse width limited by maximum junction temperature

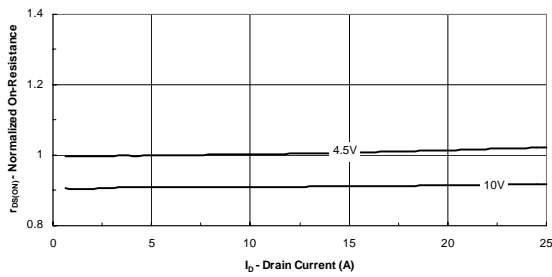
Typical Electrical Characteristics (N-Channel)



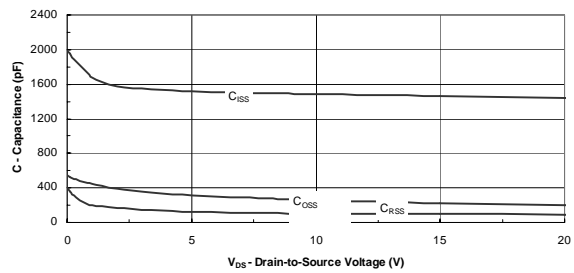
Output Characteristics



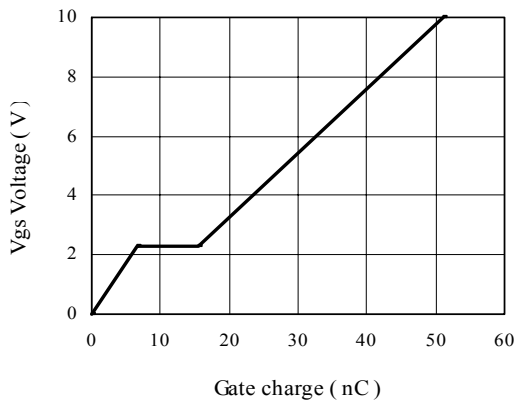
Transfer Characteristics



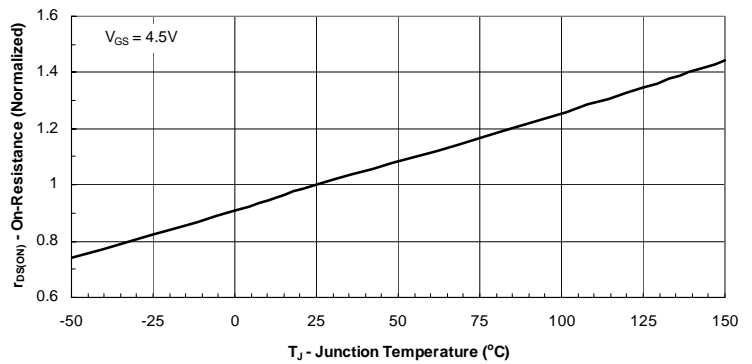
On-Resistance vs. Drain Current



Capacitance

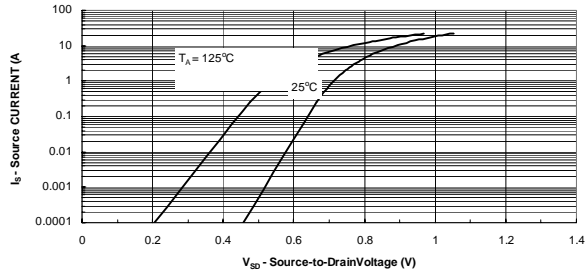


Gate Charge

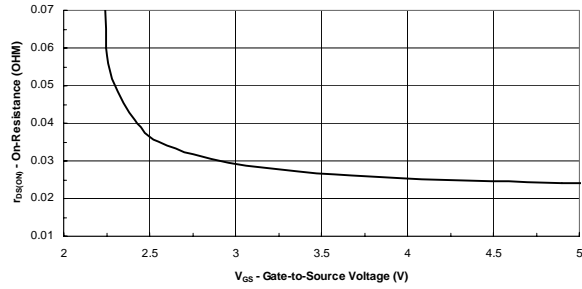


On-Resistance vs. Junction Temperature

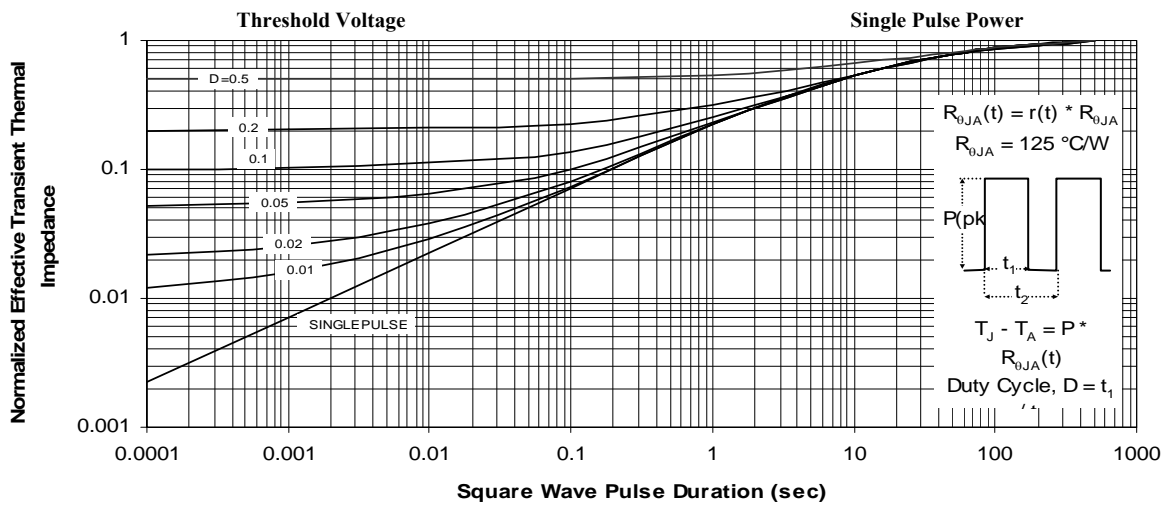
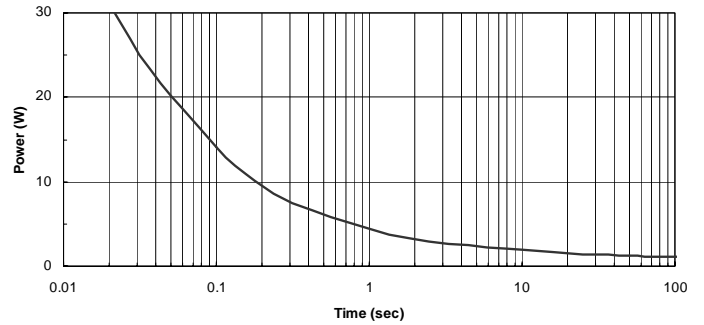
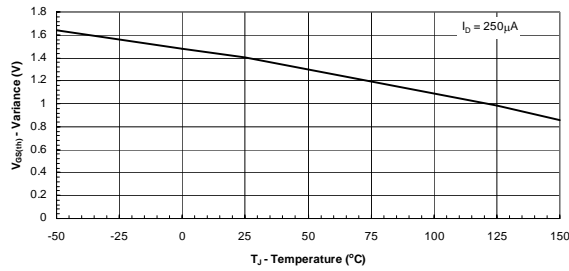
Typical Electrical Characteristics (N-Channel)



Source-Drain Diode Forward Voltage



On-Resistance vs. Gate-to-Source Voltage



Normalized Thermal Transient Impedance, Junction-to-Ambient

Typical Electrical Characteristics (P-Channel)

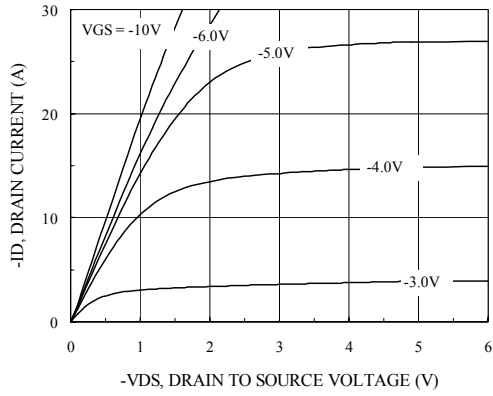


Figure 1. On-Region Characteristics

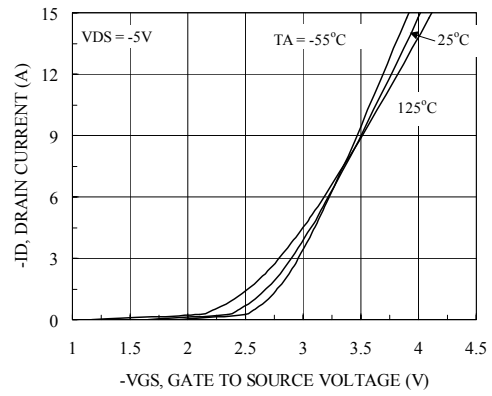


Figure 2. Body Diode Forward Voltage Variation with Source Current and Temperature

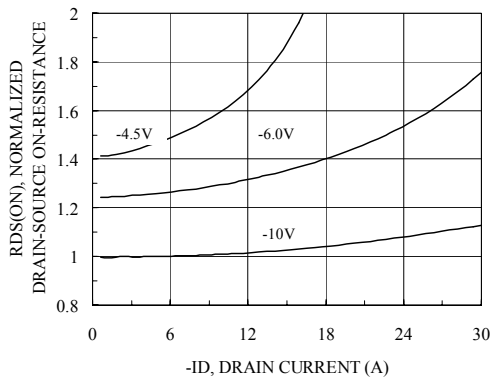


Figure 3. On Resistance Vs Vgs Voltage

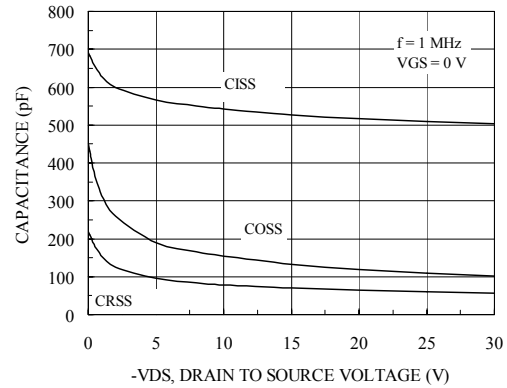


Figure 4. Capacitance Characteristics

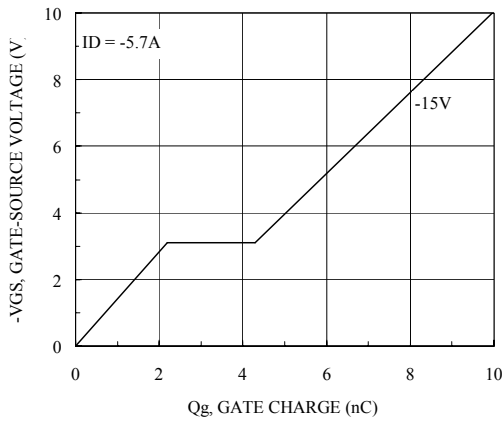


Figure 5. Gate Charge Characteristics

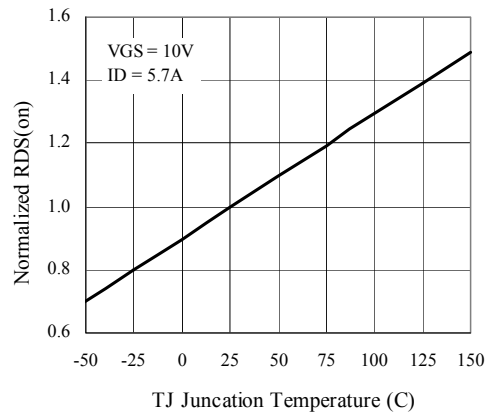


Figure 6. On-Resistance Variation with Temperature

Typical Electrical Characteristics (P-Channel)

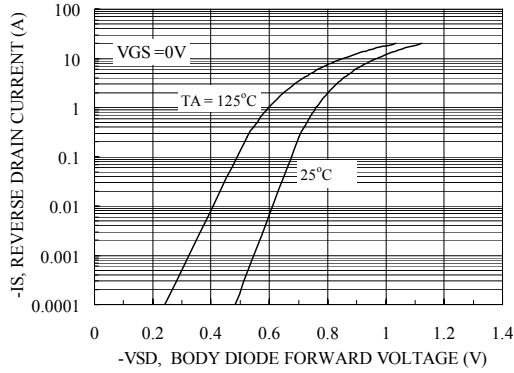


Figure 7. Transfer Characteristics

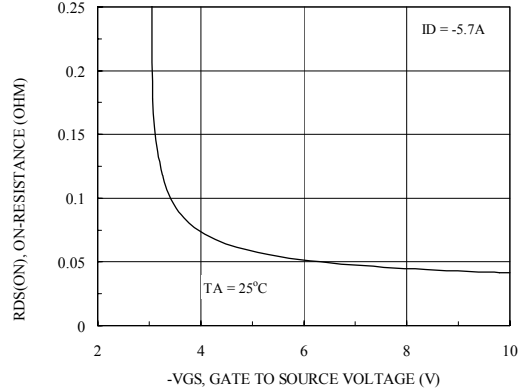


Figure 8. On-Resistance with Gate to Source Voltage

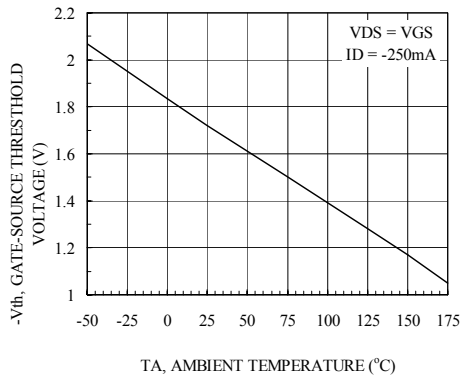


Figure 9. Vth Gate to Source Voltage Vs Temperature

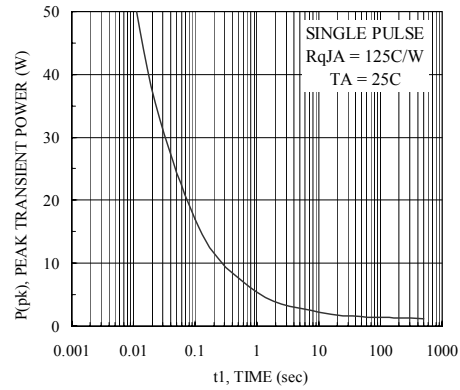


Figure 10. Single Pulse Maximum Power Dissipation

Normalized Thermal Transient Junction to Ambient

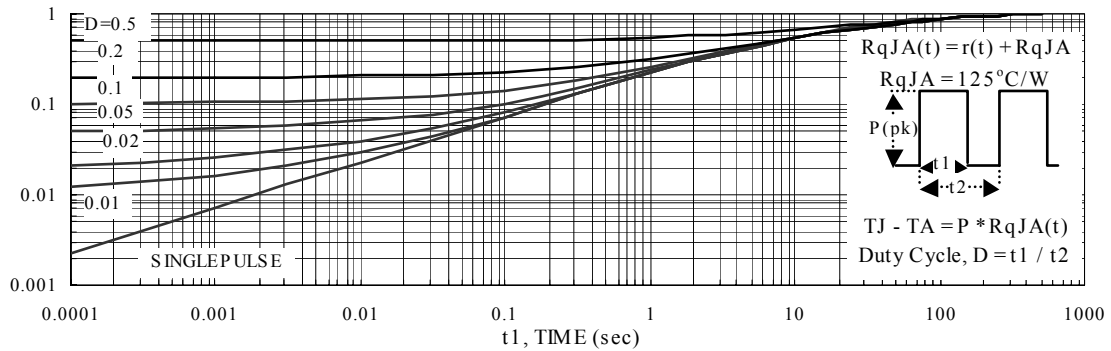
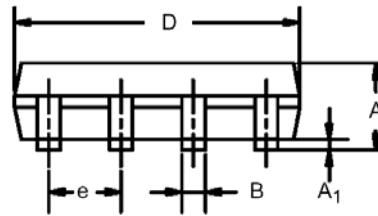
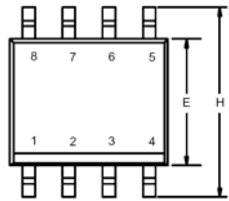


Figure 11. Transient Thermal Response Curve

Package Information

SO-8: 8LEAD



Dim	MILLIMETERS		INCHES	
	Min	Max	Min	Max
A	1.35	1.75	0.053	0.069
A ₁	0.10	0.20	0.004	0.008
B	0.35	0.51	0.014	0.020
C	0.19	0.25	0.0075	0.010
D	4.80	5.00	0.189	0.196
E	3.80	4.00	0.150	0.157
e	1.27 BSC		0.050 BSC	
H	5.80	6.20	0.228	0.244
h	0.25	0.50	0.010	0.020
L	0.50	0.93	0.020	0.037
q	0°	8°	0°	8°

