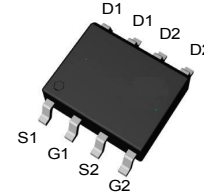


- 60V/6.3A
- $R_{DS(ON)}=25m\Omega$ (typ) @VGS=10V
 $R_{DS(ON)}=30m\Omega$ (typ) @VGS=4.5V
- 100% UIS & RG Tested
- Reliableand Rugged
- Lead Freeand Green Devices Available
(RoHS Compliant)

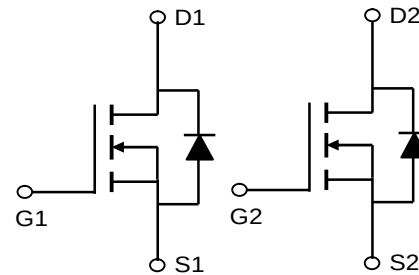
Applications

- Power Management for Industrial DC/DC Converters

Pin Description



Top View of SOP-8



N-Channel MOSFET

Absolute Maximum Ratings (T_A= 25°C unless otherwise noted)

Symbol	Parameter		Rating	Unit
Common Ratings				
V _{DSS}	Drain-Source Voltage		60	V
V _{GSS}	Gate-Source Voltage		±20	
I _D	Continuous Drain Current ^A	T _A =25°C	6.3	A
		T _A =70°C	5	
I _{DM}	Pulsed Drain Current ^B		40	
T _{STG} , T _j	Storage Temperature Range		-55 to 150	°C
PD	Power Dissipation	T _A =25°C	2	W
		T _A =70°C	1.28	
R _{θJL}	Thermal Resistance-Junction to Lead ^C		40	°C/W
R _{θJA}	Thermal Resistance-Junction to Ambient ^A	t≤10S	62.5	°C/W
		Steady-State	110	

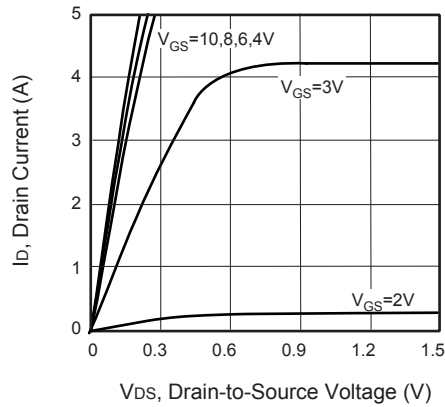
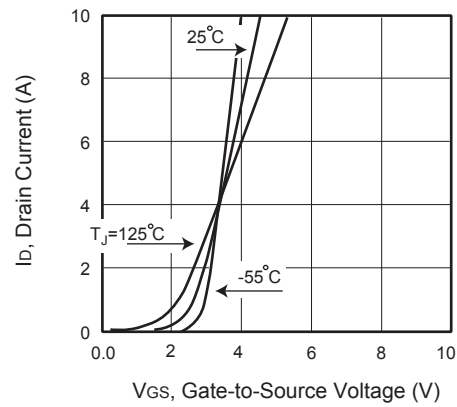
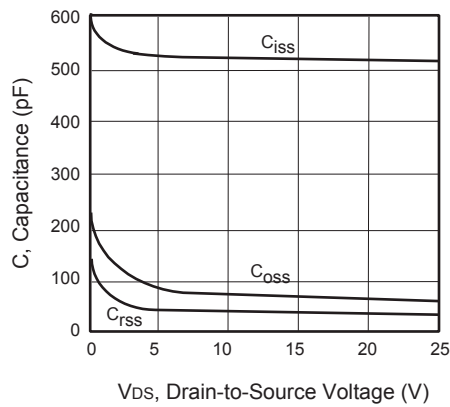
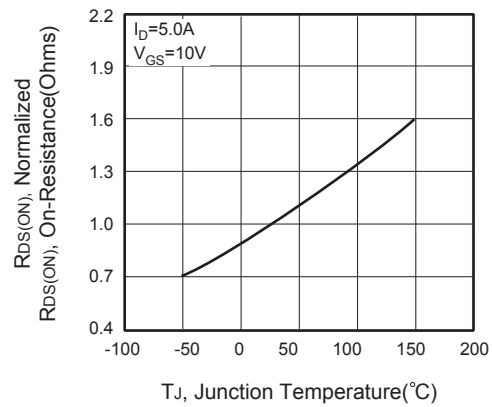
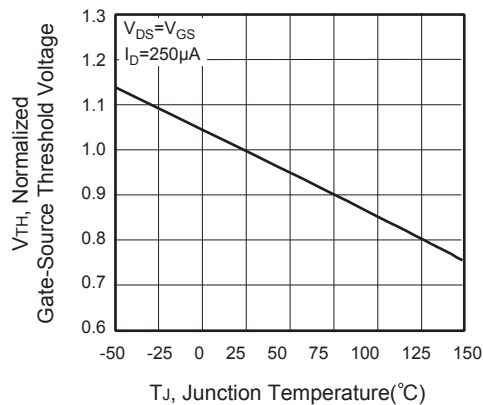
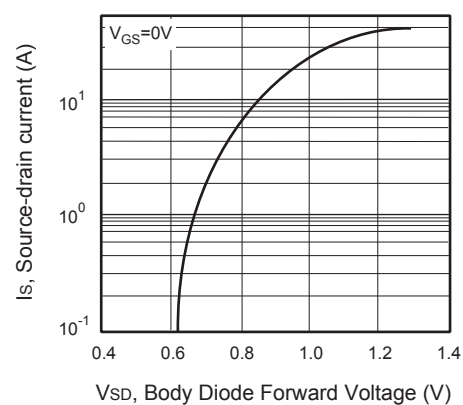
Note: Absolute maximum ratings are those values beyond which the device could be permanently damaged. Absolute maximum ratings are stress rating only and functional device operation is not implied

Electrical Characteristics ($T_A = 25^\circ\text{C}$ unless otherwise noted)

Symbol	Parameter	Test Conditions	Min.	Typ.	Max.	Unit
Static Characteristics						
BV _{DSS}	Drain-Source Breakdown Voltage	V _{GS} =0V, I _{DS} =250μA	60	-	-	V
I _{DSS}	Zero Gate Voltage Drain Current	V _{DS} =48V, V _{GS} =0V	-	-	1	μA
		T _J =55°C	-	-	5	
V _{GS(th)}	Gate Threshold Voltage	V _{DS} =V _{GS} , I _{DS} =250μA	1	1.8	3	V
I _{GSS}	Gate Leakage Current	V _{GS} =±20V, V _{DS} =0V	-	-	±100	nA
R _{DS(ON)}	Drain-Source On-state Resistance	V _{GS} =10V, I _{DS} =6.3A	-	25	30	mΩ
		V _{GS} =4.5V, I _{DS} =5A	-	30	35	
Body Diode Characteristics						
V _{SD}	Diode Forward Voltage	I _{SD} =1A, V _{GS} =0V	-	0.8	1.3	V
Dynamic Characteristics						
C _{ISS}	Input Capacitance	V _{GS} =0V, V _{DS} =25V, Frequency=1.0MHz	-	520	-	pF
C _{OSS}	Output Capacitance		-	105	-	
C _{rss}	Reverse transfer capacitance		-	60	-	
t _{d(ON)}	Turn-on delay Time	V _{GS} =10V ,V _{DS} =30V R _G =6Ω, I _D =1A R _L =6Ω	-	8	16	nS
t _r	Turn-on rise Time		-	6	12	
t _{d(OFF)}	Turn-off delay Time		-	25	46	
t _f	Turn-off rise Time		-	4	8	
Gate Charge Characteristics						
Q _g	Total Gate Charge	V _{DS} =30V, V _{GS} =10V, I _{DS} =5A	-	15.6	16	nC
Q _{gs}	Gate-Source Charge		-	1.3	-	
Q _{gd}	Gate-Drain Charge		-	4.5	-	

Note: 1. Pulse test: pulse width $\leq$ 300uS, duty cycle $\leq$ 2%

2.Static parameters are based on package level with recommended wire bonding

TYPICAL CHARACTERISTICS (25 °C Unless Note)

Figure 1. Output Characteristics

Figure 2. Transfer Characteristics

Figure 3. Capacitance

Figure 4. On-Resistance Variation with Temperature

Figure 5. Gate Threshold Variation with Temperature

Figure 6. Body Diode Forward Voltage Variation with Source Current

TYPICAL CHARACTERISTICS (continuous)

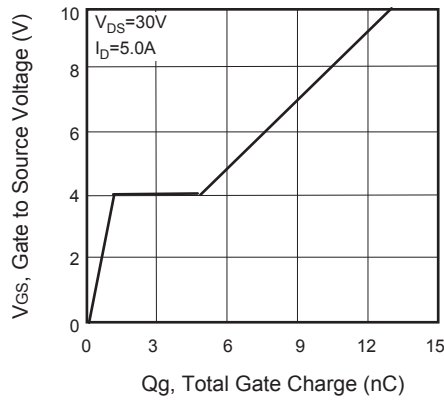


Figure 7. Gate Charge

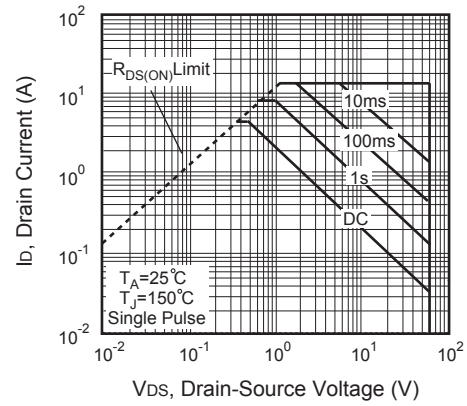


Figure 8. Maximum Safe Operating Area

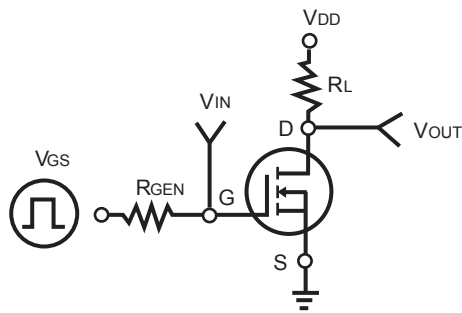


Figure 9. Switching Test Circuit

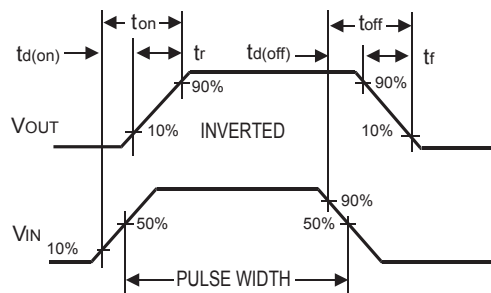


Figure 10. Switching Waveforms

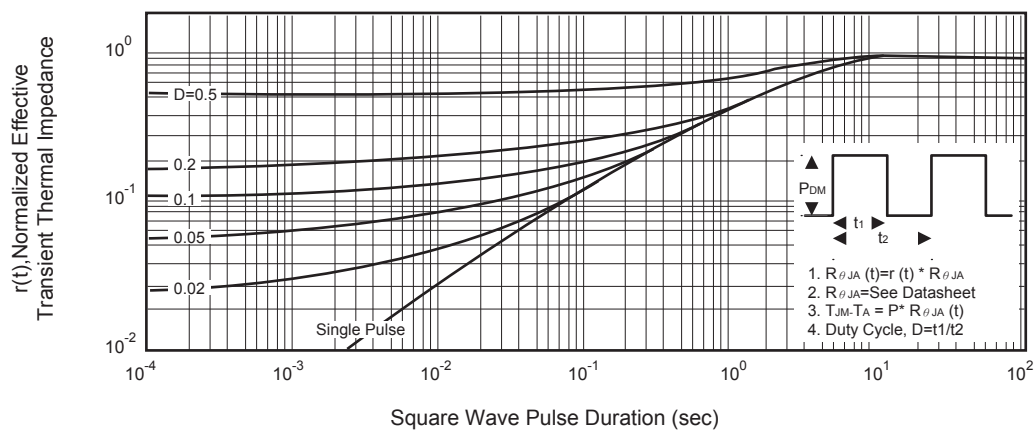
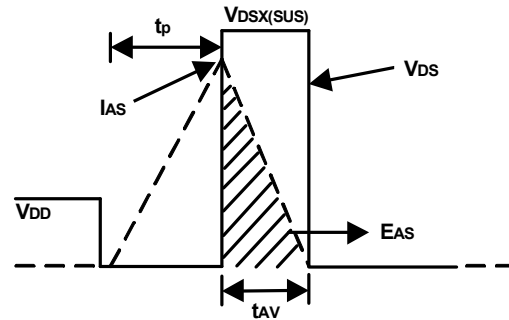
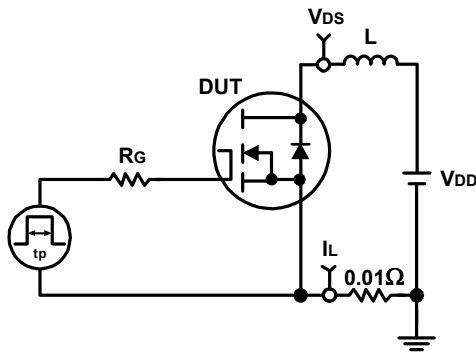
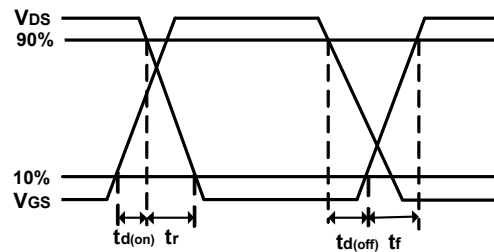
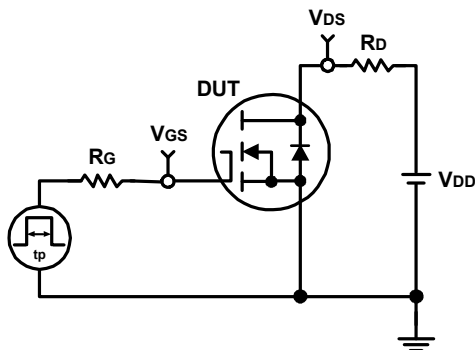


Figure 11. Normalized Thermal Transient Impedance Curve

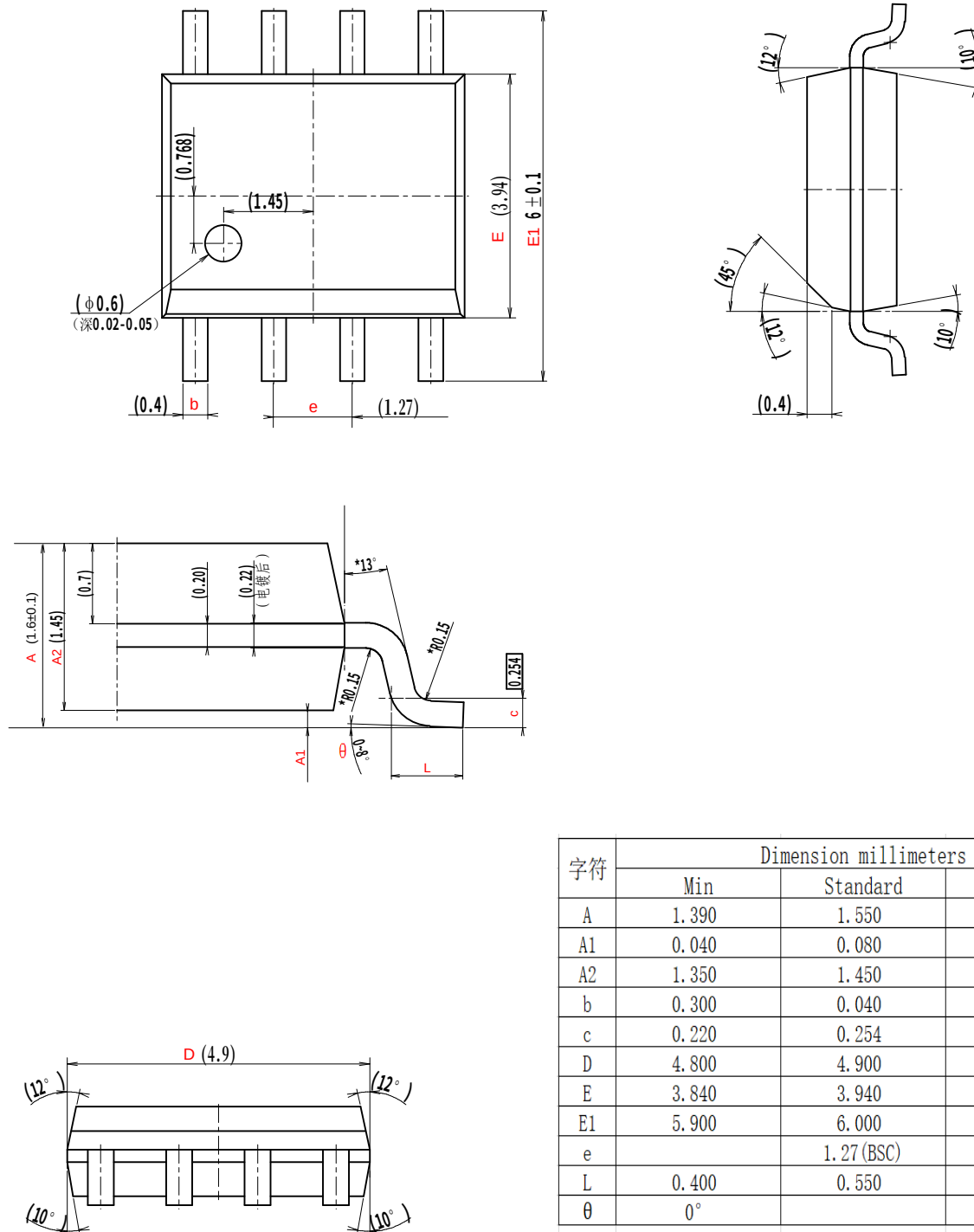
Avalanche Test Circuit and Waveforms



Switching Time Test Circuit and Waveforms



SOP8 PACKAGE OUTLINE DIMENSIONS



字符	Dimension millimeters		
	Min	Standard	Max
A	1.390	1.550	1.700
A1	0.040	0.080	0.150
A2	1.350	1.450	1.550
b	0.300	0.040	0.500
c	0.220	0.254	0.280
D	4.800	4.900	5.000
E	3.840	3.940	4.040
E1	5.900	6.000	6.100
e		1.27 (BSC)	
L	0.400	0.550	0.700
θ	0°		8°