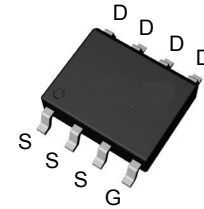


N-Channl Enhancement Mode MOSFET

- 30V/18A
- $R_{DS(ON)}=4.5m\Omega$ (typ) @VGS=10V
 $R_{DS(ON)}=6m\Omega$ (typ) @VGS=4.5V
- 100% UIS & RG Tested
- Reliableand Rugged
- Lead Freeand Green Devices Available
(RoHS Compliant)

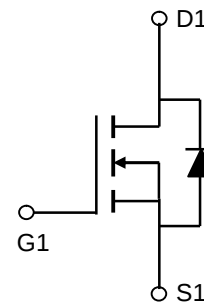
Pin Description



Top View of SOP-8

Applications

- Power Management for Industrial DC/DC Converters



N-Channel MOSFET

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

Symbol	Parameter		Rating	Unit
Common Ratings				
V _{DSS}	Drain-Source Voltage		30	V
V _{GSS}	Gate-Source Voltage		±20	
I _D	Continuous Drain Current	T _J =150°C	18	A
I _{DM}	Pulsed Drain Current		80	
I _S	Diode Continuous Forward Current		4	A
T _{STG} , T _j	Storage Temperature Range		-55 to 150	°C
P _D	Power Dissipation	T _A =25°C	3	W
		T _A =70°C	2.1	W
R _{θJA}	Thermal Resistance-Junction to Ambient		62.5	°C / W

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°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	30	-	-	V
I _{DSS}	Zero Gate Voltage Drain Current	V _{DS} =24V, V _{GS} =0V	-	-	1	μA
		T _J =85°C	-	-	30	
V _{GS(th)}	Gate Threshold Voltage	V _{DS} =V _{GS} , I _{DS} =250μA	1	-	2	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} =18A	-	4.5	6	mΩ
		V _{GS} =4.5V, I _{DS} =15A	-	6	6.8	
Body Diode Characteristics						
V _{SD}	Diode Forward Voltage	I _{SD} =2A, V _{GS} =0V	-	0.7	1.3	V
Dynamic Characteristics						
C _{iss}	Input Capacitance	V _{GS} =0V, V _{DS} =25V, Frequency=1.0MHz	-	9720	-	pF
C _{oss}	Output Capacitance		-	710	-	
C _{rss}	Reverse transfer capacitance		-	423	-	
t _{d(ON)}	Turn-on delay Time	V _{GS} =10V ,V _{DS} =15V RG=6Ω, ID=1A	-	11	-	nS
t _r	Turn-on rise Time		-	8.5	-	
t _{d(OFF)}	Turn-off delay Time		-	79	-	
t _f	Turn-off rise Time		-	13	-	
Gate Charge Characteristics						
Q _g	Total Gate Charge	V _{DS} =15V, V _{GS} =10V, I _{DS} =18A	-	81.6	-	nC
Q _{gs}	Gate-Source Charge		-	12.5	-	
Q _{gd}	Gate-Drain Charge		-	16	-	

Note: 1. Pulse test: pulse width≤300uS, duty cycle≤2%

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

■ **TYPICAL CHARACTERISTICS (25 °C Unless Note)**

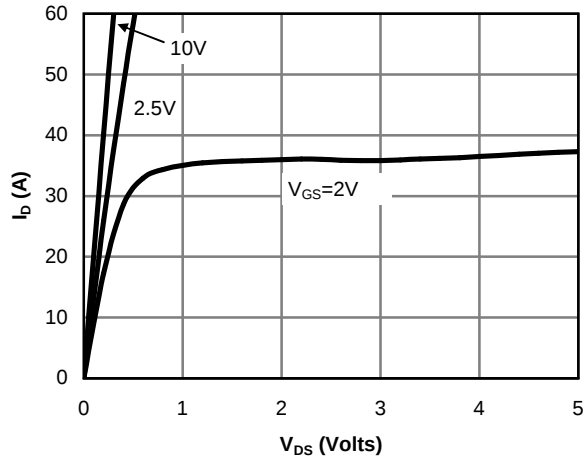


Fig 1: On-Region Characteristics

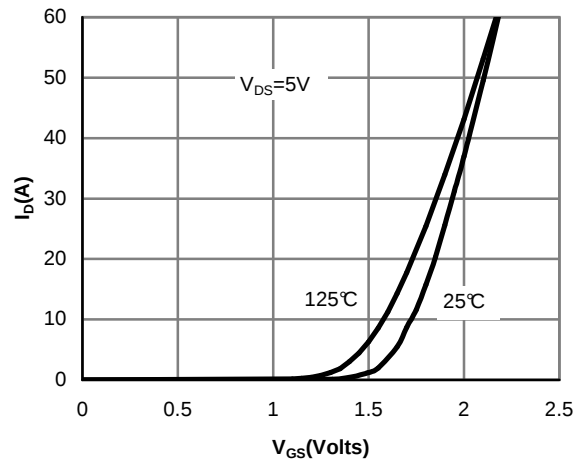


Figure 2: Transfer Characteristics

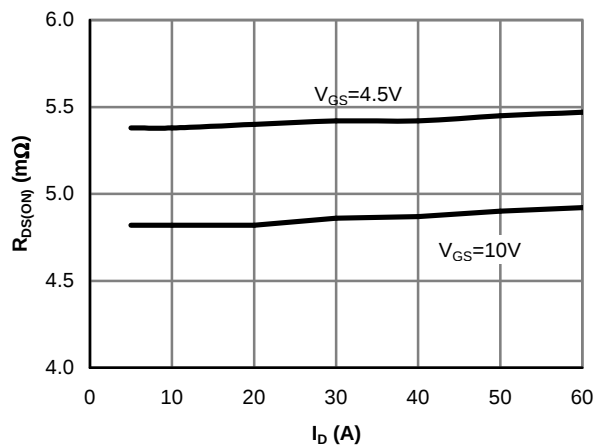


Figure 3: On-Resistance vs. Drain Current and Gate Voltage

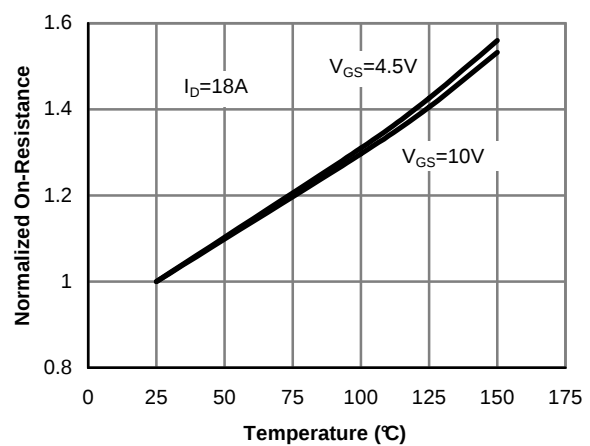


Figure 4: On-Resistance vs. Junction Temperature

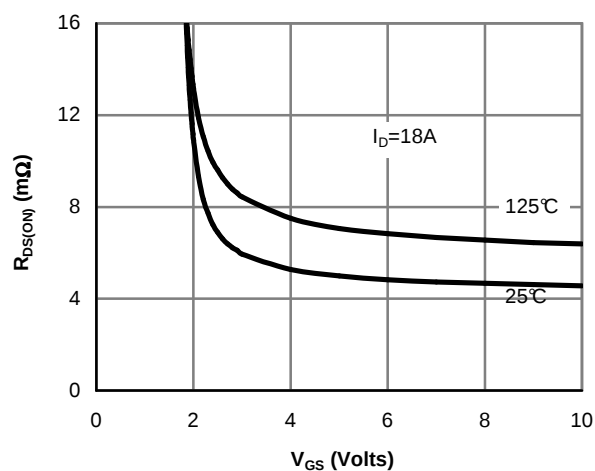


Figure 5: On-Resistance vs. Gate-Source Voltage

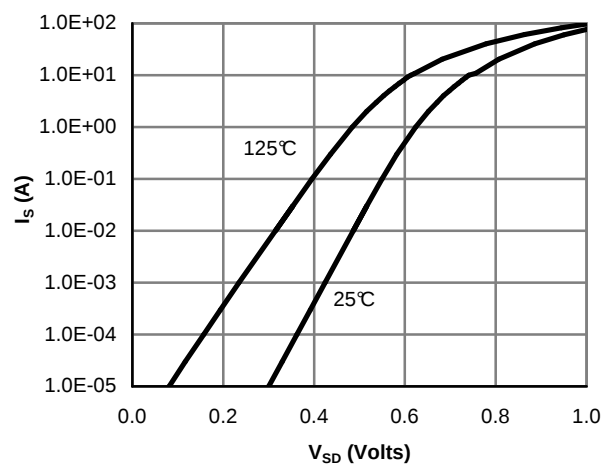


Figure 6: Body-Diode Characteristics

■ TYPICAL CHARACTERISTICS (continuous)

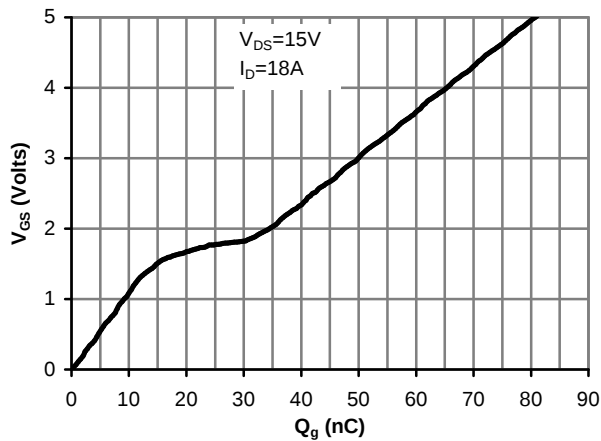


Figure 7: Gate-Charge Characteristics

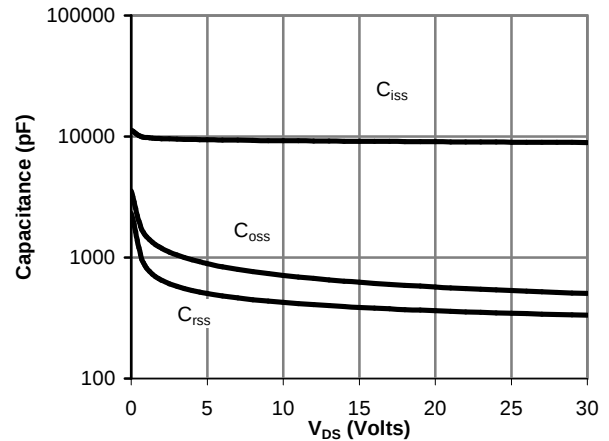


Figure 8: Capacitance Characteristics

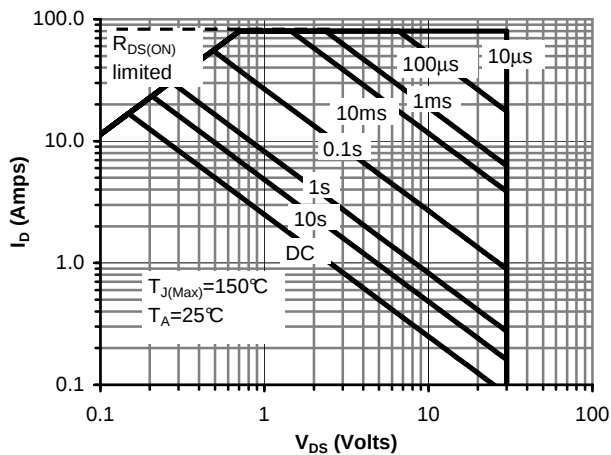


Figure 9: Maximum Forward Biased Safe Operating Area (Note E)

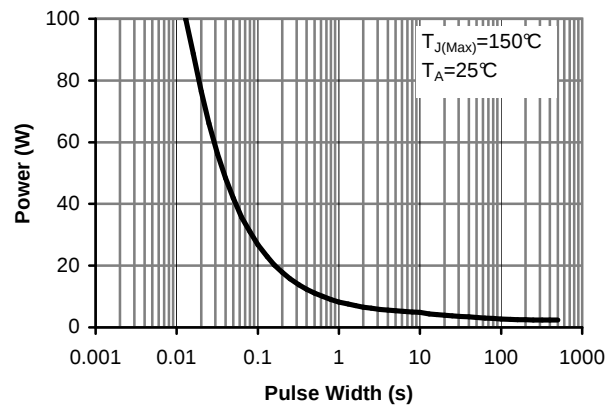


Figure 10: Single Pulse Power Rating Junction-to-Ambient (Note E)

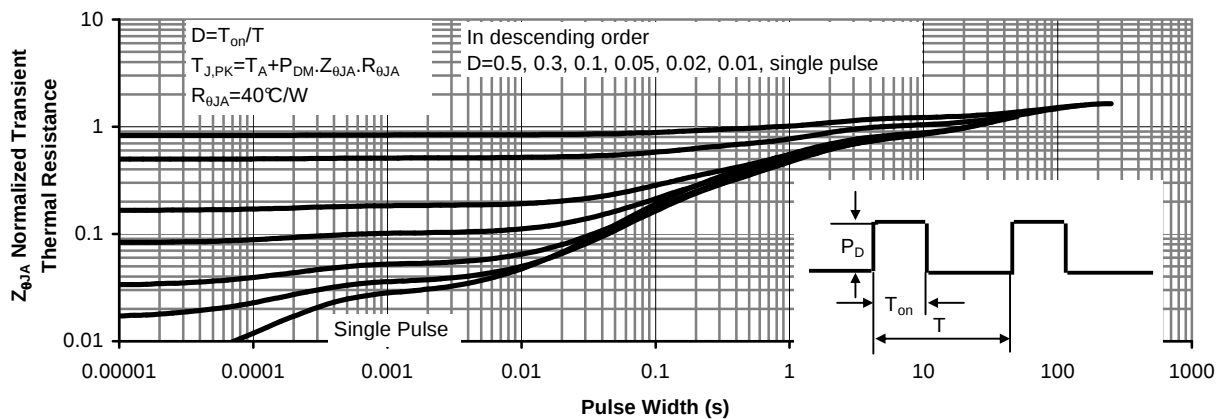
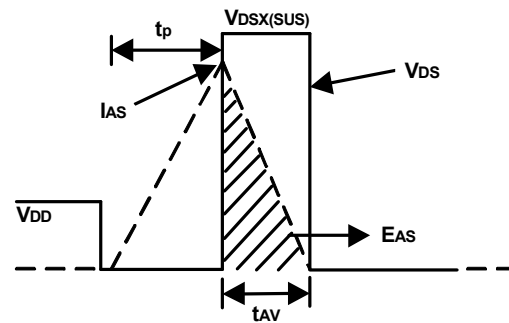
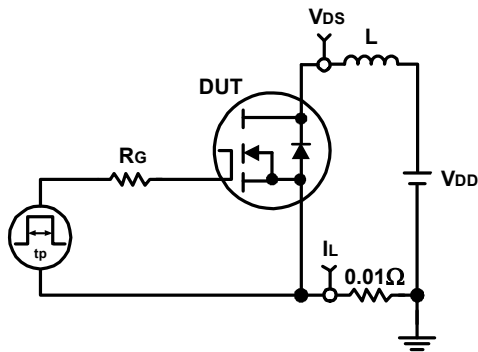
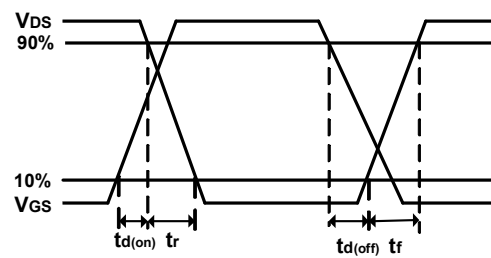
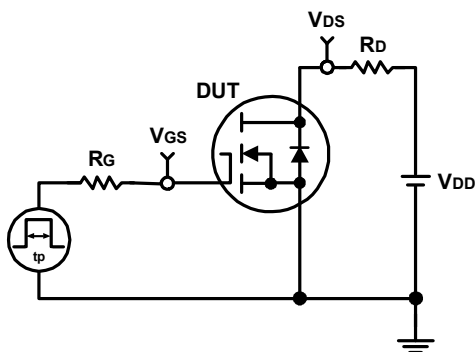


Figure 11: Normalized Maximum Transient Thermal Impedance

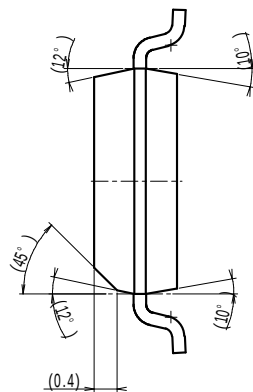
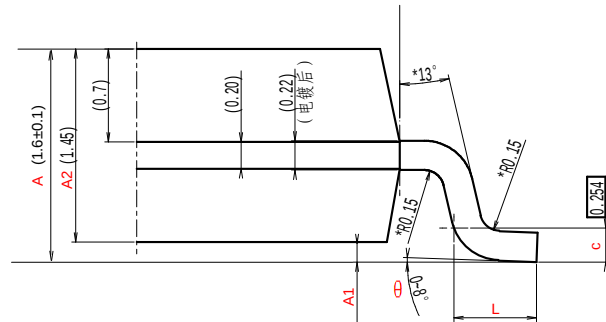
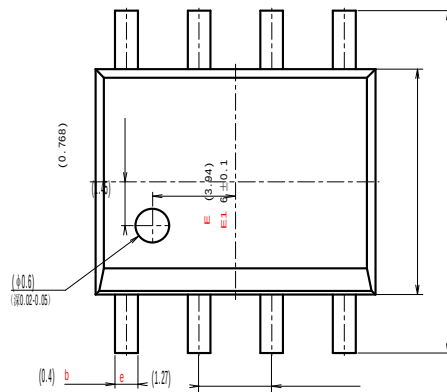
Avalanche Test Circuit and Waveforms



Switching Time Test Circuit and Waveforms



SOP8 PACKAGE OUTLINE



字符	Dimension millimeters		
	Min	Standard	Max
A	1.500	1.600	1.700
A1	0.040	0.080	0.150
A2	1.350	1.450	1.550
b	0.300	0.400	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°

