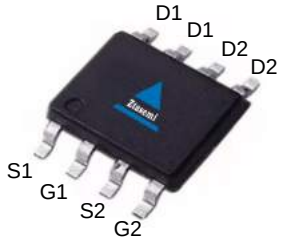
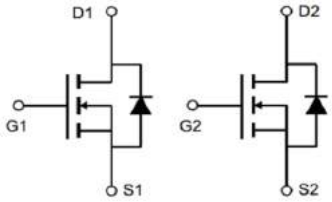
Features

- Dual N-Channel
- Advanced Trench Technology
- Excellent $R_{DS(ON)}$ and Low Gate Charge
- Lead Free
- 100% EAS Tested

V_{DS}	20	V
$R_{DS(on),TYP}$@ V_{GS}=4.5V	14	mΩ
$R_{DS(on),TYP}$@ V_{GS}=2.5 V	18	mΩ
I_D	6.5	A

SOP-8





Part ID	Package Type	Marking	Packing
ZT9926	SOP-8	9926	4000pcs/reel

Absolute Maximum Ratings T_A =25°C, unless otherwise specified

Symbol	Parameter		Rating	Unit
Common Ratings (T_C=25°C Unless Otherwise Noted)				
V_{GS}	Gate-Source Voltage		±12	V
$V_{(BR)DSS}$	Drain-Source Breakdown Voltage		20	V
T_J	Maximum Junction Temperature		150	°C
T_{STG}	Storage Temperature Range		-55 to 150	°C
I_{DM}	Drain Current-Continuous@ Current-Pulsed (Note 1)	T_C =25°C	26	A
Mounted on Large Heat Sink				
I_D	Drain Current-Continuous	T_C =25°C	6.5	A
		T_C =100°C	4	A
P_D	Maximum Power Dissipation		1.6	W
$R_{\theta JA}$	Thermal Resistance Junction-Ambient		76	°C/W
Drain-Source Avalanche Ratings				
EAS	Avalanche Energy, Single Pulsed (Note 2)		25	mJ

Electrical Characteristics (T_J=25℃ unless otherwise noted)

Symbol	Parameter	Condition	Min	Typ	Max	Unit
Static Electrical Characteristics @ T_j=25°C (unless otherwise stated)						
$V_{(BR)DSS}$	Drain-Source Breakdown Voltage	V_{GS}=0V, I_D=250μA	20	--	--	V
I_{DSS}	Zero Gate Voltage Drain Current	V_{DS}=20V,V_{GS}=0V	--	--	1	μA
I_{GSS}	Gate-Body Leakage Current	V_{GS}=±12V,V_{DS}=0V	--	--	±100	nA
$V_{GS(th)}$	Gate Threshold Voltage	V_{DS}=V_{GS},I_D=250μA	0.5	0.7	1.0	V
$R_{DS(on)}$	Drain-Source On-State Resistance	V_{GS}=4.5V,I_D=6.5A	--	14	18	mΩ
$R_{DS(on)}$	Drain-Source On-State Resistance	V_{GS}=2.5V, I_D=5A	--	18	23	mΩ
Dynamic Electrical Characteristics @ T_j = 25°C (unless otherwise stated)						
Ciss	Input Capacitance	V_{DS}=10V,V_{GS}=0V, f=1MHz	--	649	--	pF
Coss	Output Capacitance		--	120	--	pF
Crss	ReverseTransferCapacitance		--	106	--	pF
Qg	Total Gate Charge	V_{DD}=10V,I_D=3.5A, V_{GS}=4.5V	--	8.8	--	nC
Qgs	Gate-SourceCharge		--	1.1	--	nC
Qgd	Gate-DrainCharge		--	2.4	--	nC
Switching Characteristics						
Td(on)	Turn-on Delay Time	V_{DD}=10V, I_D =3.5A, R_G=3.0Ω, V_{GS}=4.5V	--	10.6	--	ns
Tr	Turn-on Rise Time		--	30.1	--	ns
Td(off)	Turn-Off Delay Time		--	30.2	--	ns
Tf	Turn-Off Fall Time		--	34.8	--	ns
Source- Drain Diode Characteristics@ T_j = 25°C (unless otherwise stated)						
I_S	Diode Forward Current		--	--	6.5	A
V_{SD}	Forward on voltage	I_S =6.5A,V_{GS}=0V	--	--	1.2	V
Trr	Reverse Recovery Time	I_F= 6A, di/dt=100A/μs	--	8.5	--	ns
Qrr	Reverse Recovery Charge		--	2	--	nC

Notes:

1. Repetitive Rating: Pulse Width Limited by Maximum Junction Temperature
2. EAS condition :Starting T_J=25℃, V_{DD}=10V, V_G=10V, L=0.5mH, Rg=25Ω, I_{AS}=10A
3. Pulse Test: Pulse Width≤300μs, Duty Cycle≤0.5%

Typical Performance Characteristics

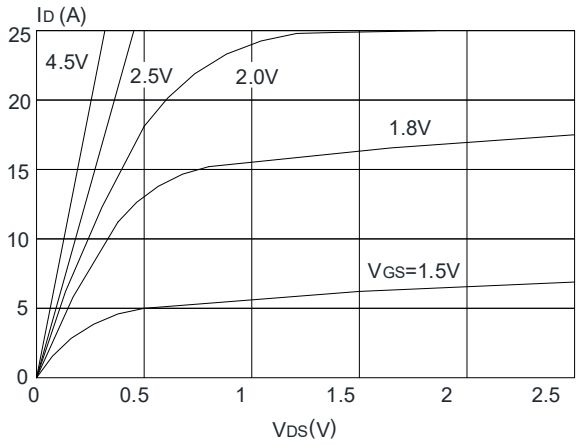


Figure 1: Output Characteristics

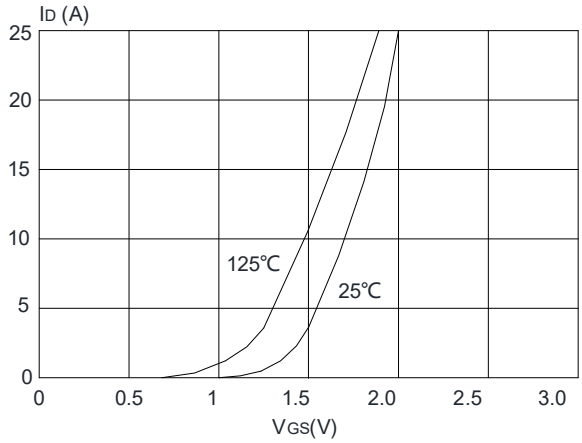


Figure 4: Typical Transfer Characteristics

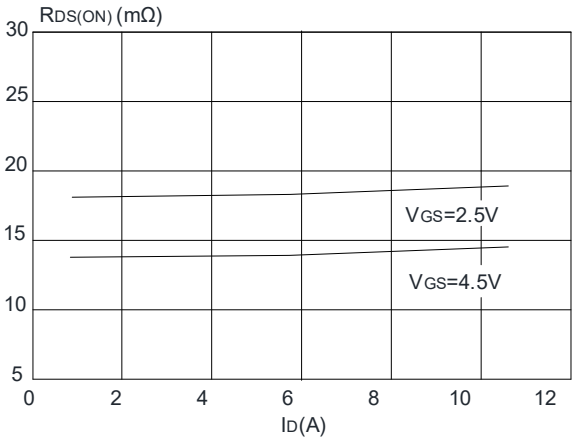


Figure 2: On-resistance vs. Drain Current

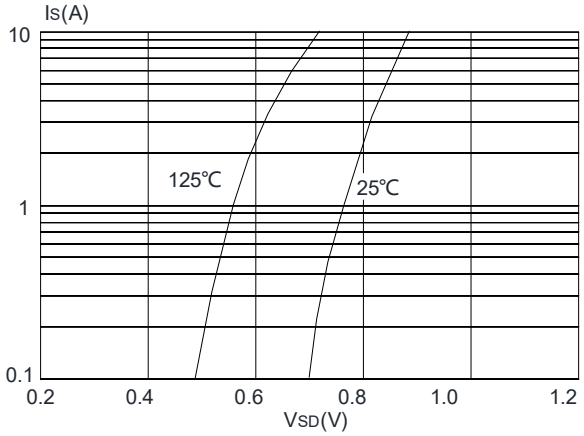


Figure 5: Body Diode Characteristics

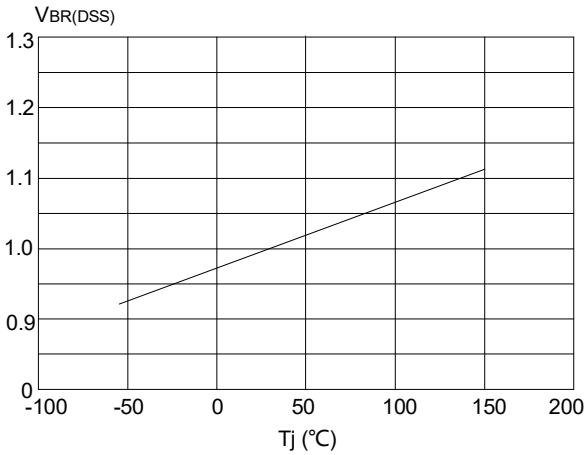


Figure 3: Normalized Breakdown Voltage vs. Junction Temperature

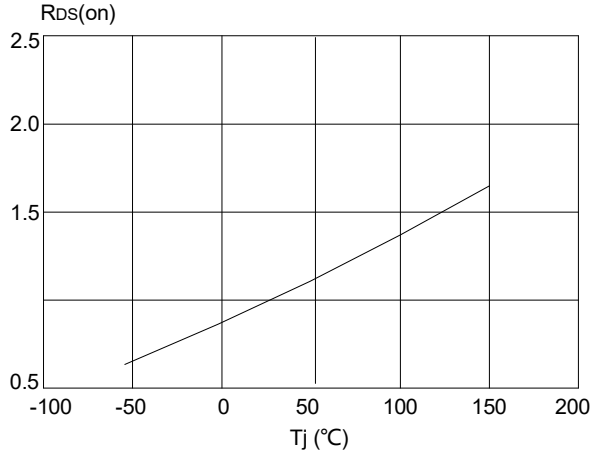


Figure 6: Normalized on Resistance vs. Junction Temperature

Typical Performance Characteristics

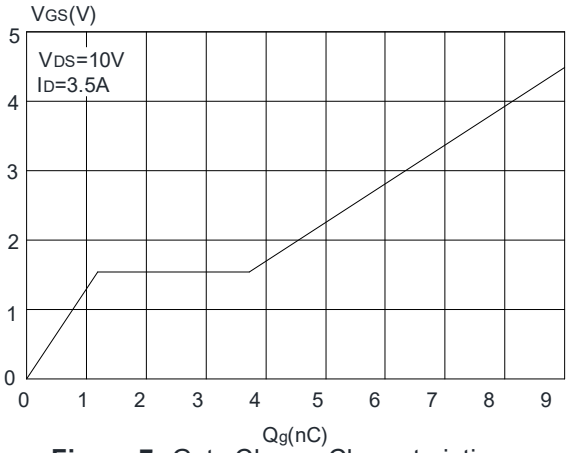


Figure 7: Gate Charge Characteristics

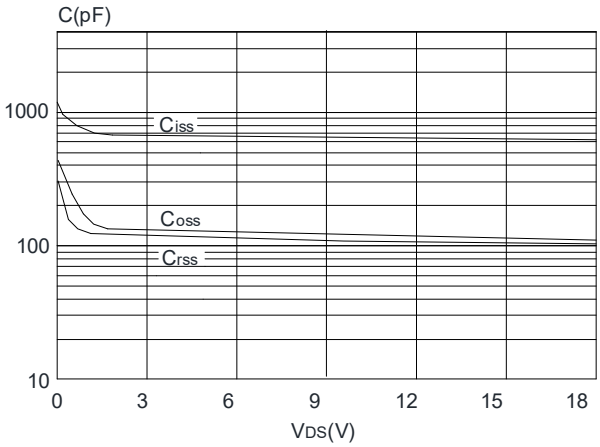


Figure 9: Capacitance Characteristics

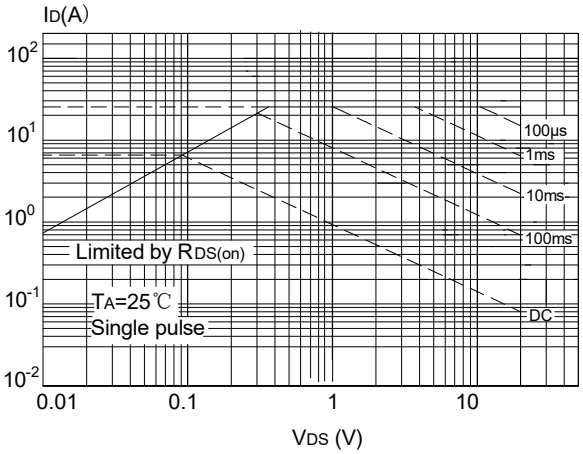


Figure 8: Maximum Safe Operating Area

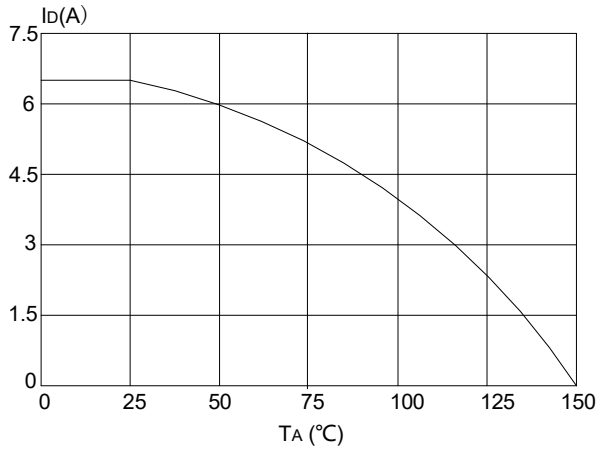


Figure 10: Maximum Continuous Drain Current vs Ambient Temperature

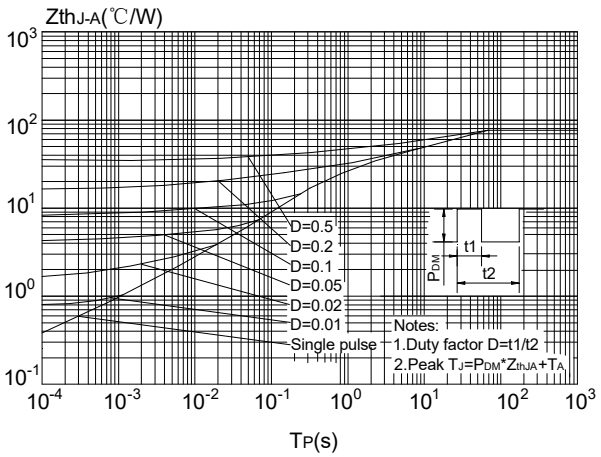


Figure 11: Maximum Effective Transient Thermal Impedance, Junction-to-Ambient

Test Circuit

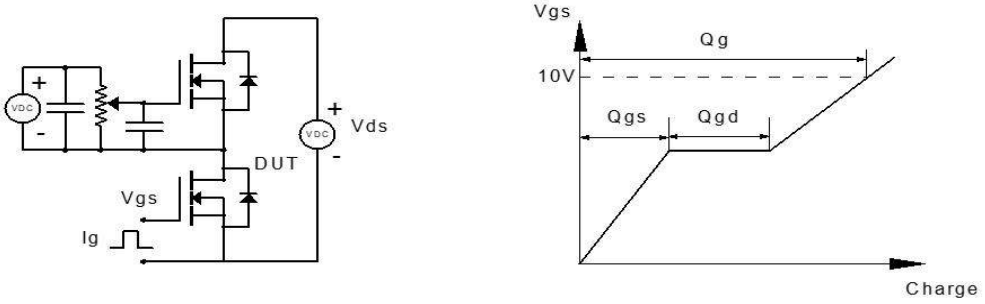


Figure 1: Gate Charge Test Circuit & Waveform

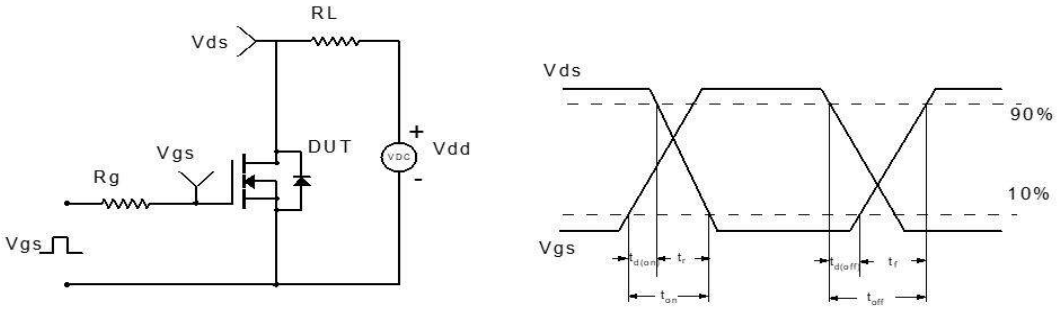


Figure 2: Resistive Switching Test Circuit & Waveform

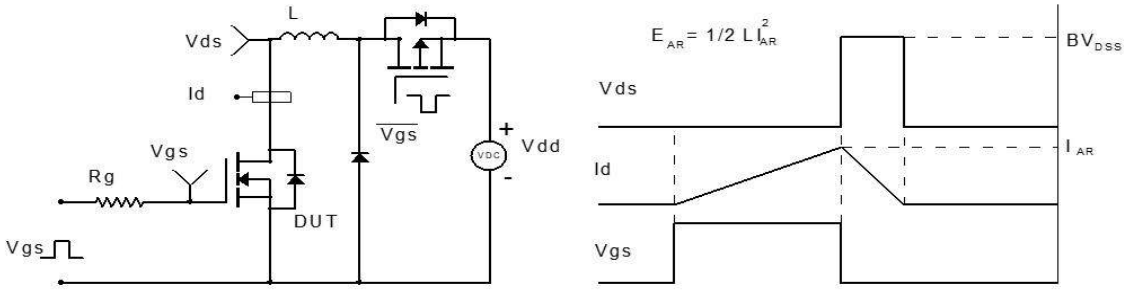


Figure 3: Unclamped Inductive Switching Test Circuit& Waveform

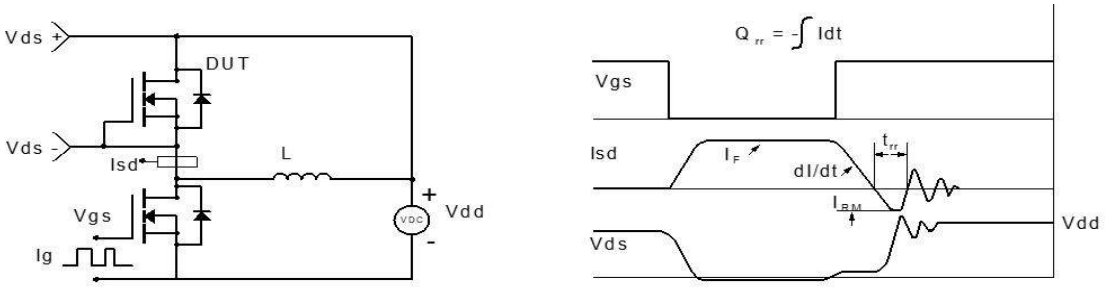
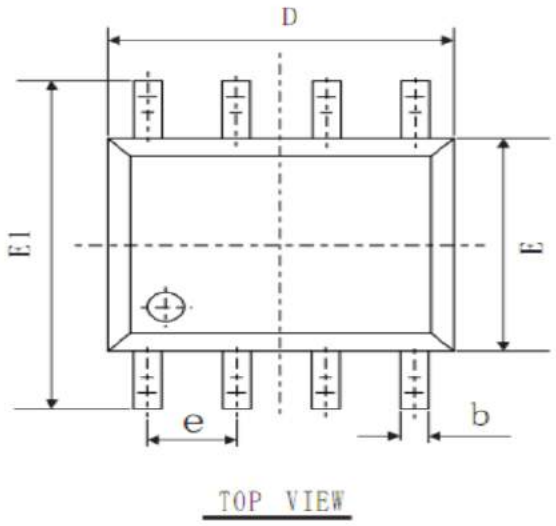
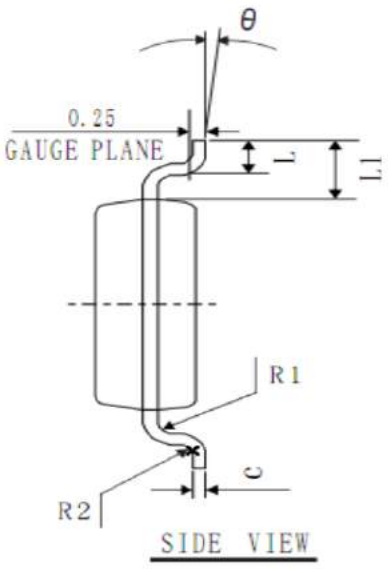


Figure 4: Diode Recovery Test Circuit & Waveform

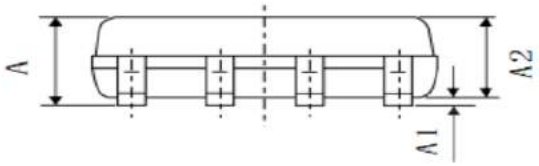
SOP-8 Package Information



TOP VIEW



SIDE VIEW



SIDE VIEW

COMMON DIMENSIONS
(UNITS OF MEASURE=mm)

SYMBOL	MIN	NOM	MAX
A	1.40	1.60	1.80
A1	0.05	0.15	0.25
A2	1.35	1.45	1.55
b	0.30	0.40	0.50
c	0.153	0.203	0.253
D	4.80	4.90	5.00
E	3.80	3.90	4.00
E1	5.80	6.00	6.20
L	0.45	0.70	1.00
θ	2°	4°	6°
L1	1.04 REF		
e	1.27 BSC		
R1	0.07 TYP		
R2	0.07 TYP		

Customer Service

Sales and Service:

zj@ztasemi.com