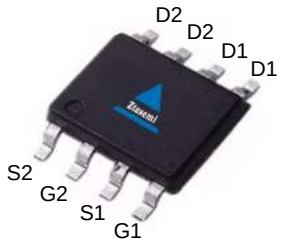
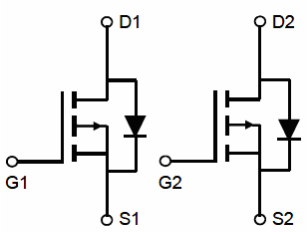
Features

- Dual P-Channel
- High power and current handing capability
- Lead free product is acquired
- Surface mount package
- 100% EAS Tested

V_{DS}	-30	V
$R_{DS(on),TYP}$@ V_{GS}=-10 V	13	mΩ
$R_{DS(on),TYP}$@ V_{GS}=-4.5 V	15	mΩ
I_D	-8	A

SOP-8





Part ID	Package Type	Marking	Packing
ZT11B03S	SOP-8	ZT11B03S	4000pcs/reel

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

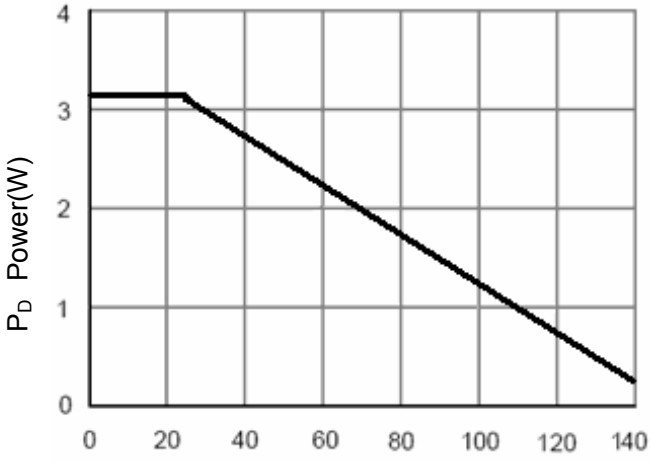
Symbol	Parameter		Rating	Unit
Common Ratings (T_C=25°C Unless Otherwise Noted)				
V_{GS}	Gate-Source Voltage		±20	V
$V_{(BR)DSS}$	Drain-Source Breakdown Voltage		-30	V
T_J	Maximum Junction Temperature		150	°C
T_{STG}	Storage Temperature Range		-55 to 150	°C
I_{DM}	Drain Current-Continuous@ Current-Pulsed (Note 1)	T_C=25°C	-32	A
Mounted on Large Heat Sink				
I_D	Drain Current-Continuous	T_C=25°C	-8	A
		T_C=100°C	-5.7	A
P_D	Maximum Power Dissipation	T_C=25°C	3.1	W
$R_{\theta JA}$	Thermal Resistance Junction-ambient (Note 2)		40	°C/W

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	-30	--	--	V
I_{DSS}	Zero Gate Voltage Drain Current	V_{DS}=-30V,V_{GS}=0V	--	--	-1	μA
I_{GSS}	Gate-Body Leakage Current	V_{GS}=±20V,V_{DS}=0V	--	--	±100	nA
$V_{GS(th)}$	Gate Threshold Voltage	V_{DS}=V_{GS},I_D=-250μA	-1.0	-1.6	-2.5	V
$R_{DS(on)}$	Drain-Source On-State Resistance	V_{GS}=-10V,I_D=-6A	--	13	16	mΩ
$R_{DS(on)}$	Drain-Source On-State Resistance	V_{GS}=-4.5V,I_D=-4A	--	15	21	mΩ
g_{FS}	Forward Transconductance	V_{DS}=-5V ,I_D=-6A	10	--	--	S
Dynamic Electrical Characteristics @ T_j = 25°C (unless otherwise stated) (Note 4)						
Ciss	Input Capacitance	V_{DS}=-15V,V_{GS}=0V, f=1MHz	--	1595	--	pF
Coss	OutputCapacitance		--	348	--	pF
Crss	ReverseTransferCapacitance		--	299	--	pF
Rg	Gate Resistance	f=1MHz	--	12	--	Ω
Qg	Total Gate Charge	V_{DS}=-15V,I_D=-6A, V_{GS}=-4.5V	--	17.6	--	nC
Qgs	Gate-SourceCharge		--	5.4	--	nC
Qgd	Gate-DrainCharge		--	8	--	nC
Switching Characteristics (Note 4)						
Td(on)	Turn-on Delay Time	V_{DS}=-15V, I_D=-6A, R_G=6Ω, V_{GS}=-10V	--	10	--	ns
Tr	Turn-on Rise Time		--	14	--	ns
Td(off)	Turn-Off Delay Time		--	109	--	ns
Tf	Turn-Off Fall Time		--	69	--	ns
Source- Drain Diode Characteristics@ T_j = 25°C (unless otherwise stated)						
I_{SD}	Source-Drain Current (Body Diode)		--	--	-8	A
V_{SD}	Forward on voltage (Note 3)	I_S =-6A,V_{GS}=0V	--	--	1.2	V
Trr	Reverse Recovery Time	T_j=25℃,I_F =-3A, V_{GS}=0V di/dt=100A/μs	--	14.1	--	ns
Qrr	Reverse Recovery Charge		--	4.8	--	nC

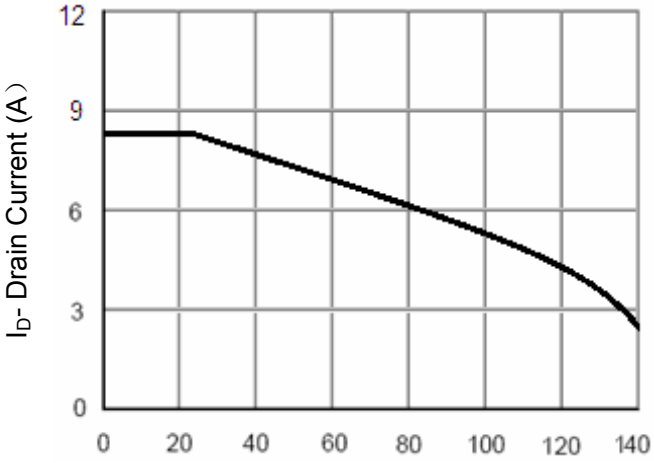
Notes:

1. Repetitive Rating: Pulse width limited by maximum junction temperature.
2. Surface Mounted on FR4 Board, t ≤ 10 sec.
3. Pulse Test: Pulse Width ≤ 300μs, Duty Cycle ≤ 2%.
4. Guaranteed by design, not subject to production



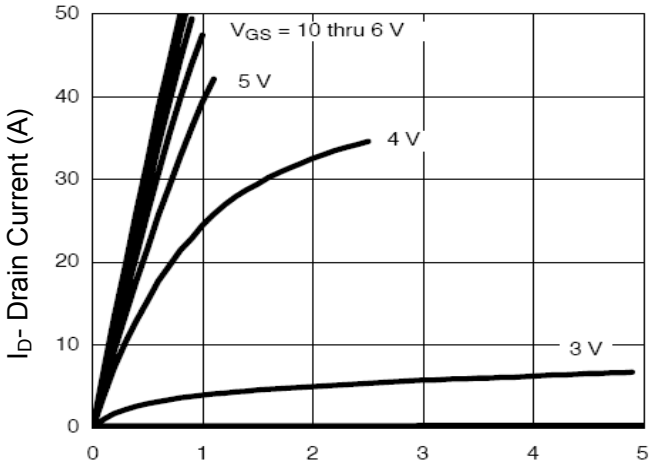
T_J-Junction Temperature(℃)

Figure 1 Power Dissipation



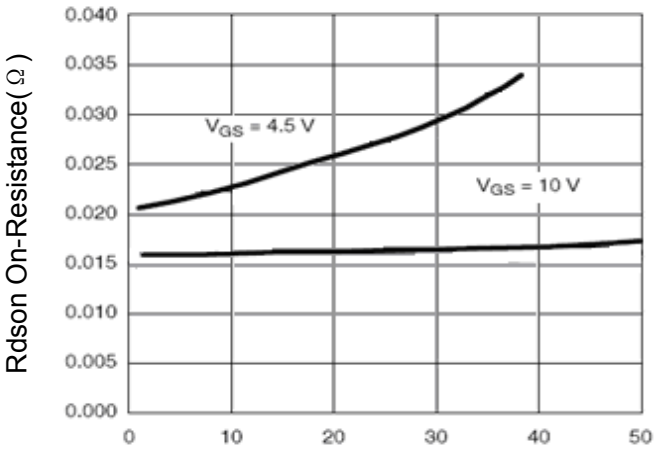
T_J-Junction Temperature(℃)

Figure 4 Drain Current



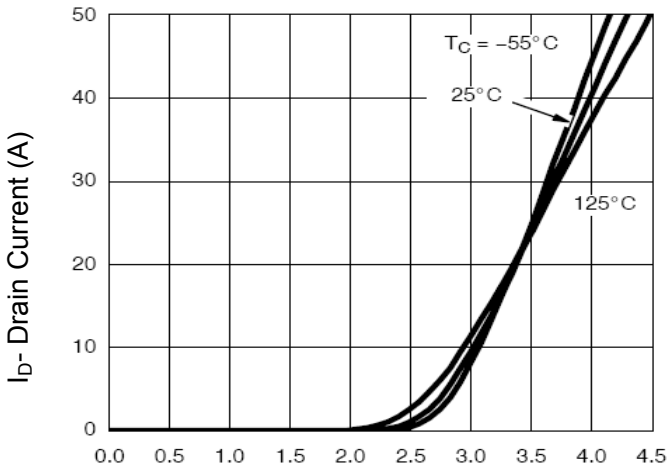
Vds Drain-Source Voltage (V)

Figure 2 Output Characteristics



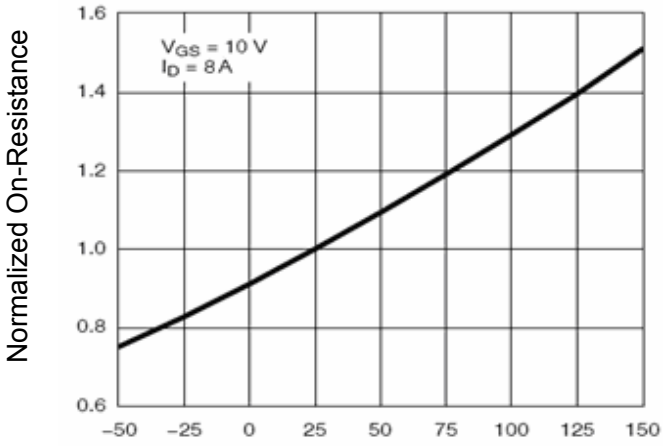
I_D- Drain Current (A)

Figure 5 Drain-Source On-Resistance



Vgs Gate-Source Voltage (V)

Figure 3 Transfer Characteristics



T_J-Junction Temperature(℃)

Figure 6 Drain-Source On-Resistance

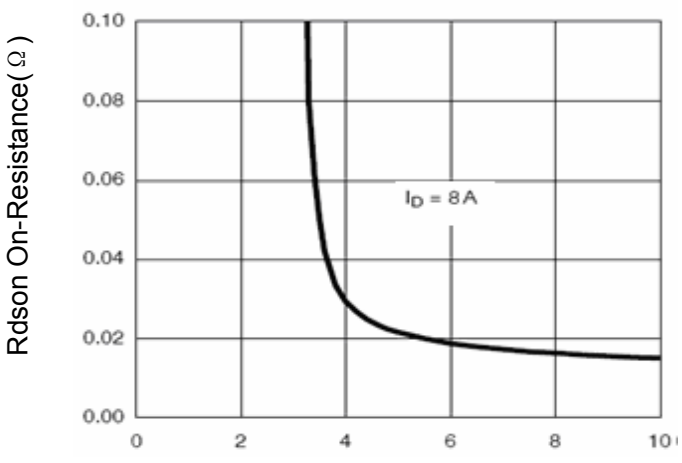


Figure 7 Rdson vs Vgs

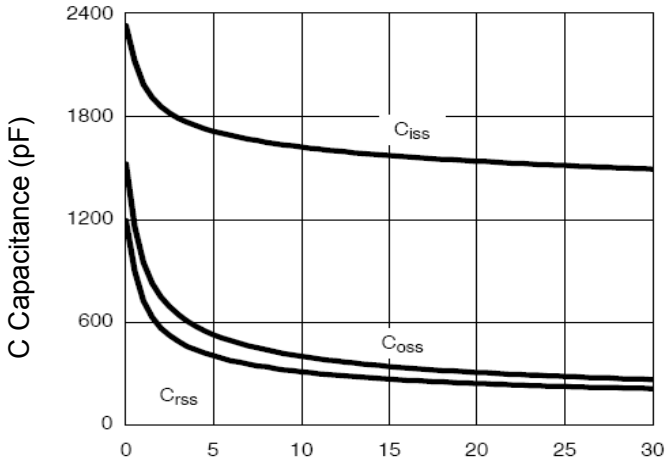


Figure 9 Capacitance vs Vds

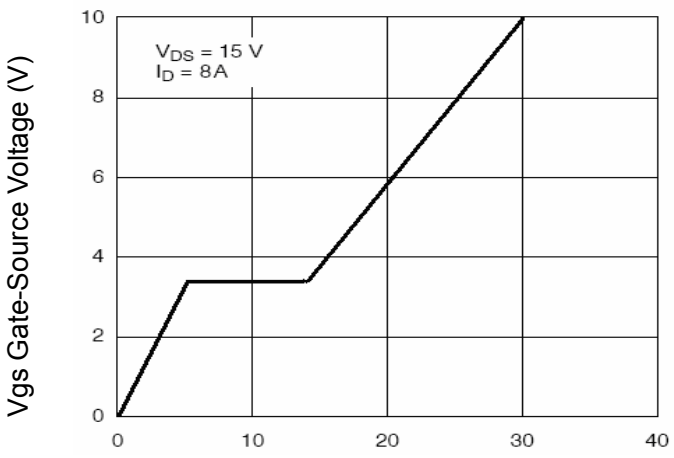


Figure 8 Gate Charge

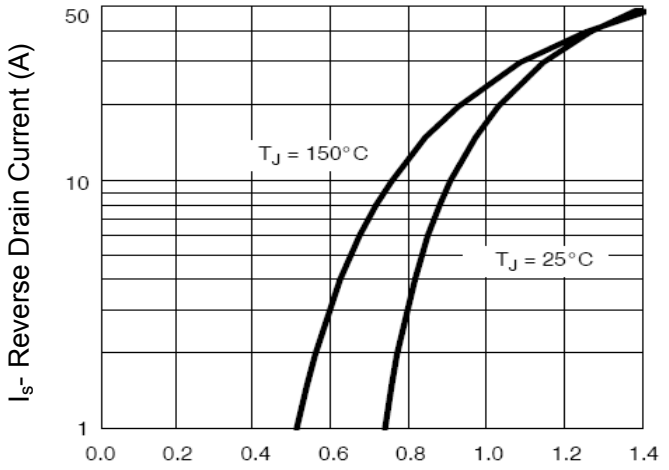


Figure 10 Source- Drain Diode Forward

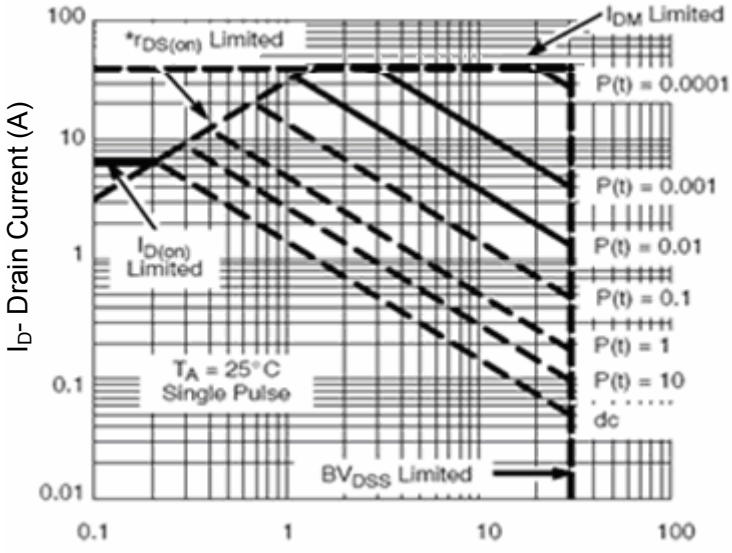


Figure 11 Safe Operation Area

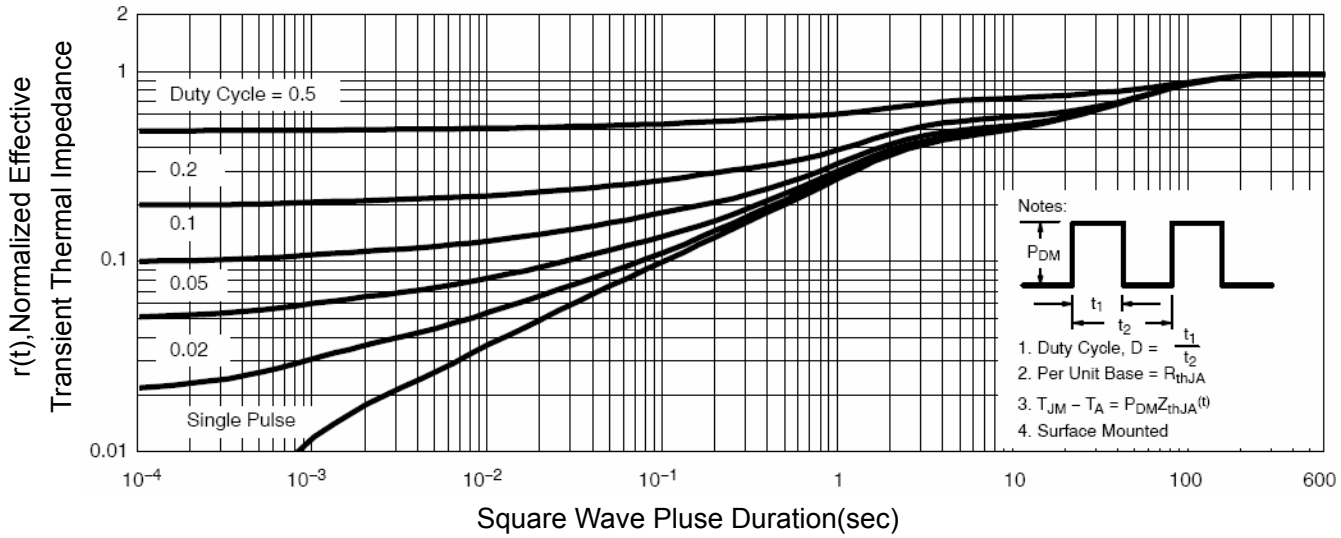
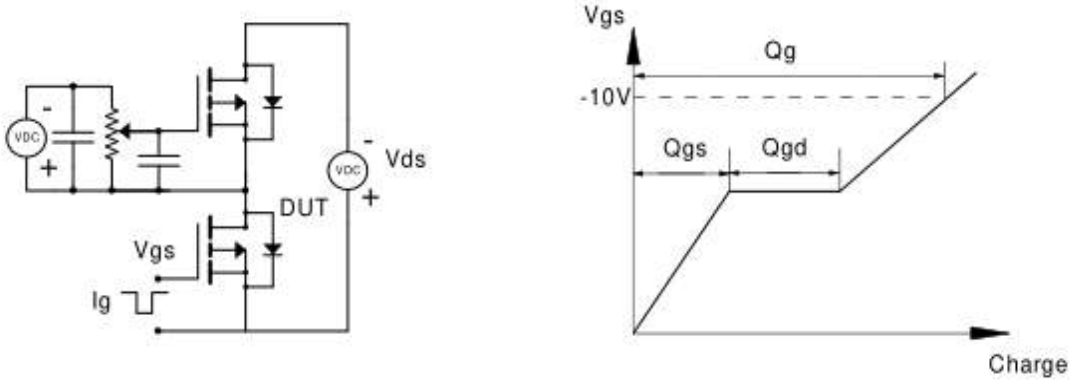


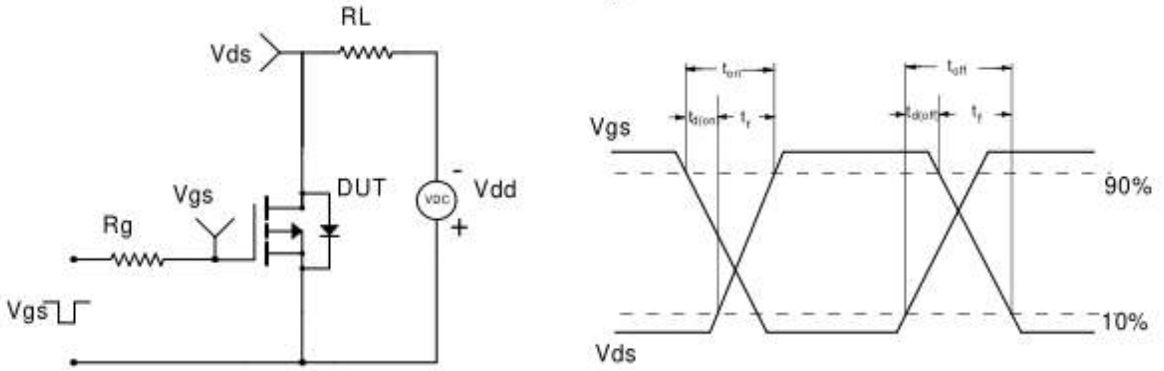
Figure 12 Normalized Maximum Transient Thermal Impedance

Test Circuit

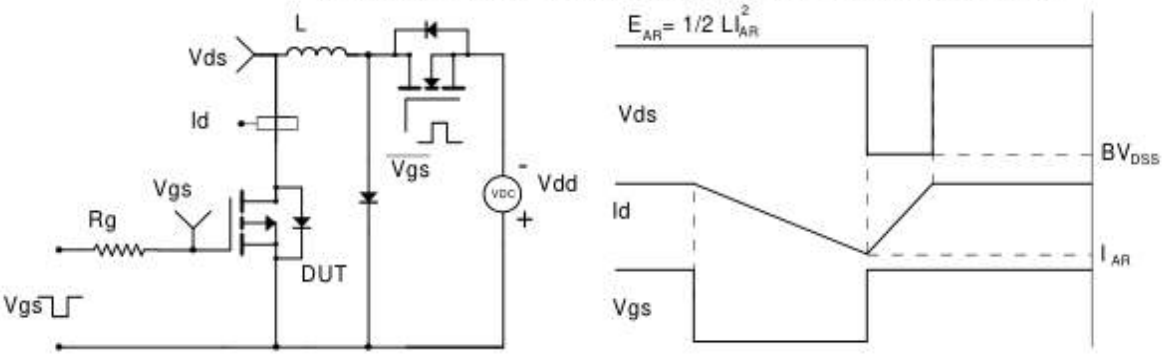
Gate Charge Test Circuit & Waveform



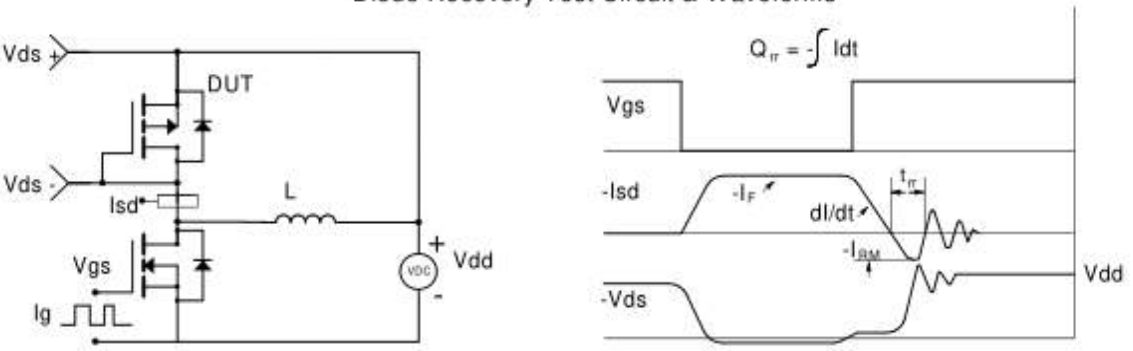
Resistive Switching Test Circuit & Waveforms



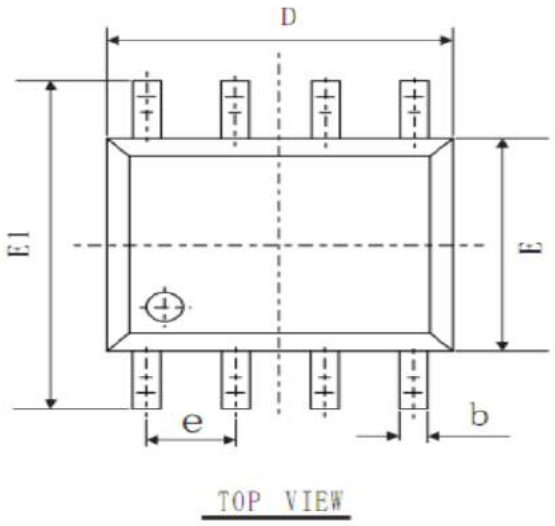
Unclamped Inductive Switching (UIS) Test Circuit & Waveforms

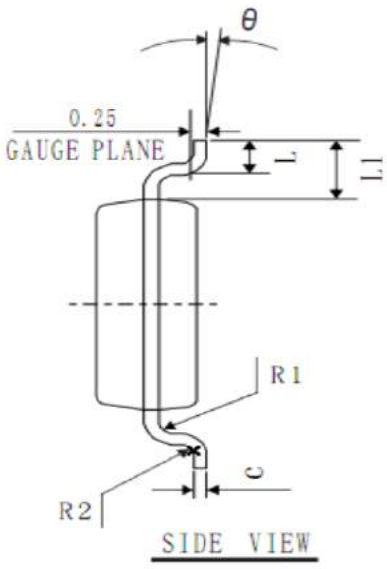


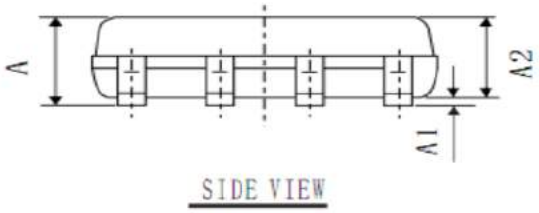
Diode Recovery Test Circuit & Waveforms



SOP-8 Package Information







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