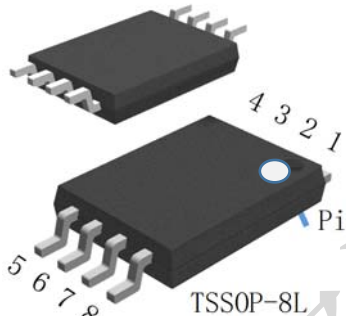
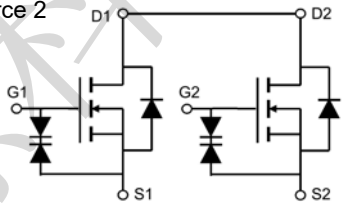


Dual N-Channel High Density Trench MOSFET (20V, 7.5A)

PRODUCT SUMMARY

V _{DSS}	I _D	R _{DS(on)} (mΩ) Typ.
20V	7.5A	14@ V _{GS} = 4.5V, I _D =7.5A
		15@ V _{GS} = 3.7V, I _D =7.5A
		18@ V _{GS} = 2.5V, I _D =5.5A
		24@ V _{GS} = 1.8V, I _D =1.5A

Features - Super high density cell design for extremely low R_{DS(ON)} - Surface mount Package - Lead (Pb) -free and halogen-free	Applications lithium battery protection board
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 Pin 1/ 8: Drain1/2 Pin 2/ 3: Source 1 Pin 4: Gate 1 Pin 5: Gate 2 Pin 6/ 7: Source 2 TSSOP-8L	TOP Marking
	 8 8 1 0 XXXXXX XXXXXX:D/C

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

Symbol	Parameter	Ratings	Units
V _{DS}	Drain-Source Voltage	20	V
V _{GS}	Gate-Source Voltage	±10	V
I _D	Drain Current (Continuous)@T _A =25°C	7.5	A
	Drain Current (Continuous)@T _A =75°C	5.0	A
I _{DM}	Drain Current (Pulsed) ^a	30	A
P _D	Total Power Dissipation @T _c =25°C	1.5	W
	Total Power Dissipation @T _c =75°C	1.0	W
T _j , T _{stg}	Operating Junction and Storage Temperature Range	-55 to +150	°C
R _{QJA}	Thermal Resistance Junction to Ambient (PCB mounted) ^b	67	°C/W

a: Repetitive Rating: Pulse width limited by the maximum junction temperature.

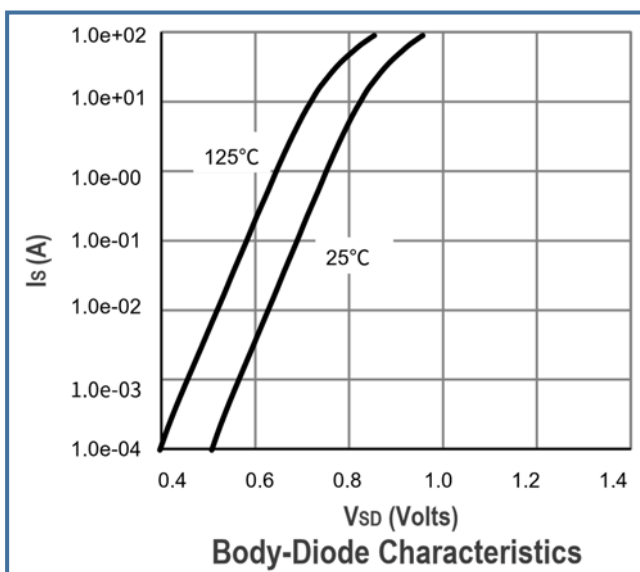
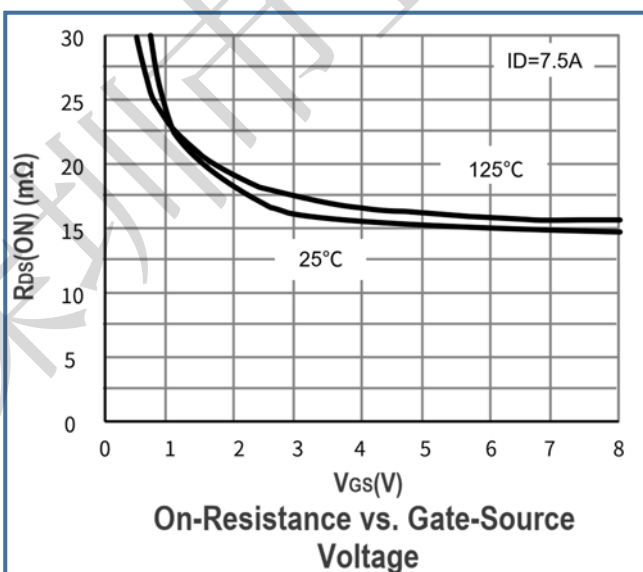
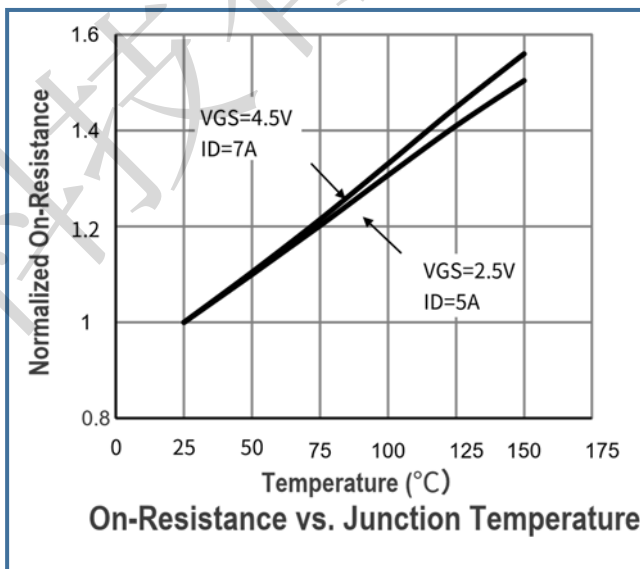
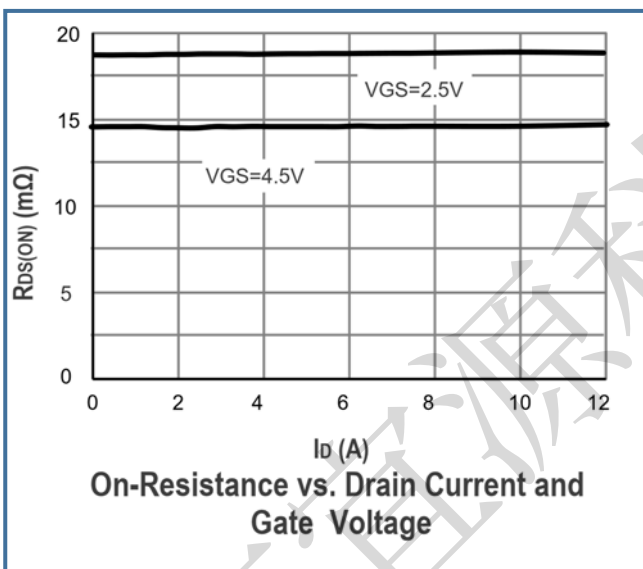
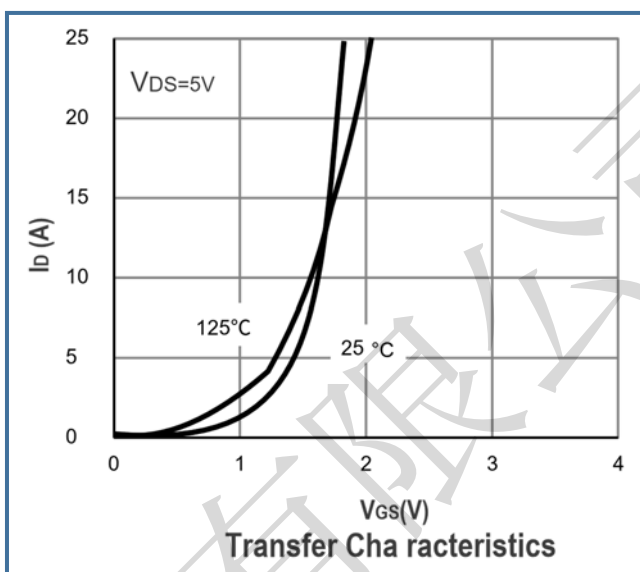
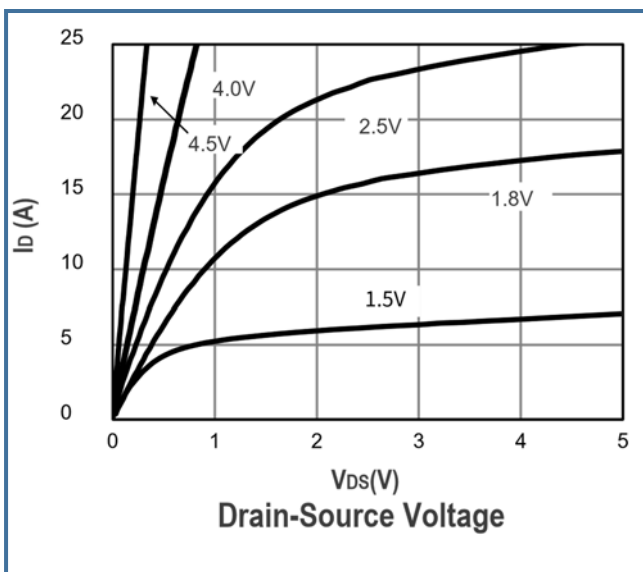
B: 1-in² 2oz Cu PCB board

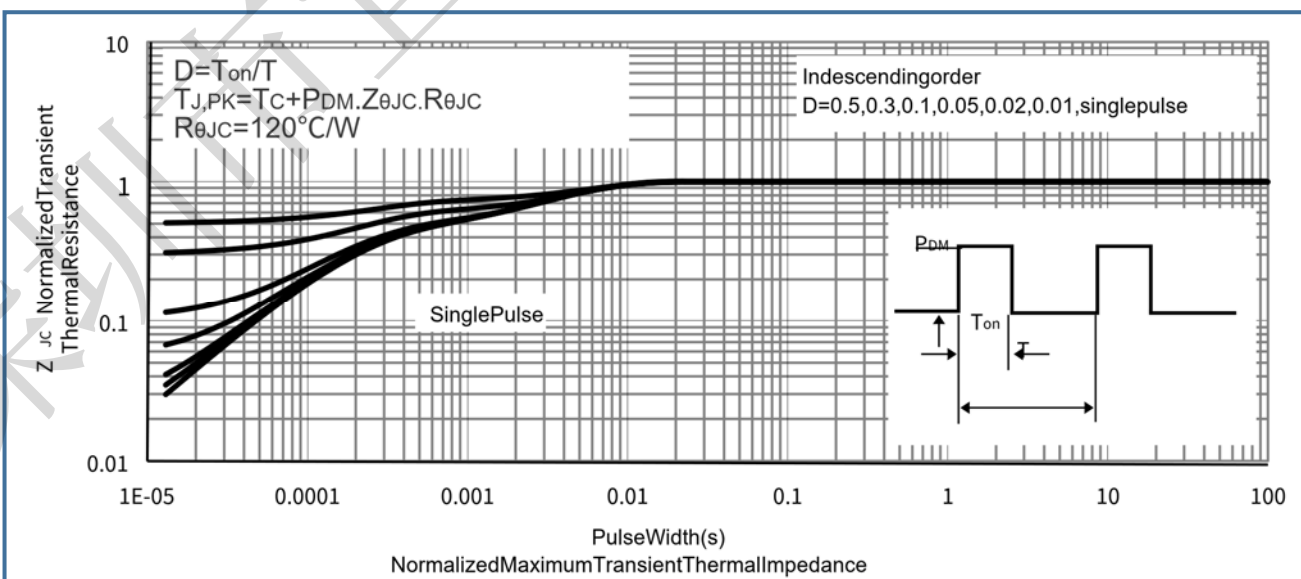
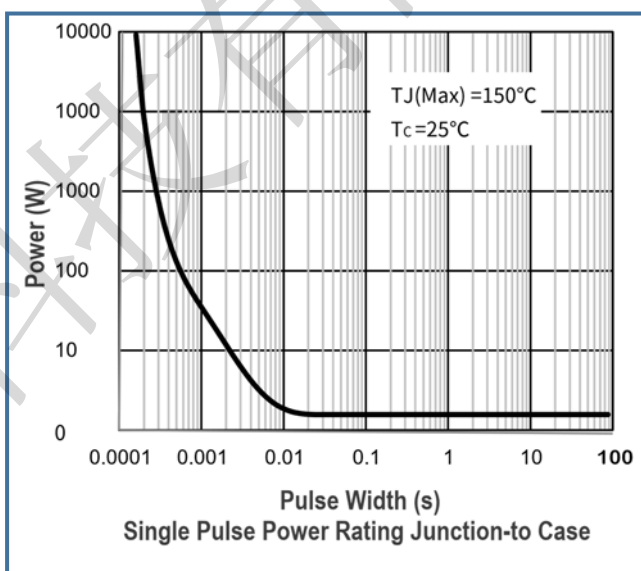
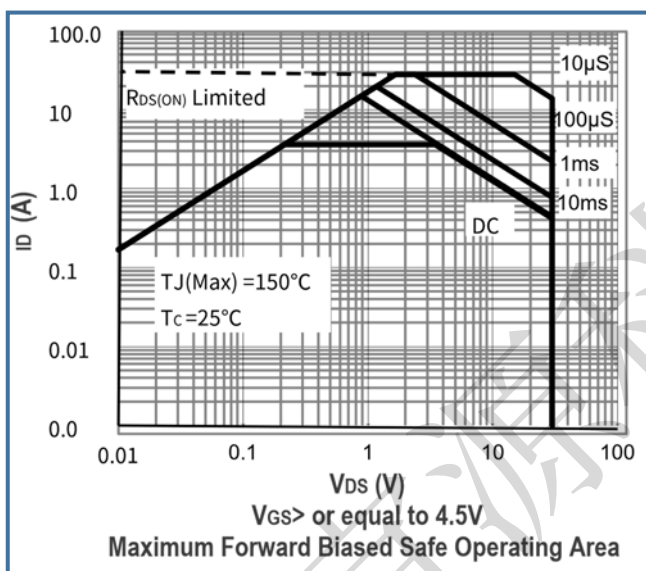
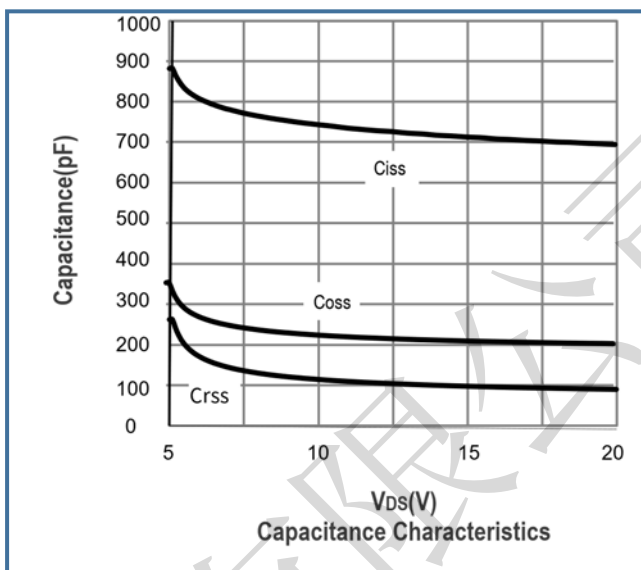
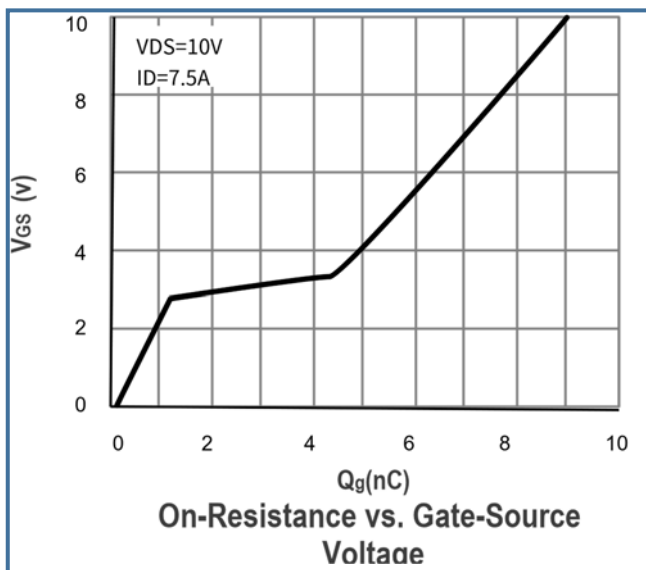
Electrical Characteristics (TA=25°C, unless otherwise noted)

Symbol	Characteristic	Test Conditions	Min.	Typ.	Max.	Unit
• Off Characteristics						
BV _{DSS}	Drain-Source Breakdown Voltage	V _{GS} =0V, I _D =250uA	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} =±10V, V _{DS} =0V	-	-	±10	μA
• On Characteristics						
V _{GS(th)}	Gate Threshold Voltage	V _{DS} =V _{GS} , I _D =250uA	0.55	0.65	1.2	V
R _{DS(on)}	Drain-Source On-State Resistance	V _{GS} =4.5V, I _D =7.5A	9	14	18	mΩ
		V _{GS} =3.7V, I _D =7.5A	10	15	19	
		V _{GS} =2.5V, I _D =5.5A	12	18	24	
		V _{GS} =1.8V, I _D =1.5A	14	24	30	
g _{fs}	Forward Transconductance	V _{DS} =5V, I _D =7A		21		S
• Dynamic Characteristics						
C _{iss}	Input Capacitance	V _{DS} =10V, V _{GS} =0V, f=1MHz	-	740	-	PF
C _{oss}	Output Capacitance		-	198	-	
C _{rss}	Reverse Transfer Capacitance		-	110	-	
• Switching Characteristics						
Q _g	Total Gate Charge	V _{DS} =10V, I _D =5A, V _{GS} =4.5V	-	9	-	nC
Q _{gs}	Gate-Source Charge		-	1.2	-	
Q _{gd}	Gate-Drain Charge		-	3.8	-	
t _{d(on)}	Turn-on Delay Time	V _{DD} =10V, R _L =1.2Ω, I _D =1A, V _{GEN} =4.5V, R _G =6Ω	-	11	-	nS
t _r	Turn-on Rise Time		-	50	-	
t _{d(off)}	Turn-off Delay Time		-	15	-	
t _f	Turn-off Fall Time		-	19	-	
• Drain-Source Diode Characteristics						
V _{SD}	Drain-Source Diode Forward Voltage	V _{GS} =0V, I _S =1.7A	-	-	1.2	V
R _g	Gate resistance	V _{GS} =0V, V _{DS} =0V, F=1MHz	-	2.3	-	Ω

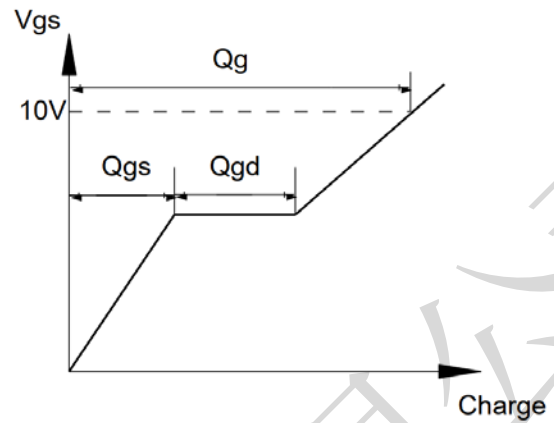
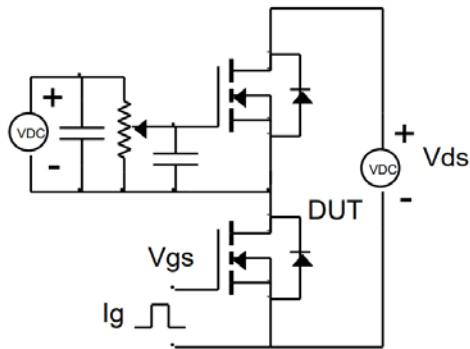
Note: Pulse Test: Pulse Width≤300us, Duty Cycle≤2%

Typical Characteristics Curves (Ta=25°C, unless otherwise note)

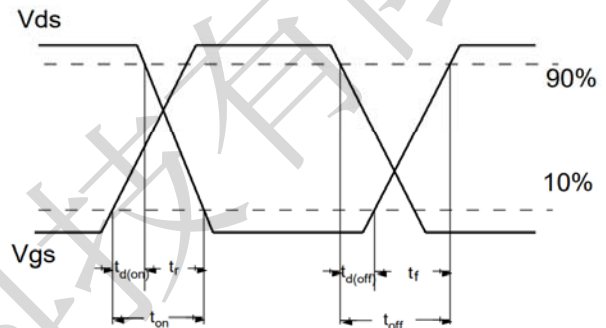
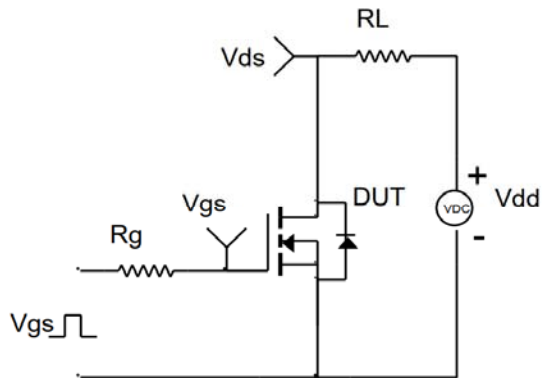




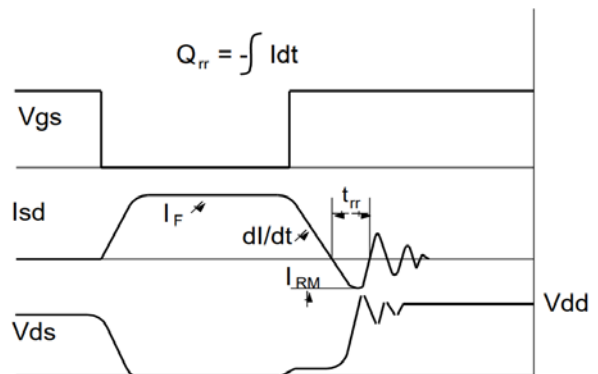
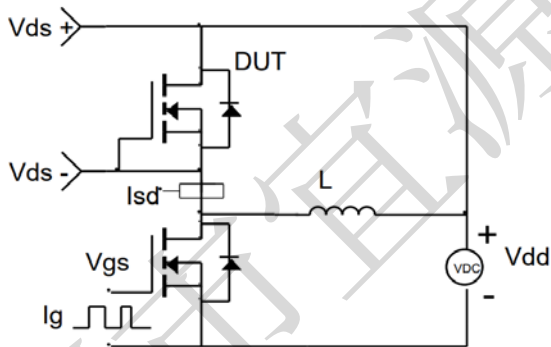
Gate Charge Test Circuit & Waveforms



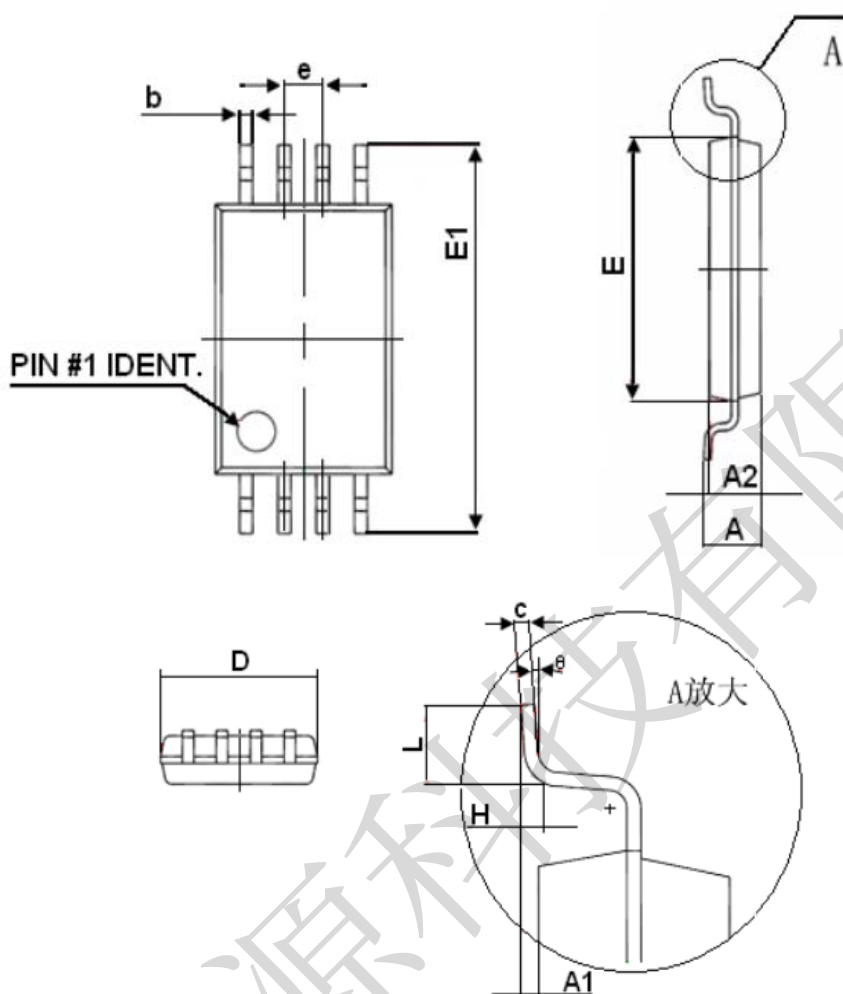
Resistive Switching Test Circuit & Waveforms



Diode Recovery Test Circuit & Waveforms



TSSOP-8L Package Outline Data



Symbol	Dimensions (unit : mm)	
	Min	Max
D	2.90	3.10
E	4.30	4.50
b	0.19	0.30
c	0.09	0.20
E1	6.25	6.55
A		1.10
A2	0.80	1.00
A1	0.02	0.15
e	0.65(BSC)	
L	0.50	0.70
H	0.25(typ)	
θ	0°	8°