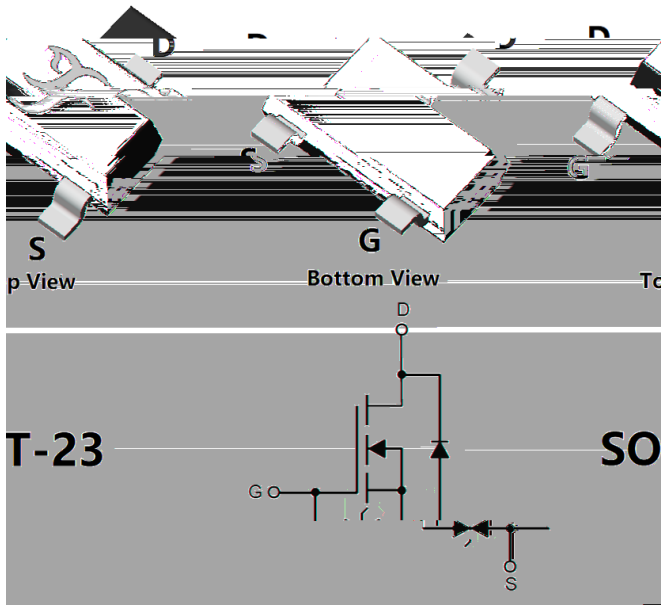


N-Channel Enhancement Mode Field Effect Transistor



Product Summary

V_{DS}	20 V
I_D	0.9 A
$R_{DS(ON)}$ (at $V_{GS}=4.5V$)	300 mohm
$R_{DS(ON)}$ (at $V_{GS}=2.5V$)	400 mohm
$R_{DS(ON)}$ (at $V_{GS}=1.8V$)	700 mohm
ESD Protected Up to 2.0KV (HBM)	

General Description

Trench Power LV MOSFET technology
High Power and current handling capability

Epoxy Meets UL 94 V-0 Flammability Rating
Halogen Free

Applications

PWM application
Load switch

Absolute Maximum Ratings ($T_A=25$ unless otherwise noted)

Parameter	Symbol	Limit	Unit
Drain-source Voltage	V_{DS}	20	V
Gate-source Voltage	V_{GS}	12	V
Drain Current	I_D	$T_A=25$ @ Steady State	0.9
		$T_A=70$ @ Steady State	0.7
Pulsed Drain Current ^A	I_{DM}	3.5	A
Total Power Dissipation @ $T_A=25$	P_D	0.35	W
Thermal Resistance Junction-to-Ambient @ Steady State	R_{JA}	357	/W
Junction and Storage Temperature Range	T_J, T_{STG}	-55 +150	

Ordering Information

PREFERRED P/N	PACKING CODE	Marking	MINIMUM PACKAGE(pcs)	INNER BOX QUANTITY(pcs)	OUTER CARTON QUANTITY(pcs)	DELIVERY MODE
YJL3134KA	F2	34KA.	3000	30000	120000	reel



YJL3134KA

Electrical Characteristics (T_J=25 unless otherwise noted)

Parameter	Symbol	Conditions	Min	Typ	Max	Units
Static Parameter						
Drain-Source Breakdown Voltage	BV _{DSS}	V _{GS} = 0V, I _D =250	20			V
Zero Gate Voltage Drain Current	I _{DSS}	V _{DS} =20V, V _{GS} =0V			1	
Gate-Body Leakage Current	I _{GSS}	V _{GS} = 10V, V _{DS} =0V		2.5	10	
		V _{GS} = 8V, V _{DS} =0V		500	2000	nA
Gate Threshold Voltage	V _{GS(th)}	V _{DS} = V _{GS} , I _D =250	0.35	0.75	1.1	V
Static Drain-Source On-Resistance	R _{DS(on)}	V _{GS} = 4.5V, I _D =0.9A		220	300	
		V _{GS} = 2.5V, I _D =0.45A		290	400	
		V _{GS} = 1.8V, I _D =0.2A		420	700	
Diode Forward Voltage ^C	V _{SD}	I _S =0.9A, V _{GS} =0V		0.9	1.2	V
Maximum Body-Diode Continuous Current	I _S				0.9	A
Gate Resistance	R _g	=1 MHz, Open drain		50		
Dynamic Parameters^B						
Input Capacitance	C _{iss}	V _{DS} =10V, V _{GS} =0V, f=1MHZ		33		pF
Output Capacitance	C _{oss}			20		
Reverse Transfer Capacitance	C _{rss}			10		
Switching Parameters^B						
Total Gate Charge	Q _g	V _{GS} =4.5V, V _{DS} =10V, I _D =0.5A		0.8		nC
Gate Source Charge	Q _{gs}			0.3		
Gate Drain Charge	Q _{gd}			0.15		
Reverse Recovery Charge	Q _{rr}	I _F =0.5A, di/dt=20A/us		0.4		
Reverse Recovery Time	t _{rr}			14.4		
Turn-on Delay Time	t _{D(on)}	V _{GEN} V _{GS} =4.5V, V _{DD} =10V, R _G =10 Ω, I _D =500mA		4		ns
Turn-on Rise Time	t _r			18.8		
Turn-off Delay Time	t _{D(off)}			10		
Turn-off Fall Time	t _f			23		

A. Repetitive Rating: Pulse width limited by maximum junction temperature.

B. These parameters have no way to verify.

C.



Typical Performance Characteristics

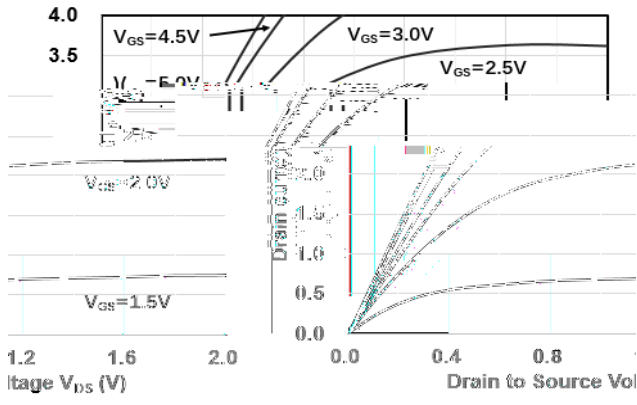


Figure1. Output Characteristics

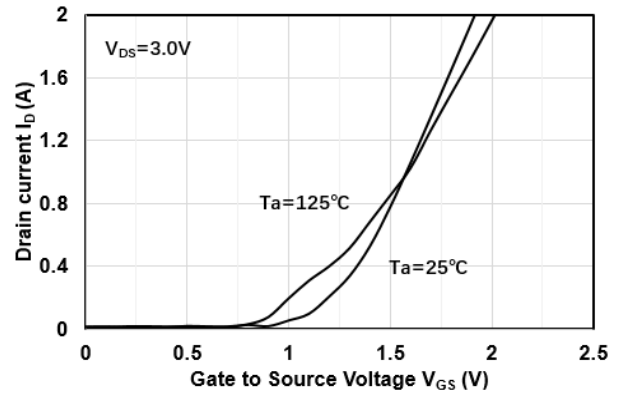


Figure2. Transfer Characteristics

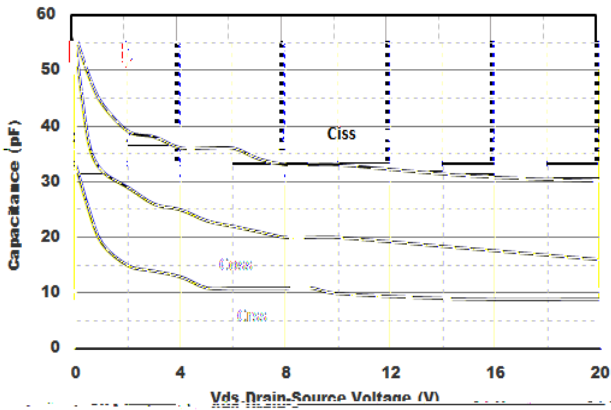


Figure3. Capacitance Characteristics

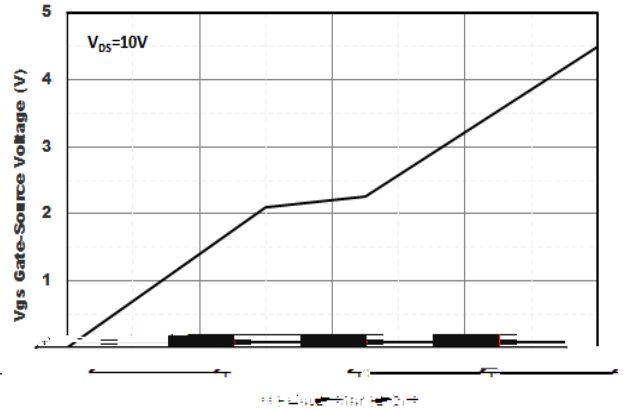


Figure4. Gate Charge

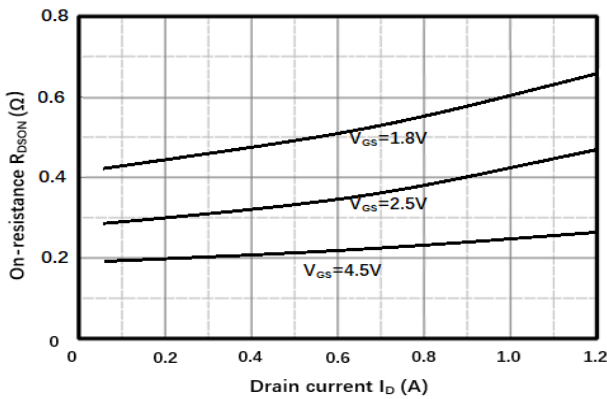


Figure5. Drain-Source on Resistance

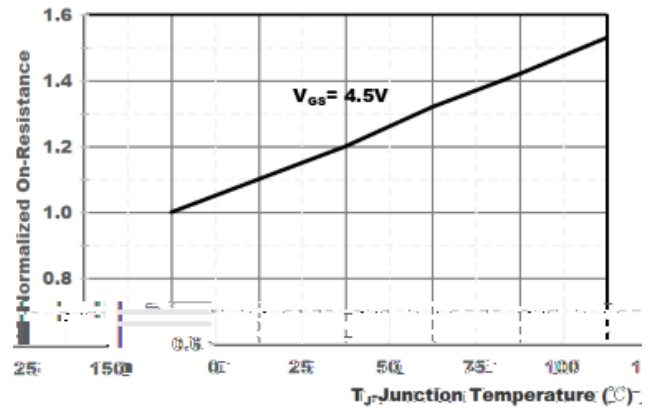


Figure6. Drain-Source on Resistance

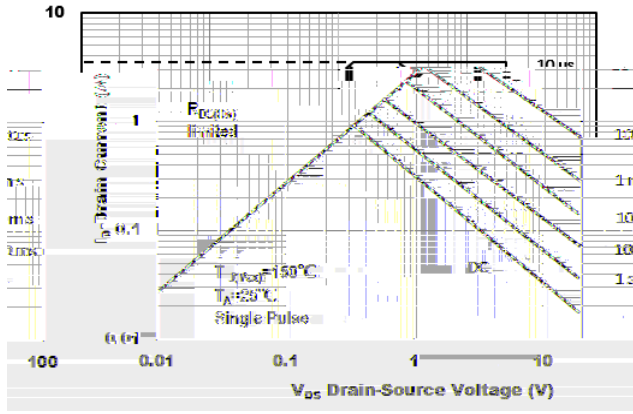


Figure7. Safe Operation Area

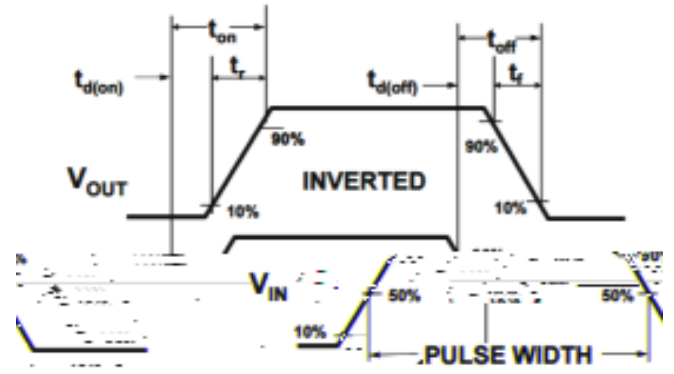
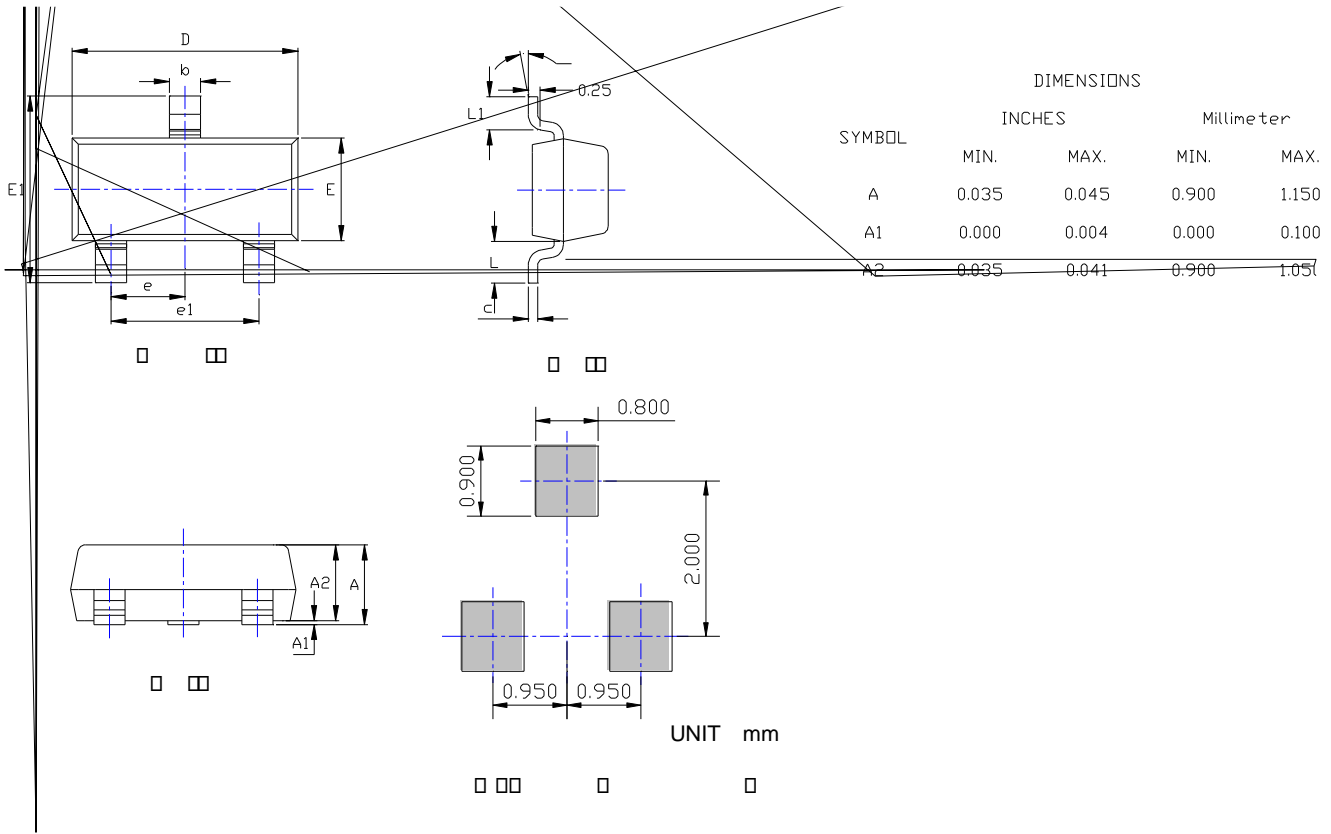


Figure8. Switching wave



YJL3134KA

SOT-23 Package information





YJL3134KA

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