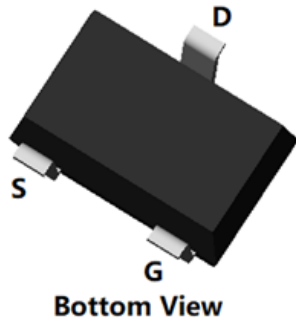
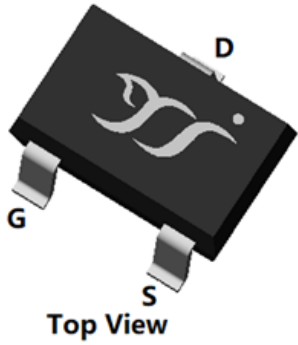
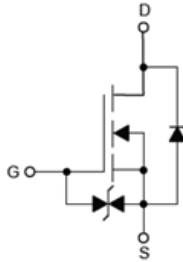


N-Channel Enhancement Mode Field Effect Transistor



SOT-323



Product Summary

V_{DS}	20 V
I_D	0.5 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	0.5
		$T_A=70$ @ Steady State	0.4
Pulsed Drain Current ^A	I_{DM}	3.3	A
Total Power Dissipation @ $T_A=25$	P_D	0.15	W
Thermal Resistance Junction-to-Ambient @ Steady State	R_{JA}	833	/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
YJL3134KBW	F2	34KB.	3000	30000	120000	reel



YJL3134KBW

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 =0.5A		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 =0.5A, V _{GS} =0V		0.85	1.2	V
Maximum Body-Diode Continuous Current	I _S				0.5	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 _{GS} =4.5V, V _{DD} =10V, R _G =10 , 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

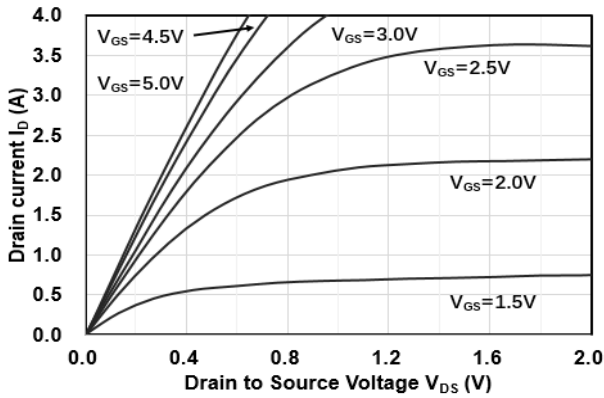


Figure1. Output Characteristics

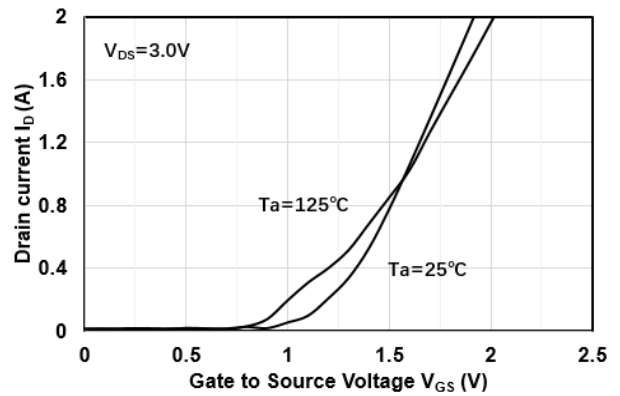


Figure2. Transfer Characteristics

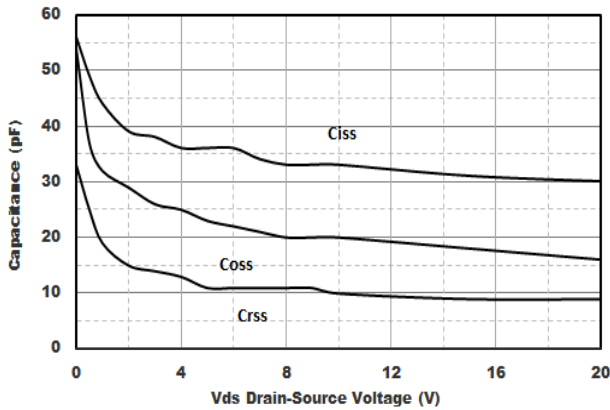


Figure3. Capacitance Characteristics

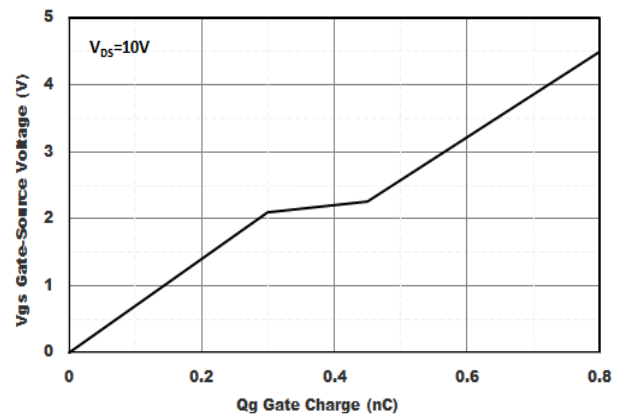


Figure4. Gate Charge

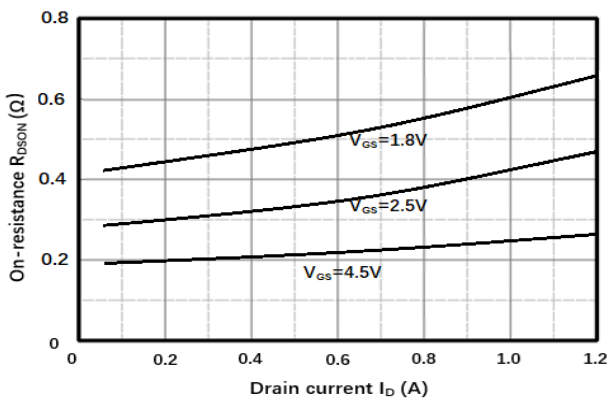


Figure5. Drain-Source on Resistance

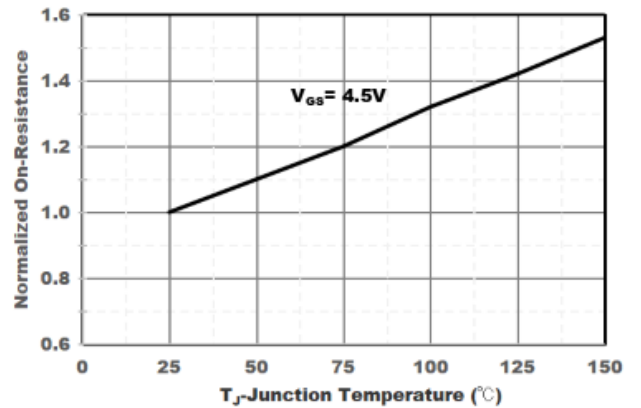


Figure6. Drain-Source on Resistance



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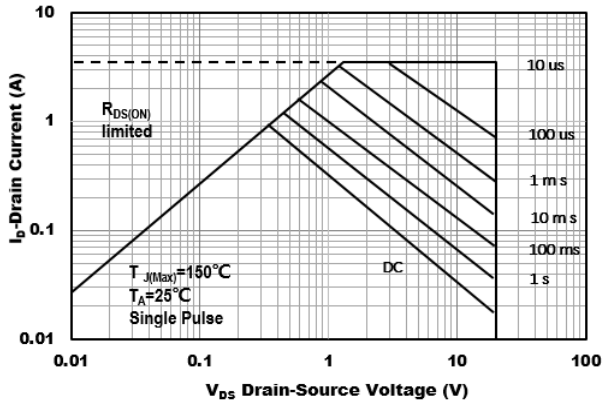


Figure7. Safe Operation Area

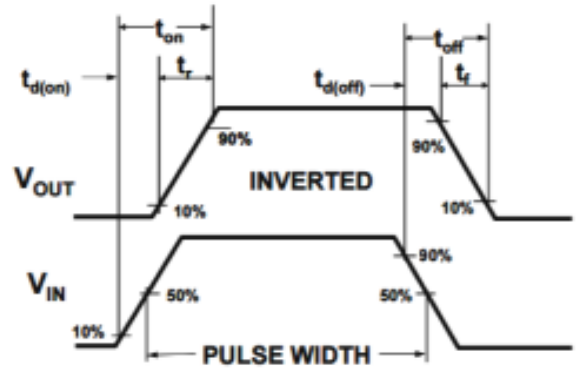
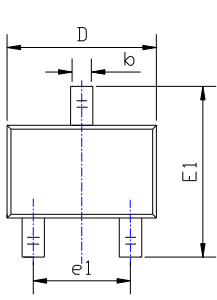


Figure8. Switching wave

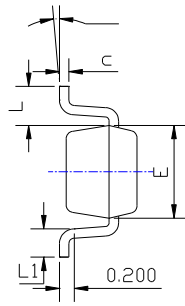


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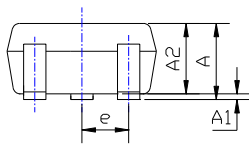
SOT-323 Package information



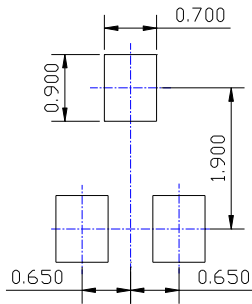
TOP VIEW



SIDE VIEW



SIDE VIEW



UNIT mm

SUGGESTED SOLDER PAD LAYOUT

SYMBOL	DIMENSIONS			
	INCHES		Millimeter	
	MIN.	MAX.	MIN.	MAX.
A	0.035	0.043	0.900	1.100
A1	0.000	0.004	0.000	0.100
A2	0.035	0.039	0.900	1.000
b	0.006	0.016	0.150	0.400
c	0.004	0.010	0.100	0.250
D	0.071	0.087	1.800	2.200
E	0.045	0.053	1.150	1.350
E1	0.085	0.096	2.150	2.450
e	0.026 TYP		0.650 TYP	
e1	0.047	0.055	1.200	1.400
L	0.021 REF		0.525 REF	
L1	0.010	0.018	0.260	0.460
	0°	8°	0°	8°

NOTE:

- 1.PACKAGE BODY SIZES EXCLUDE MOLD FLASH AND GATE BURRS.
- 2.TOLERANCE 0.1mm UNLESS OTHERWISE SPECIFIED.
- 3.THE PAD LAYOUT IS FOR REFERENCE PURPOSES ONLY.



YJL3134KBW

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