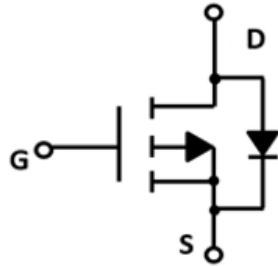
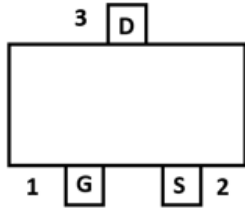


SOT-323



- V_{DS} -20V
- I_D -1.2A
- $R_{DS(ON)}$ (at $V_{GS}=-4.5V$) < 130 mohm
- $R_{DS(ON)}$ (at $V_{GS}=-2.5V$) < 170 mohm
- $R_{DS(ON)}$ (at $V_{GS}=-1.8V$) < 250 mohm

- Trench Power LV MOSFET technology
- Low $R_{DS(ON)}$
- Low Gate Charge
- Part no. with suffix "Q" means AEC-Q101 qualified

- Video monitor
- Power management

($T_A=25^\circ C$ unless otherwise noted)

Drain-source Voltage		V_{DS}	-20	V
Gate-source Voltage		V_{GS}	± 10	V
Drain Current	$T_A=25$ @ Steady State	I_D	-1.2	A
	$T_A=70$ @ Steady State		-1.0	
Pulsed Drain Current ^A		I_{DM}	-9.6	A
Total Power Dissipation @ $T_A=25$		P_D	300	mW
Thermal Resistance Junction-to-Ambient ^B		$R_{\theta JA}$	400	/W
Junction and Storage Temperature Range		T_J, T_{STG}	-55~+150	

YJL2101WQ	F2	TS1.	3000	30000	120000	7" reel
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($T_J=25^{\circ}\text{C}$ unless otherwise noted)

Drain-Source Breakdown Voltage	BV_{DSS}	$V_{GS}=0V, I_D=-250\mu A$	-20			V
Zero Gate Voltage Drain Current	I_{DSS}	$V_{DS}=-20V, V_{GS}=0V, T_A=25$			-1	μA
Gate-Body Leakage Current	I_{GSS}	$V_{GS}=\pm 10V, V_{DS}=0V$			± 100	nA
Gate Threshold Voltage	$V_{GS(th)}$	$V_{DS}=V_{GS}, I_D=-250\mu A$	-0.3	-0.6	-1.0	V
Static Drain-Source On-Resistance	$R_{DS(ON)}$	$V_{GS}=-4.5V, I_D=-1.5A$		100	130	m Ω
		$V_{GS}=-2.5V, I_D=-1.2A$		135	170	
		$V_{GS}=-1.8V, I_D=-1.0A$		180	250	
Diode Forward Voltage	V_{SD}	$I_S=-2.0A, V_{GS}=0V$		-0.9	-1.2	V
Input Capacitance	C_{iss}	$V_{DS}=-10V, V_{GS}=0V, f=1\text{MHZ}$		210		pF
Output Capacitance	C_{oss}			37		
Reverse Transfer Capacitance	C_{rss}			30		
Total Gate Charge	Q_g	$V_{GS}=-4.5V, V_{DS}=-10V, I_D=-1.2A$		2.9		nC
Gate Source Charge	Q_{gs}			0.65		
Gate Drain Charge	Q_{gd}			0.7		
Reverse Recovery Charge	Q_{rr}	$I_{SD}=-1.2A, di/dt=60A/us$		0.9		nC
Reverse Recovery Time	t_{rr}			5.4		ns
Turn-on Delay Time	$t_{D(on)}$	$V_{GS}=-4.5V, V_{DS}=-10V, I_D=-1.2A, R_g=3\Omega$		4.8		ns
Turn-on Rise Time	t_r			22		
Turn-off Delay Time	$t_{D(off)}$			21		
Turn-off Fall Time	t_f			28		

A. Repetitive rating; pulse width limited by max. junction temperature.

B. Device mounted on FR-4 PCB, 1 mm x 17mm x 15mm.

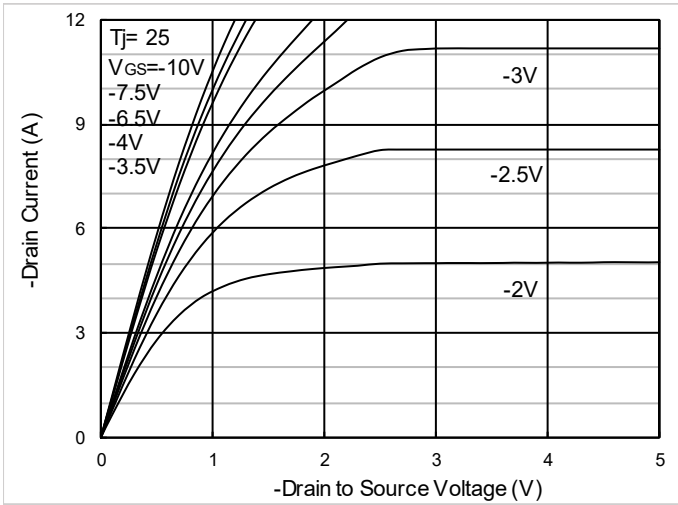


Figure1. Output Characteristics

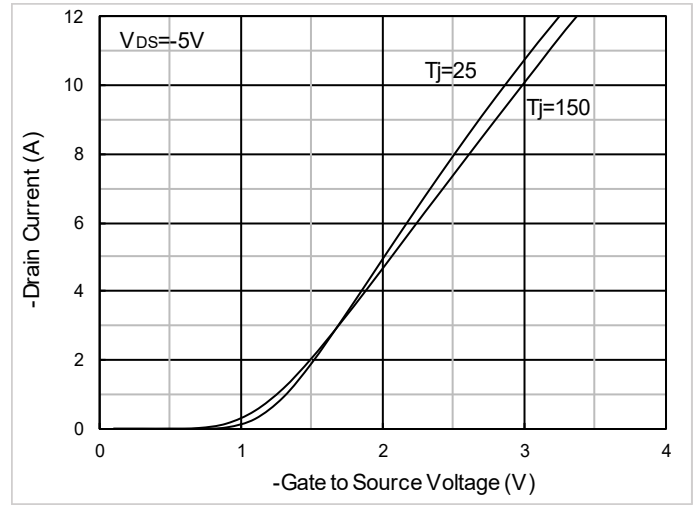


Figure2. Transfer Characteristics

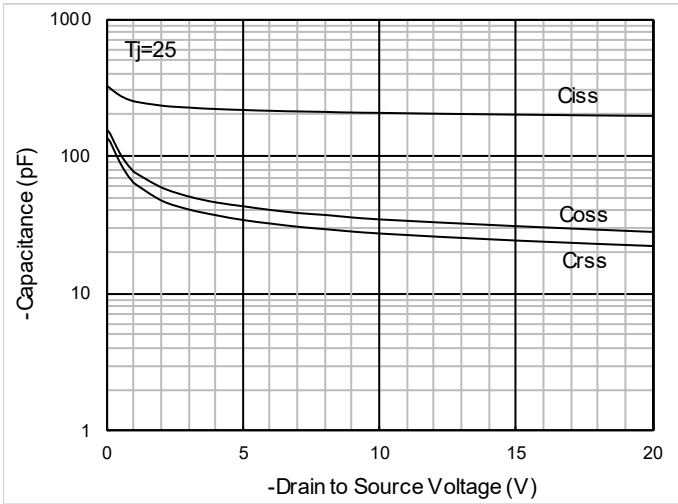


Figure3. Capacitance Characteristics

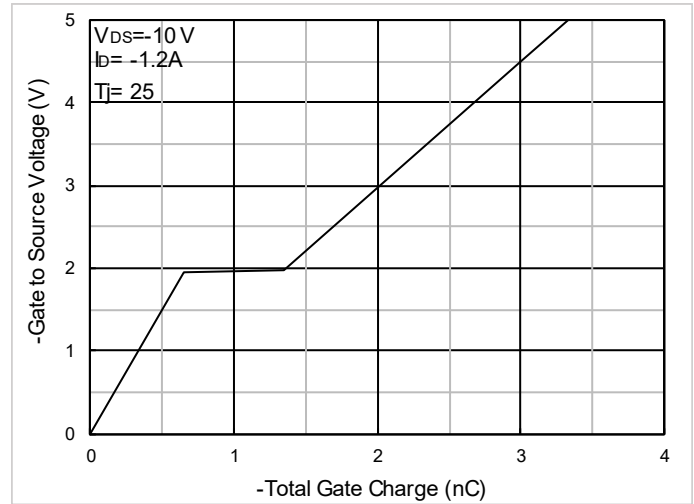


Figure4. Gate Charge

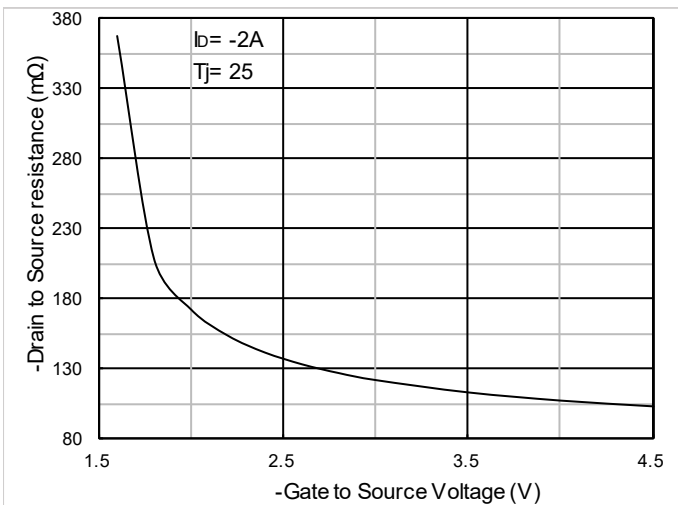


Figure5. On-Resistance vs Gate to Source Voltage

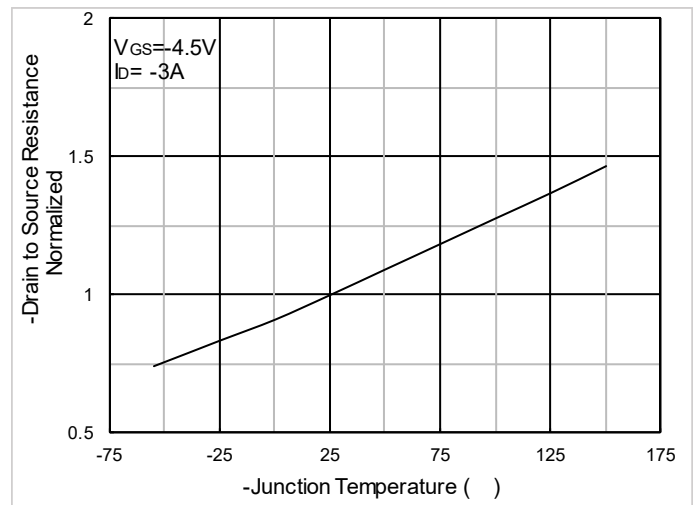


Figure6. Normalized On-Resistance

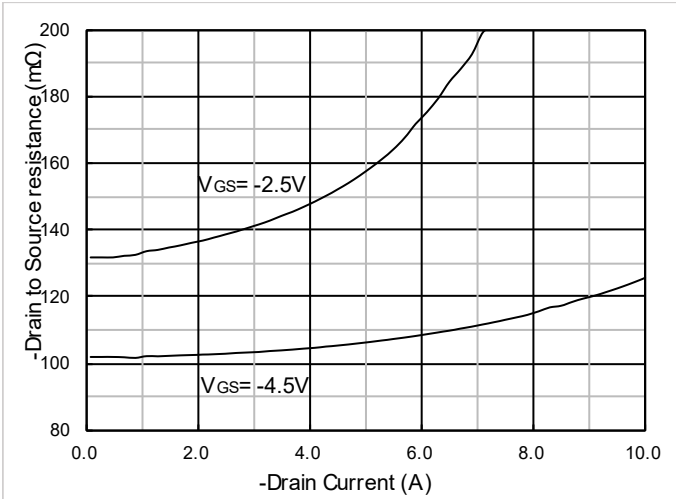


Figure 7. $R_{DS(on)}$ VS Drain Current

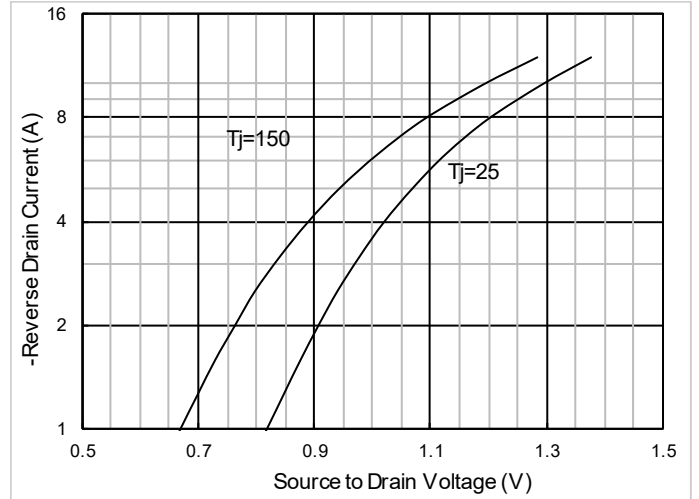


Figure 8. Forward characteristics of reverse diode

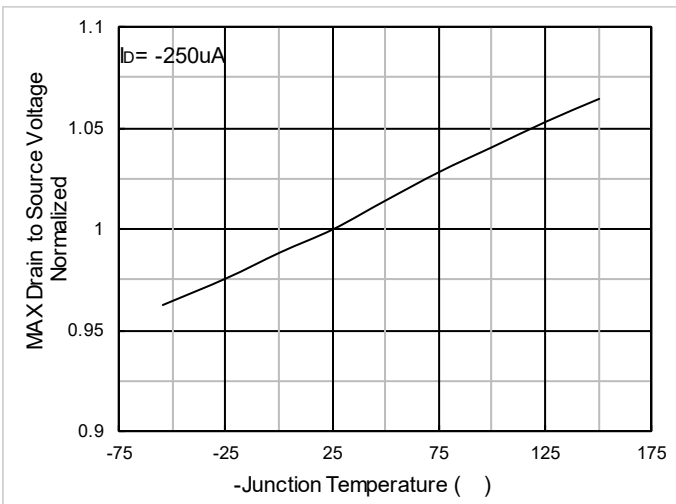


Figure 9. Normalized breakdown voltage

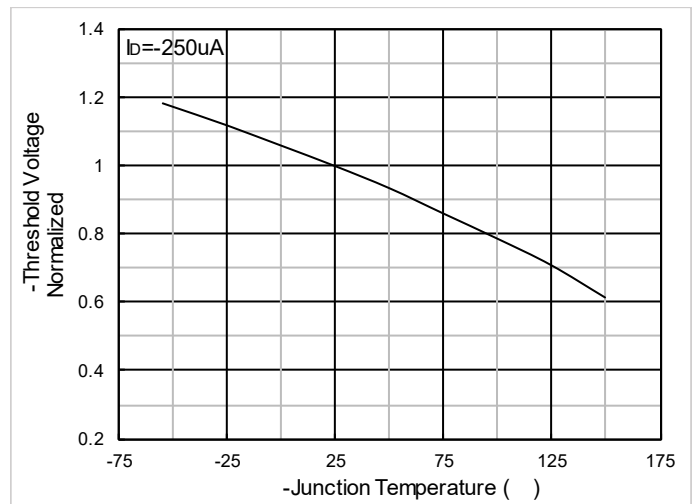


Figure 10. Normalized Threshold voltage

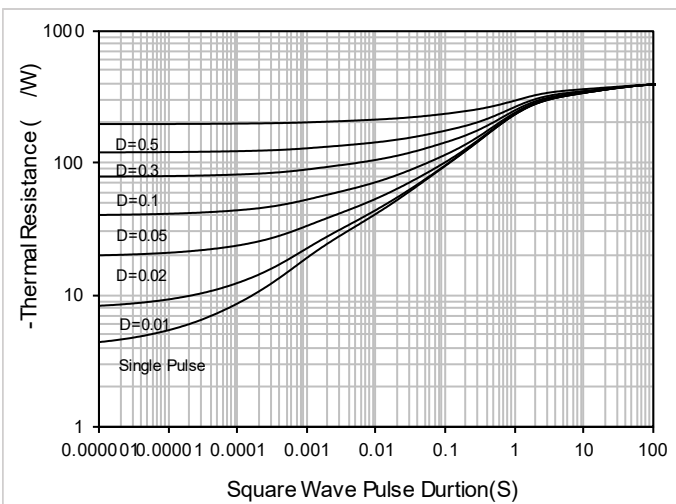


Figure 11. Maximum Transient Thermal Impedance

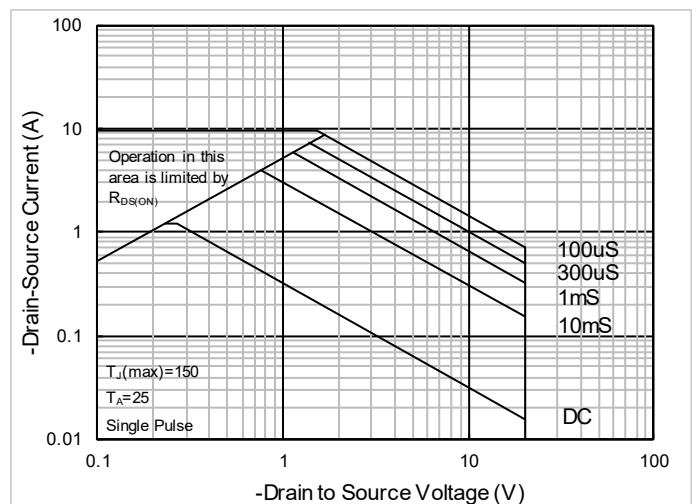
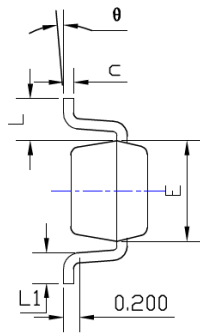
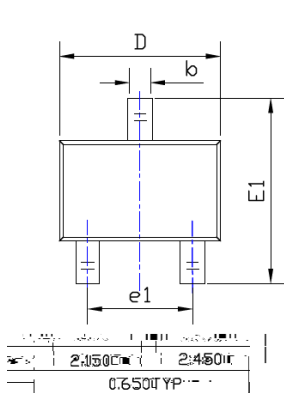


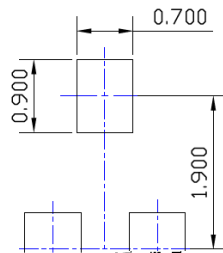
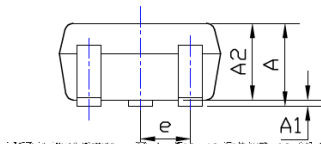
Figure 12. Safe Operation Area



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

TOP-VIEW

SIDE VIEW



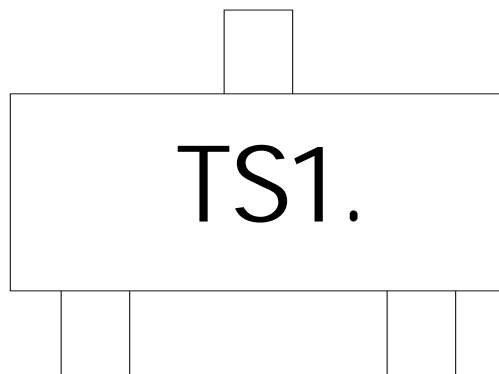
e1	0.047	0.055	1.200	1.400
L	0.021REF		0.525REF	
L1	0.010	0.018	0.260	0.460
theta	0°	8°	0°	8°

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.

UNIT: mm

OLDER PAD LAYOUT

SUGGESTED S



Note:

1. All marking is at middle of the product body
2. All marking is in laser marking
3. TS1 is Marking Code
4. Body color: Black



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