



Features

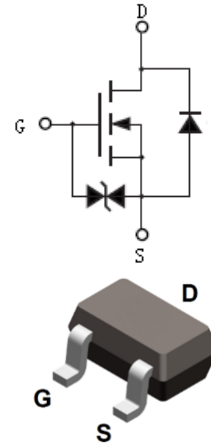
- Advanced trench cell design
- HBM: JESD22-A114-B: 1C
- RoHS compliant with Halogen-free

APPLICATIONS

- Load switch appliances

Mechanical Data

- Case: SOT-323
- Molding Compound: UL Flammability Classification Rating 94V-0
- Terminals: Matte tin-plated leads; solderability-per MIL-STD-202, Method 208



SOT-323

Ordering Information

Part Number	Package	Shipping Quantity	Marking Code
LGE3428W	SOT-323	3000 pcs / Tape & Reel	3428

Maximum Ratings (@ T_A = 25°C unless otherwise specified)

Parameter	Symbol	Value	Unit
Drain-to-Source Voltage	V _{DSS}	30	V
Gate-to-Source Voltage	V _{GSS}	±10	V
Continuous Drain Current ^{*1}	I _D	0.4	A
Continuous Drain Current (T _A = 70°C) ^{*1}		0.32	A
Pulsed Drain Current (t _p = 10μs)	I _{DM}	1.6	A
Power Dissipation ^{*1}	P _D	0.35	W
Operating Junction Temperature Range	T _J	-55 ~ +150	°C
Storage Temperature Range	T _{STG}	-55 ~ +150	°C

Thermal Characteristics

Parameter	Symbol	Min.	Typ.	Max.	Unit
Thermal Resistance Junction-to-Air ^{*1}	R _{θJA}	-	325	357	°C/W



Electrical Characteristics (@ T_A = 25°C unless otherwise specified)

Symbol	Parameter	Test Condition	Min.	Typ.	Max.	Unit
Static Characteristics						
V _{DSS}	Drain-Source Breakdown Voltage	V _{GS} = 0V, I _D = 250μA	30	-	-	V
I _{DSS}	Zero Gate Voltage Drain Current	V _{DS} = 24V, V _{GS} = 0V	-	-	1	μA
I _{GSS}	Gate-Body Leakage Current	V _{GS} = ±8V, V _{DS} = 0V	-	-	±10	μA
On Characteristics						
R _{DS(ON)}	Drain-Source On-resistance ²	V _{GS} = 4.5V, I _D = 0.3A	-	-	1.2	Ω
		V _{GS} = 2.5V, I _D = 0.2A	-	-	1.6	Ω
		V _{GS} = 1.8V, I _D = 0.1A	-	-	2	Ω
		V _{GS} = 1.5V, I _D = 0.05A	-	-	3	Ω
		V _{GS} = 1.2V, I _D = 0.02A	-	-	4	Ω
V _{GS(th)}	Gate Threshold Voltage	V _{DS} = V _{GS} , I _D = 250μA	0.4	-	1.0	V
Dynamic Characteristics						
C _{ISS}	Input Capacitance	V _{GS} = 0V V _{DS} = 10V f = 1.0MHz	-	45	-	pF
C _{OSS}	Output Capacitance		-	14	-	
C _{RSS}	Reverse Transfer Capacitance		-	0.8	-	
Switching Characteristics						
t _{d(ON)}	Turn-on Delay Time ³	V _{DD} = 10V V _{GS} = 4V R _G = 10Ω I _D = 0.3A	-	8.3	-	ns
t _r	Turn-on Rise Time ³		-	5.7	-	
t _{d(OFF)}	Turn-Off Delay Time ³		-	35	-	
t _f	Turn-Off Fall Time ³		-	12	-	
Q _G	Total Gate-Charge	V _{DD} = 10V V _{GS} = 4.5V I _D = 0.3A	-	0.9	-	nC
Q _{GS}	Gate to Source Charge		-	0.3	-	
Q _{GD}	Gate to Drain (Miller) Charge		-	0.2	-	
Source-Drain Diode Characteristics						
V _{SD}	Diode Forward Voltage ²	I _{SD} = 0.3A, V _{GS} = 0V	-	-	1.3	V

Notes:

1. The data tested by surface mounted on a 1 inch² FR-4 board with 2OZ copper
2. The data tested by pulsed, pulse width ≤ 300μs, duty cycle ≤ 2%
3. Guaranteed by design, not subject to production



Ratings and Characteristics Curves (@ $T_A = 25^\circ\text{C}$ unless otherwise specified)

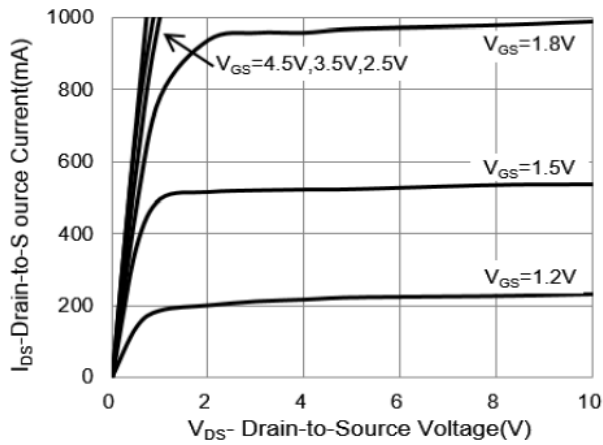


Fig 1 On-Region Characteristics

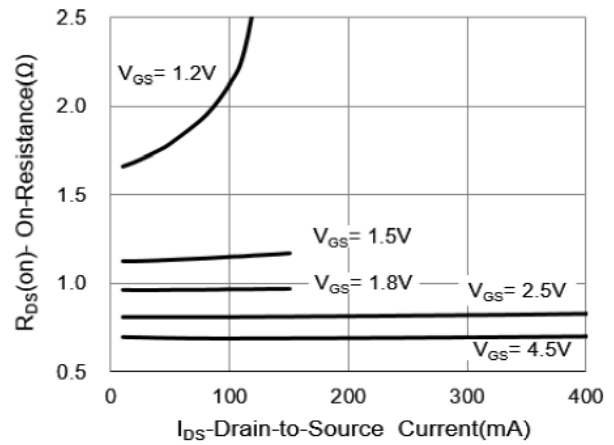


Fig 2 On-Resistance vs. Drain Current and Gate Voltage

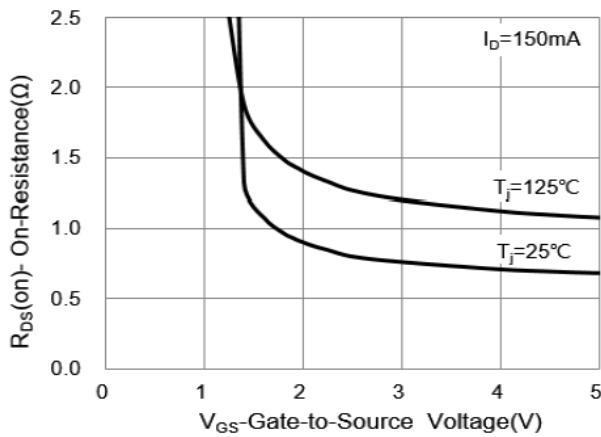


Fig 3 On-Resistance vs. Gate-Source Voltage

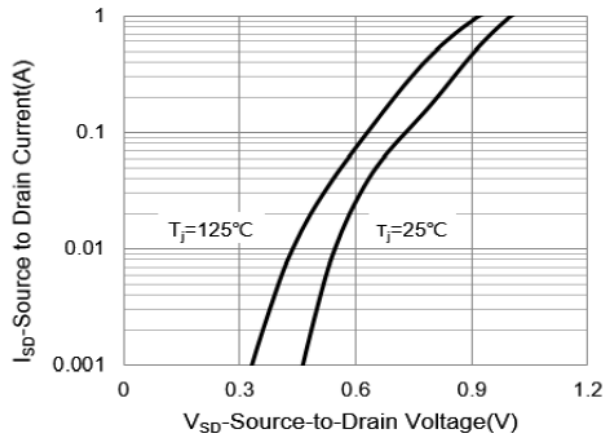


Fig 4 Body-Diode Characteristics

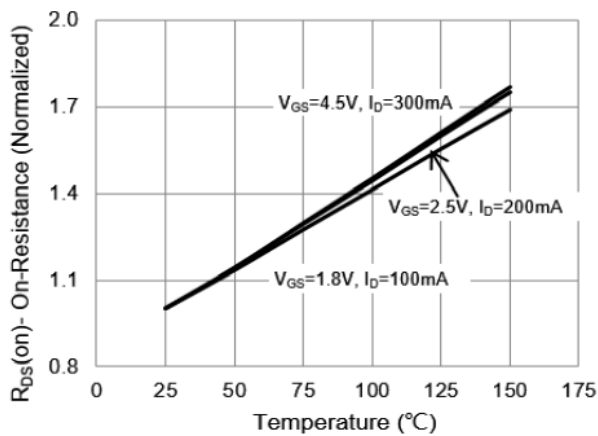


Fig 5 On-Resistance vs. Junction Temperature

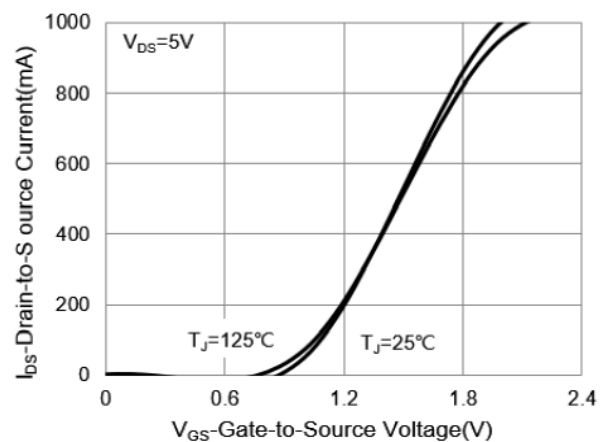


Fig 6 Transfer Characteristics

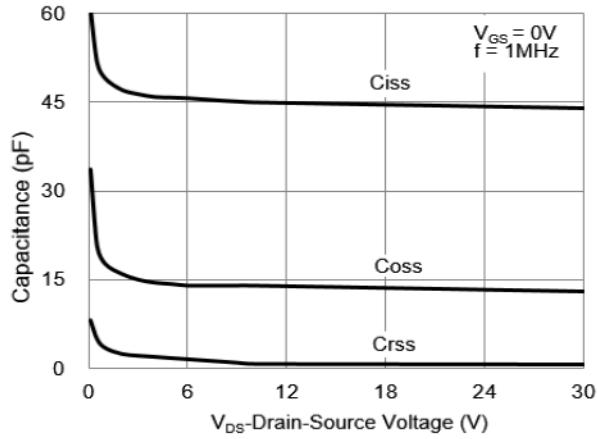


Fig 7 Capacitance Characteristics

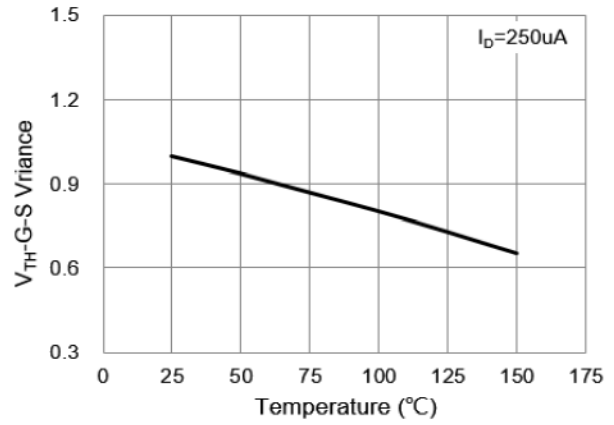


Fig 8 Gate Voltage vs. Junction Temperature

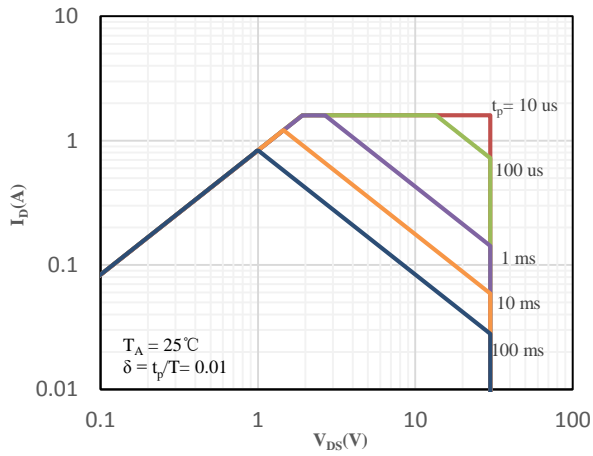


Fig 11 Safe Operation Area

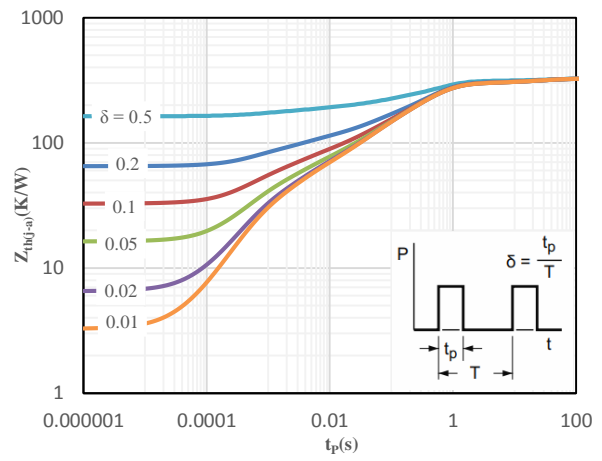
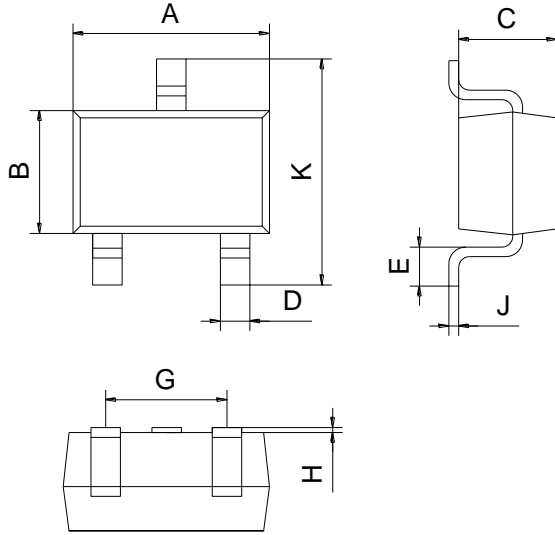


Fig 12 Maximum transient thermal impedance



Package Outline Dimensions (Unit: mm)



SOT-323		
Dimension	Min.	Max.
A	2.00	2.20
B	1.15	1.35
C	0.90	1.10
D	0.15	0.35
E	0.25	0.40
G	1.20	1.40
H	0.02	0.10
J	0.05	0.15
K	2.20	2.40

Mounting Pad Layout (Unit: mm)

SOT-323

