



SGMTC18430

30V, Power, Dual N-Channel, WLCSP Package, MOSFET

FEATURES

- Low On-State Resistance
- Common-Drain Type
- RoHS Compliant and Halogen Free

PRODUCT SUMMARY

R_{SSON} (TYP) $V_{GS} = 10V$	R_{SSON} (MAX) $V_{GS} = 10V$	I_S (MAX) $T_A = +25^\circ C$
1.8m Ω	2.3m Ω	30A

ABSOLUTE MAXIMUM RATINGS

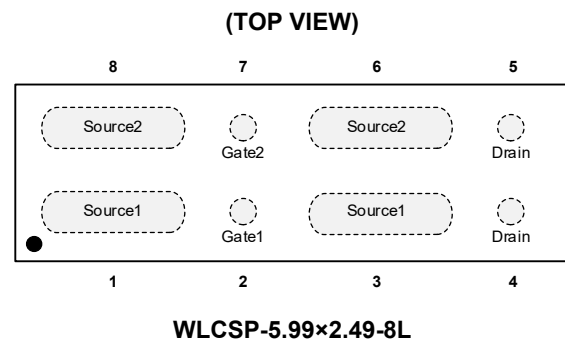
PARAMETER	SYMBOL	VALUE	UNITS
Source-to-Source Voltage	V_{SS}	30	V
Gate-to-Source Voltage	V_{GS}	± 20	V
Source Current ⁽¹⁾	I_S	$T_A = +25^\circ C$	A
		$T_A = +70^\circ C$	
Source Current (Pulse) ⁽²⁾	I_{SM}	120	A
Total Dissipation	P_D	$T_A = +25^\circ C$	W
		$T_A = +70^\circ C$	
Junction Temperature	T_J	150	$^\circ C$
Storage Temperature Range	T_{STG}	-55 to +150	$^\circ C$
Lead Temperature (Soldering, 10s)		+260	$^\circ C$

Stresses beyond those listed in Absolute Maximum Ratings may cause permanent damage to the device. Exposure to absolute maximum rating conditions for extended periods may affect reliability.

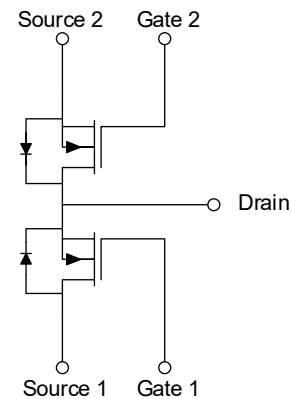
NOTES:

1. The current will be limited by PCB, thermal design and operating temperature.
2. $t_{PULSE} < 10\mu s$.

PIN CONFIGURATION



EQUIVALENT CIRCUIT



APPLICATIONS

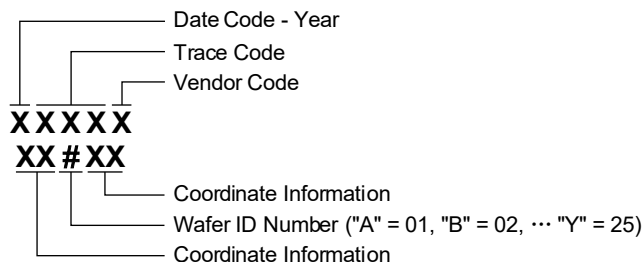
- Load Switch
- Battery Protection
- Battery Management

PACKAGE/ORDERING INFORMATION

MODEL	PACKAGE DESCRIPTION	SPECIFIED TEMPERATURE RANGE	ORDERING NUMBER	PACKAGE MARKING	PACKING OPTION
SGMTC18430	WLCSP-5.99×2.49-8L	-55°C to +150°C	SGMTC18430TG/TR	18430 XXXXXX XX#XX	Tape and Reel, 3000

MARKING INFORMATION

NOTE: XXXXX = Date Code, Trace Code and Vendor Code. XX#XX = Coordinate Information and Wafer ID Number.



Green (RoHS & HSF): SG Micro Corp defines "Green" to mean Pb-Free (RoHS compatible) and free of halogen substances. If you have additional comments or questions, please contact your SGMICRO representative directly.

DISCLAIMER

SG Micro Corp reserves the right to make any change in circuit design, or specifications without prior notice.

THERMAL RESISTANCE

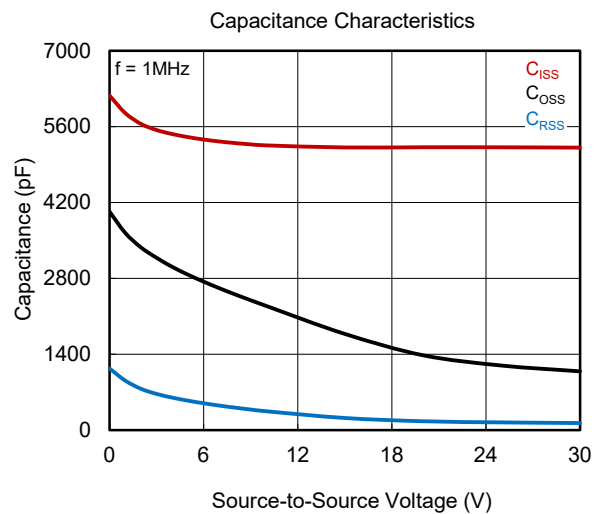
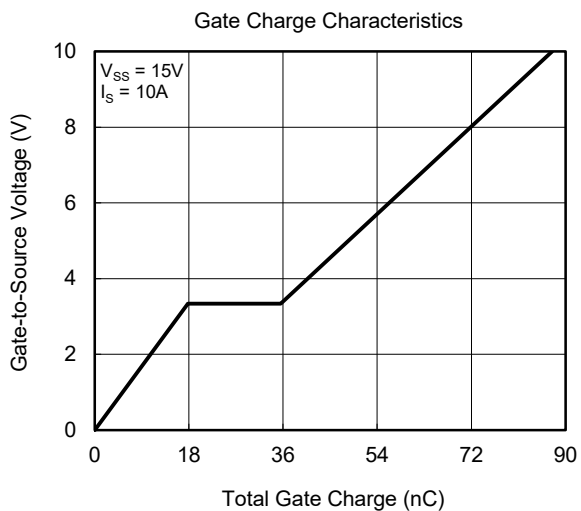
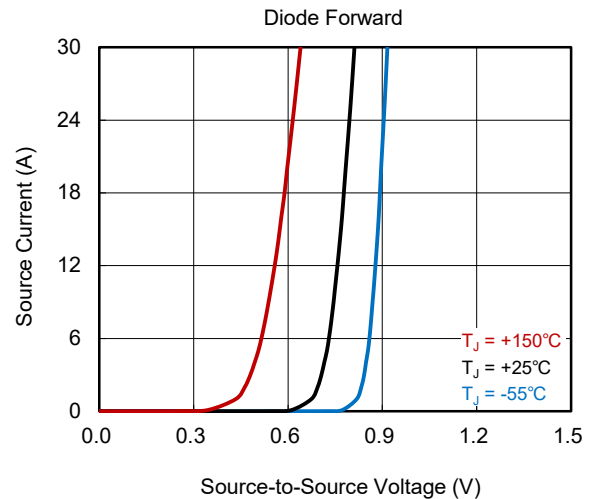
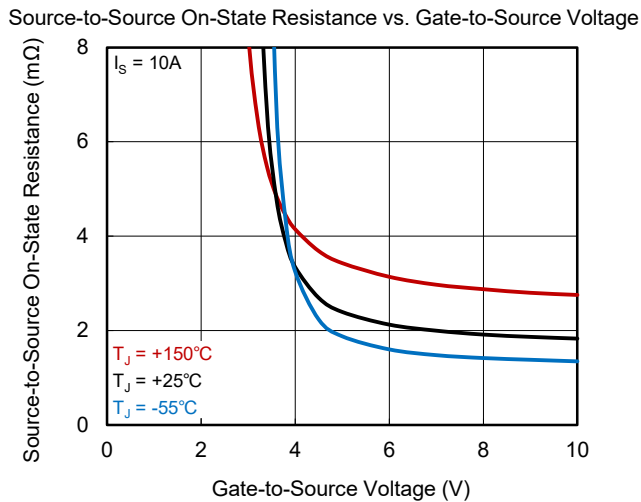
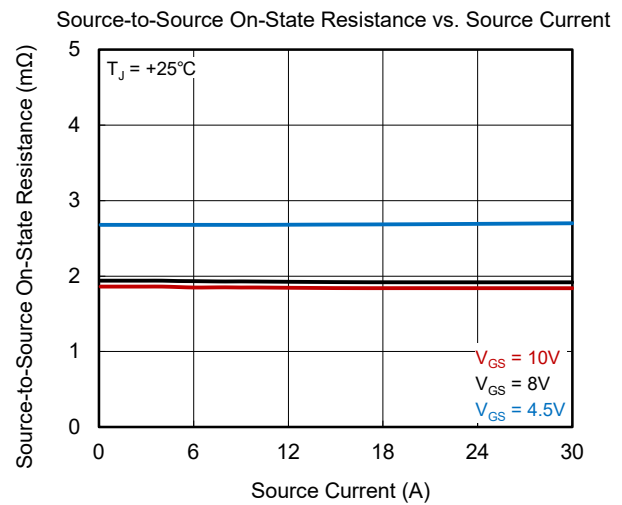
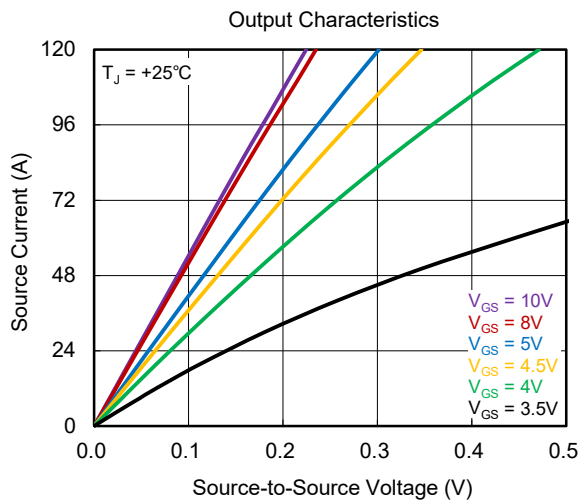
PARAMETER	SYMBOL	TYP	UNITS
Junction-to-Ambient Thermal Resistance	$R_{\theta JA}$	48	°C/W

ELECTRICAL CHARACTERISTICS

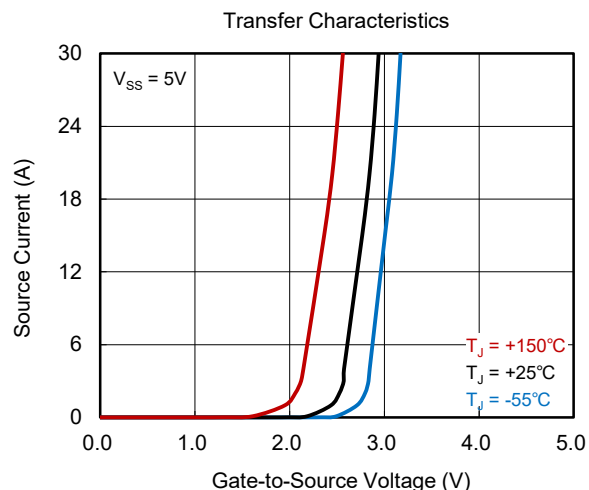
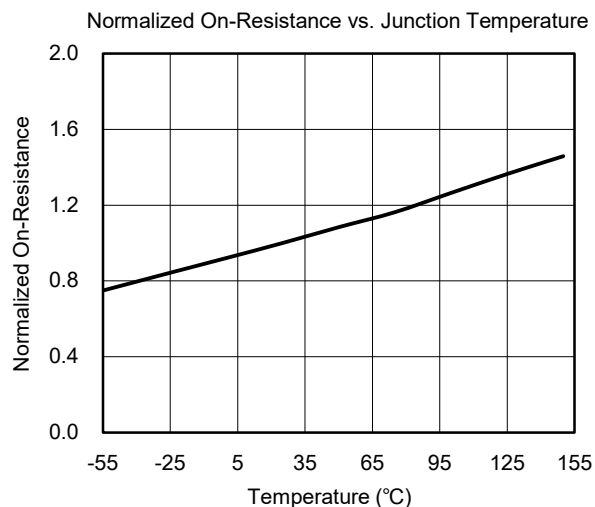
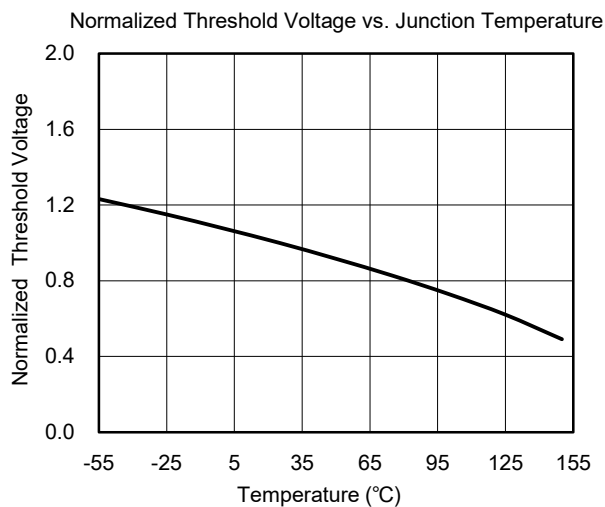
(T_A = +25°C, unless otherwise noted.)

PARAMETER	SYMBOL	CONDITIONS		MIN	TYP	MAX	UNITS
Static OFF Characteristics							
Source-to-Source Breakdown Voltage	V _{BR_SSS}	V _{GS} = 0V, I _S = 250μA		30			V
Zero Gate Voltage Source Current	I _{SSS}	V _{GS} = 0V, V _{SS} = 24V				1	μA
Gate-to-Source Leakage Current	I _{GSS}	V _{SS} = 0V, V _{GS} = ±20V				±200	nA
Static ON Characteristics							
Gate-to-Source Threshold Voltage	V _{GS_TH}	V _{GS} = V _{SS} , I _S = 250μA		1	1.6	3	V
Source-to-Source On-State Resistance	R _{SSON}	V _{GS} = 10V, I _S = 10A			1.8	2.3	mΩ
		V _{GS} = 8V, I _S = 10A			1.9	2.8	
		V _{GS} = 4.5V, I _S = 10A			2.7	3.9	
Diode Characteristics							
Diode Forward Voltage	V _{F_S-S}	V _{GS} = 0V, I _F = 10A			0.7	1.2	V
Dynamic Characteristics							
Input Capacitance	C _{ISS}	V _{SS} = 15V, V _{GS} = 0V, f = 1MHz			5220		pF
Total Gate Charge	Q _G	V _{SS} = 15V, I _S = 10A	V _{GS} = 10V		87		nC
			V _{GS} = 4.5V		43		
Gate-to-Source Charge	Q _{GS}	V _{SS} = 15V, V _{GS} = 4.5V, I _S = 10A			18		
Gate-to-Drain Charge	Q _{GD}				16		
Switch Characteristics							
Turn-On Delay Time	t _{D_ON}	V _{GS} = 10V, V _{SS} = 15V, I _S = 10A			10		μs
Rise Time	t _R				60		
Turn-Off Delay Time	t _{D_OFF}				87		
Fall Time	t _F				60		

TYPICAL PERFORMANCE CHARACTERISTICS



TYPICAL PERFORMANCE CHARACTERISTICS (continued)



REVISION HISTORY

NOTE: Page numbers for previous revisions may differ from page numbers in the current version.

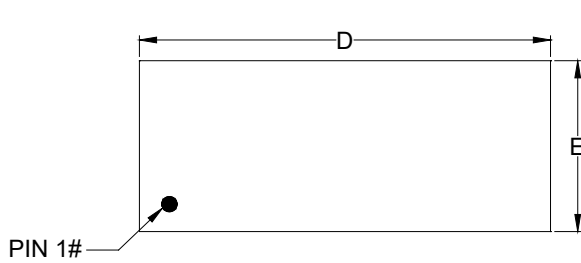
Changes from Original to REV.A (DECEMBER 2025)

Changes from Original to REV.A (DECEMBER 2025)	Page
Changed from product preview to production data.....	All

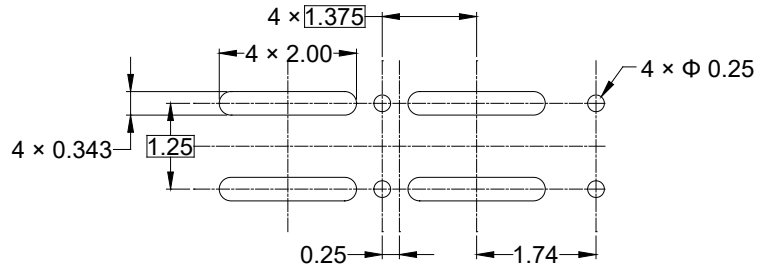
PACKAGE INFORMATION

PACKAGE OUTLINE DIMENSIONS

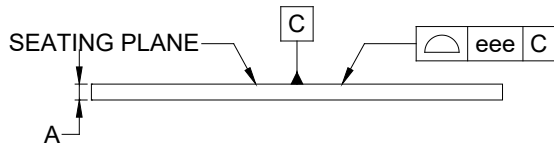
WLCSP-5.99×2.49-8L



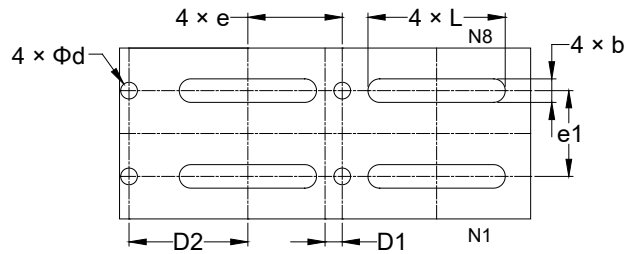
TOP VIEW



RECOMMENDED LAND PATTERN (Unit: mm)



SIDE VIEW



BOTTOM VIEW

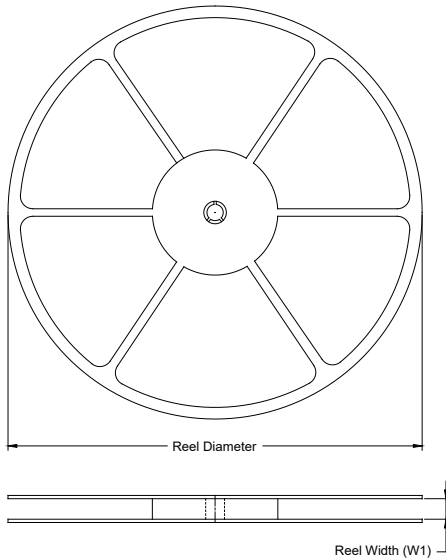
Symbol	Dimensions In Millimeters		
	MIN	NOM	MAX
A	-	-	0.232
D	5.950	-	6.010
D1	0.250 BSC		
D2	1.740 BSC		
E	2.450	-	2.510
b	0.320	-	0.365
d	0.220	-	0.265
e	1.375 BSC		
e1	1.250 BSC		
L	1.970	-	2.030
eee	0.080		

NOTE: This drawing is subject to change without notice.

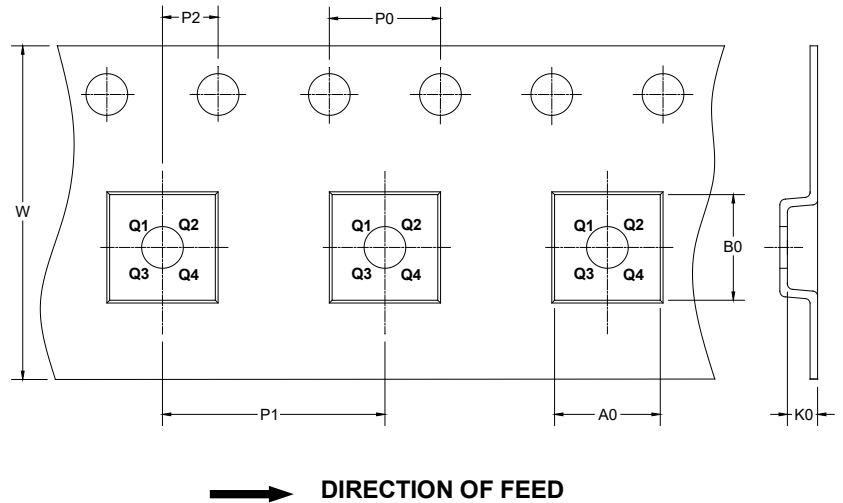
PACKAGE INFORMATION

TAPE AND REEL INFORMATION

REEL DIMENSIONS



TAPE DIMENSIONS



NOTE: The picture is only for reference. Please make the object as the standard.

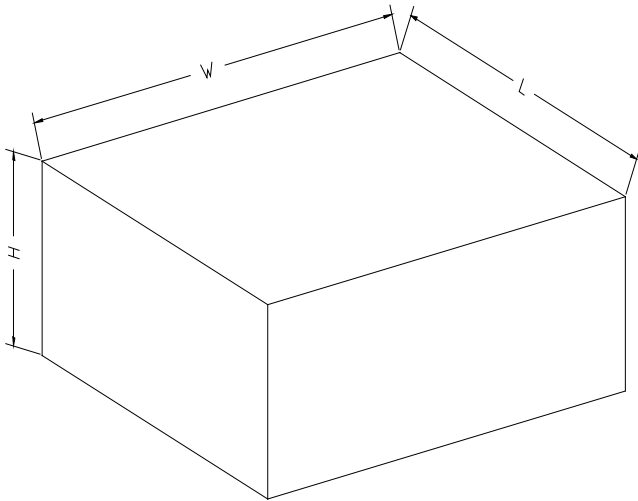
KEY PARAMETER LIST OF TAPE AND REEL

Package Type	Reel Diameter	Reel Width W1 (mm)	A0 (mm)	B0 (mm)	K0 (mm)	P0 (mm)	P1 (mm)	P2 (mm)	W (mm)	Pin1 Quadrant
WLCSP-5.99×2.49-8L	7"	12.4	2.63	6.13	0.33	4.0	8.0	2.0	12.0	Q1

DD0001

PACKAGE INFORMATION

CARTON BOX DIMENSIONS



NOTE: The picture is only for reference. Please make the object as the standard.

KEY PARAMETER LIST OF CARTON BOX

Reel Type	Length (mm)	Width (mm)	Height (mm)	Pizza/Carton
7" (Option)	368	227	224	8
7"	442	410	224	18

DD0002