



SANYO Semiconductors

**DATA SHEET**

# 2SK4062LS — N-Channel Silicon MOSFET

## General-Purpose Switching Device Applications

**Features**

- Low ON-resistance, low input capacitance, ultrahigh-speed switching.
- High reliability (Adoption of HVP process).
- Attachment workability is good by Mica-less package.
- Avalanche resistance guarantee.

**Specifications****Absolute Maximum Ratings** at  $T_a=25^\circ\text{C}$ 

Parameter	Symbol	Conditions	Ratings	Unit
Drain-to-Source Voltage	$V_{DSS}$		450	V
Gate-to-Source Voltage	$V_{GSS}$		$\pm 30$	V
Drain Current (DC)	$I_{Dc}^{*1}$	Limited only by maximum temperature	18	A
	$I_{Dpack}^{*2}$	$T_c=25^\circ\text{C}$ (SANYO's ideal heat dissipation condition)*3	12.9	A
Drain Current (Pulse)	$I_{DP}$		72	A
Allowable Power Dissipation	$P_D$		2.0	W
		$T_c=25^\circ\text{C}$ (SANYO's ideal heat dissipation condition)*3	40	W
Channel Temperature	$T_{ch}$		150	$^\circ\text{C}$
Storage Temperature	$T_{stg}$		-55 to +150	$^\circ\text{C}$
Avalanche Energy (Single Pulse) *4	EAS		1.03	J
Avalanche Current *5	$I_{AV}$		18	A

\*1 Shows chip capability

\*2 Package limited

\*3 SANYO's condition is radiation from backside.

The method is applying silicone grease to the backside of the device and attaching the device to water-cooled radiator made of aluminium.

\*4  $V_{DD}=99\text{V}$ ,  $L=5\text{mH}$ ,  $I_{AV}=18\text{A}$ \*5  $L \leq 5\text{mH}$ , single pulse

Marking : K4062

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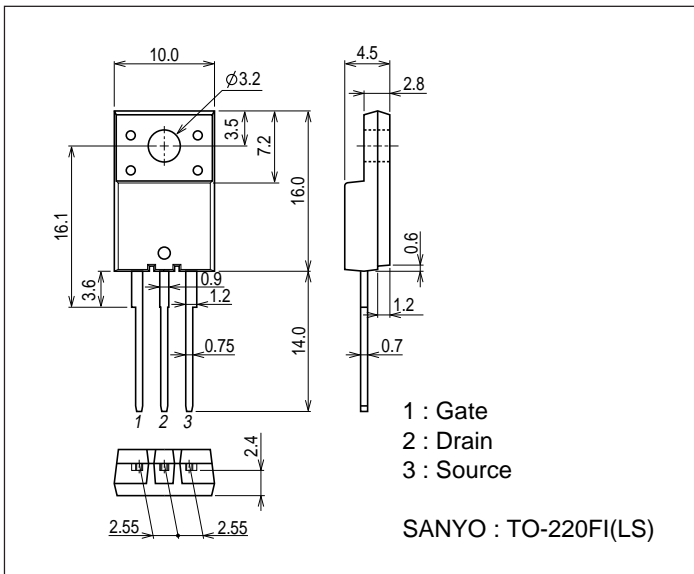
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**Electrical Characteristics** at Ta=25°C

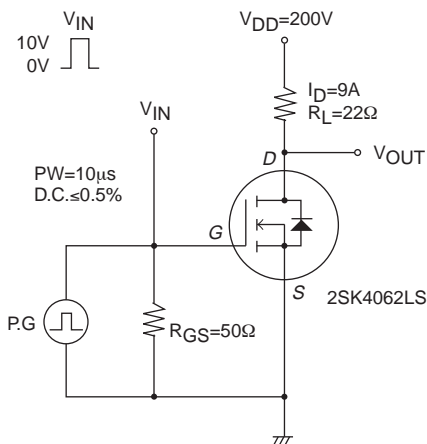
Parameter	Symbol	Conditions	Ratings			Unit
			min	typ	max	
Drain-to-Source Breakdown Voltage	V(BR)DSS	I <sub>D</sub> =1mA, V <sub>GS</sub> =0V	450			V
Zero-Gate Voltage Drain Current	I <sub>DSS</sub>	V <sub>DS</sub> =450V, V <sub>GS</sub> =0V			100	μA
Gate-to-Source Leakage Current	I <sub>GSS</sub>	V <sub>GS</sub> =±30V, V <sub>DS</sub> =0V			±100	nA
Cutoff Voltage	V <sub>GS(off)</sub>	V <sub>DS</sub> =10V, I <sub>D</sub> =1mA	3		5	V
Forward Transfer Admittance	y <sub>fs</sub>	V <sub>DS</sub> =10V, I <sub>D</sub> =9A	6	12		S
Static Drain-to-Source On-State Resistance	R <sub>DSS(on)</sub>	I <sub>D</sub> =9A, V <sub>GS</sub> =15V		0.24	0.32	Ω
Input Capacitance	C <sub>iss</sub>	V <sub>DS</sub> =30V, f=1MHz		2150		pF
Output Capacitance	C <sub>oss</sub>	V <sub>DS</sub> =30V, f=1MHz		230		pF
Reverse Transfer Capacitance	C <sub>rss</sub>	V <sub>DS</sub> =30V, f=1MHz		15		pF
		V <sub>DS</sub> =5V, f=1MHz		31		pF
Turn-ON Delay Time	t <sub>d(on)</sub>	See specified Test Circuit.		52		ns
Rise Time	t <sub>r</sub>	See specified Test Circuit.		114		ns
Turn-OFF Delay Time	t <sub>d(off)</sub>	See specified Test Circuit.		78		ns
Fall Time	t <sub>f</sub>	See specified Test Circuit.		70		ns
Total Gate Charge	Q <sub>g</sub>	V <sub>DS</sub> =200V, V <sub>GS</sub> =10V, I <sub>D</sub> =18A		39		nC
Gate-to-Source Charge	Q <sub>gs</sub>	V <sub>DS</sub> =200V, V <sub>GS</sub> =10V, I <sub>D</sub> =18A		15		nC
Gate-to-Drain "Miller" Charge	Q <sub>gd</sub>	V <sub>DS</sub> =200V, V <sub>GS</sub> =10V, I <sub>D</sub> =18A		15		nC
Diode Forward Voltage	V <sub>SD</sub>	I <sub>S</sub> =18A, V <sub>GS</sub> =0V		0.97	1.2	V

**Package Dimensions**

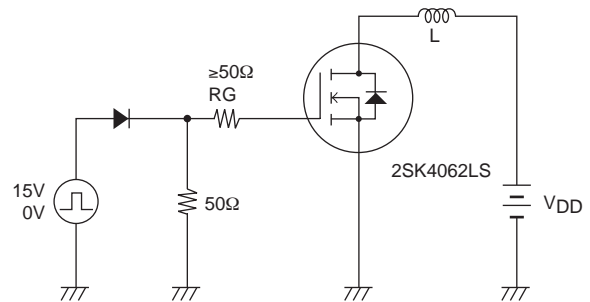
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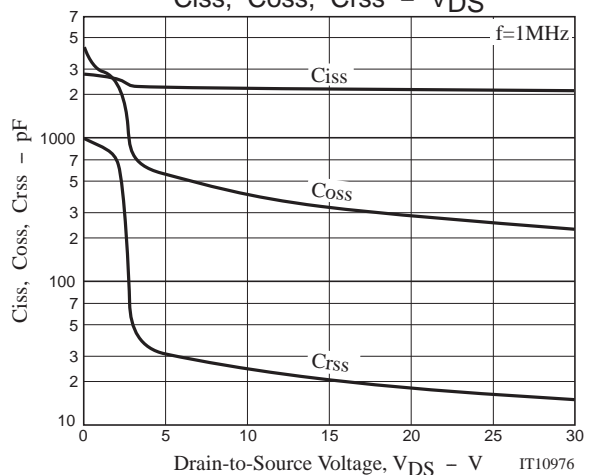
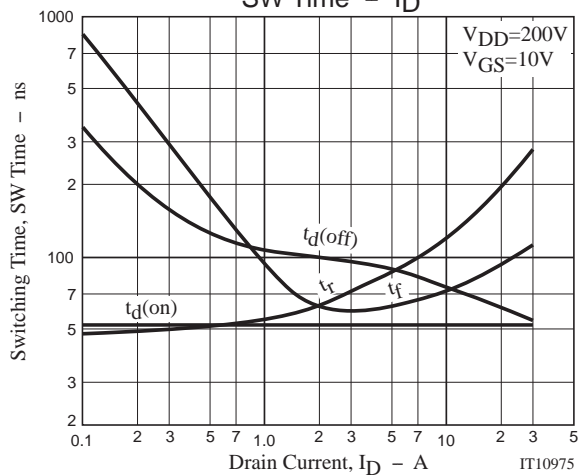
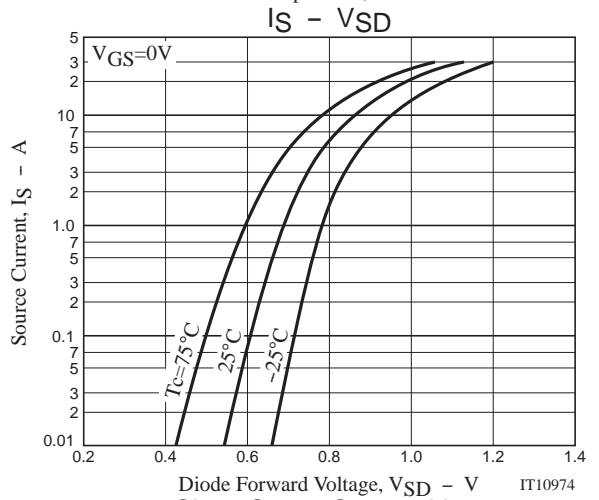
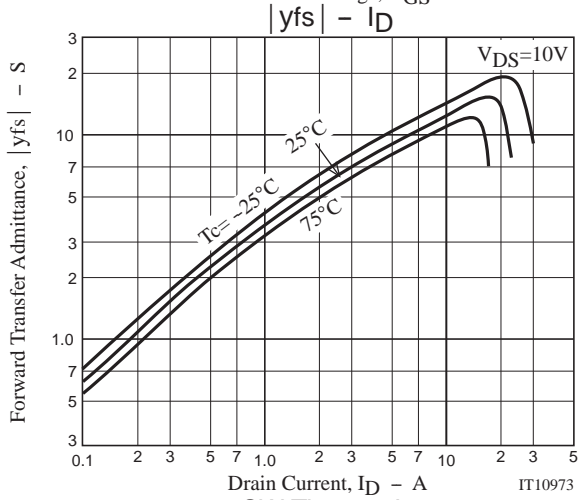
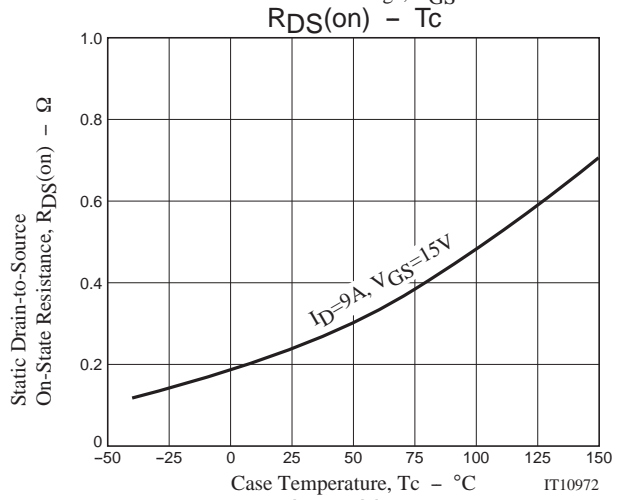
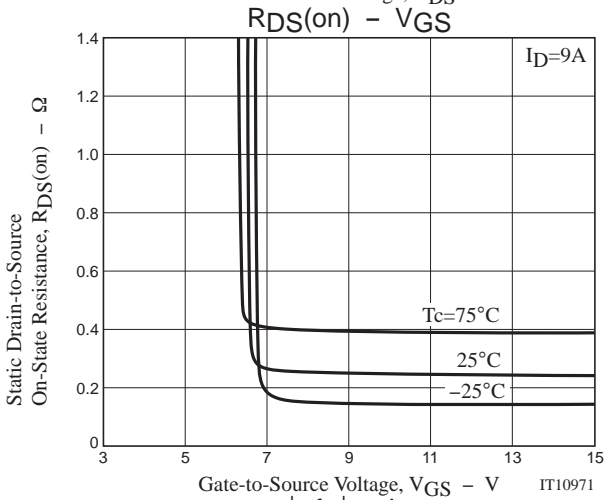
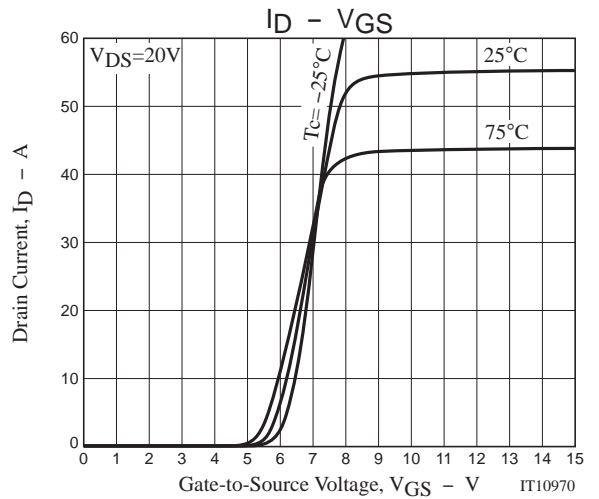
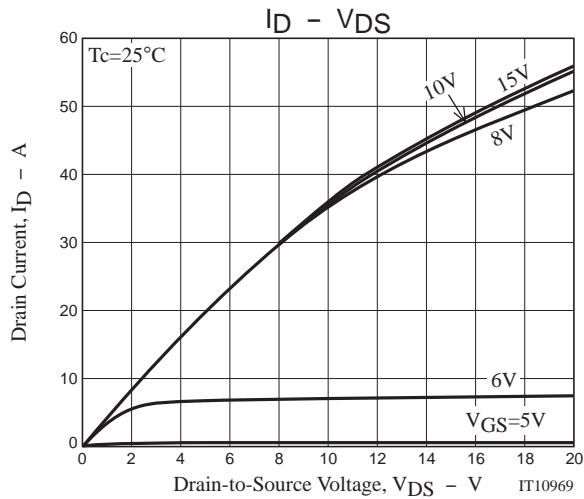


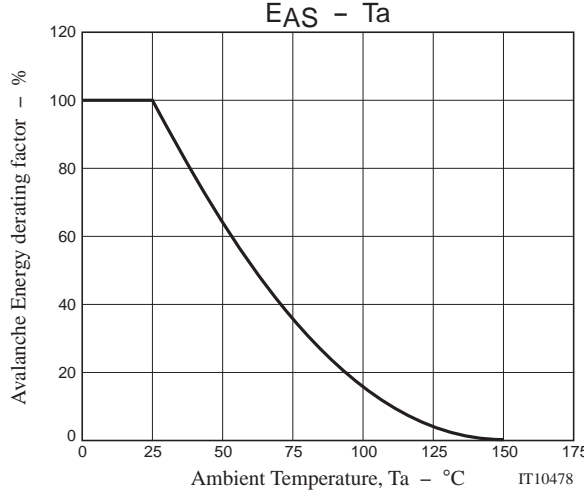
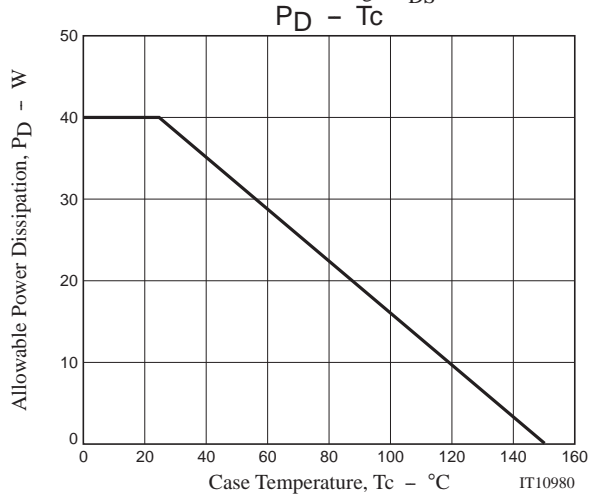
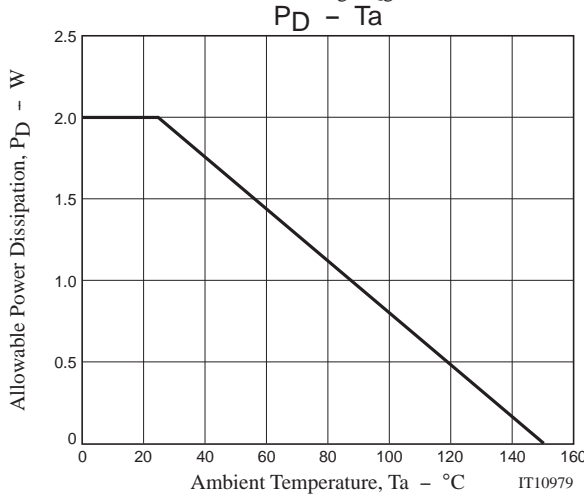
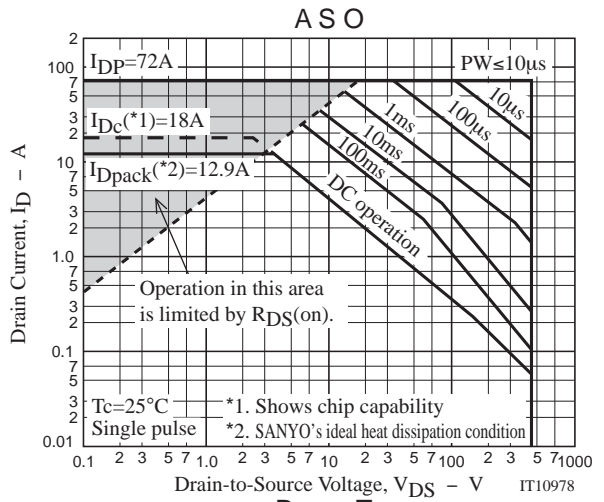
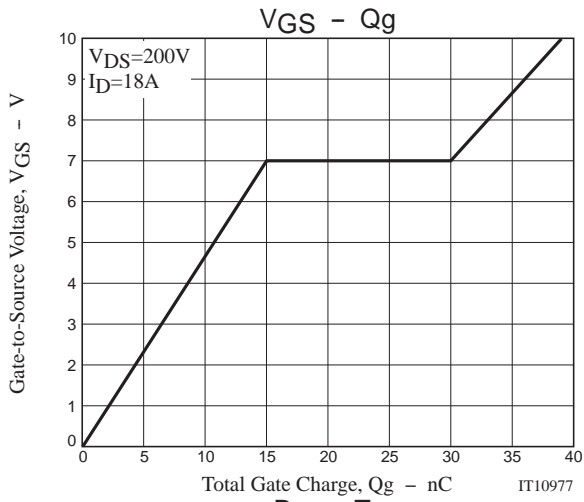
**Switching Time Test Circuit**



**Avalanche Resistance Test Circuit**







Note on usage : Since the 2SK4062LS is a MOSFET product, please avoid using this device in the vicinity of highly charged objects.

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