



SANYO Semiconductors

DATA SHEET

2SK4064LS — 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}		600	V
Gate-to-Source Voltage	V_{GSS}		± 30	V
Drain Current (DC)	I_{DC}^{*1}	Limited only by maximum temperature	14	A
	I_{Dpack}^{*2}	$T_c=25^\circ\text{C}$ (SANYO's ideal heat dissipation condition)*3	9.4	A
Drain Current (Pulse)	I_{DP}	$PW \leq 10\mu\text{s}$, duty cycle $\leq 1\%$	56	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	E_{AS}		586	mJ
Avalanche Current *5	I_{AV}		14	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 $V_{DD}=99\text{V}$, $L=5\text{mH}$, $I_{AV}=14\text{A}$ *5 $L \leq 5\text{mH}$, single pulse

Marking : K4064

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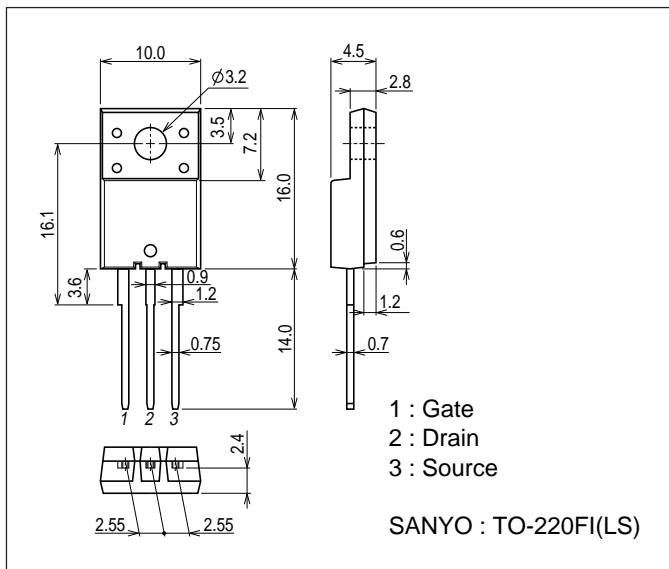
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Electrical Characteristics at Ta=25°C

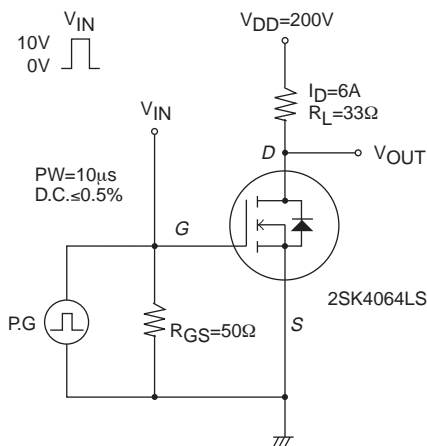
Parameter	Symbol	Conditions	Ratings			Unit
			min	typ	max	
Drain-to-Source Breakdown Voltage	V(BR)DSS	ID=1mA, VGS=0V	600			V
Zero-Gate Voltage Drain Current	IDSS	VDS=600V, VGS=0V			100	μA
Gate-to-Source Leakage Current	IGSS	VGS=±30V, VDS=0V			±100	nA
Cutoff Voltage	VGS(off)	VDS=10V, ID=1mA	3		5	V
Forward Transfer Admittance	yfs	VDS=10V, ID=6A	5	10		S
Static Drain-to-Source On-State Resistance	RDS(on)	ID=6A, VGS=15V		0.45	0.58	Ω
Input Capacitance	Ciss	VDS=30V, f=1MHz		2000		pF
Output Capacitance	Coss	VDS=30V, f=1MHz		210		pF
Reverse Transfer Capacitance	Crss	VDS=30V, f=1MHz		12		pF
		VDS=5V, f=1MHz		25		pF
Turn-ON Delay Time	td(on)	See specified Test Circuit.		52		ns
Rise Time	tr	See specified Test Circuit.		84		ns
Turn-OFF Delay Time	td(off)	See specified Test Circuit.		78		ns
Fall Time	tf	See specified Test Circuit.		58		ns
Total Gate Charge	Qg	VDS=200V, VGS=10V, ID=12A		37		nC
Gate-to-Source Charge	Qgs	VDS=200V, VGS=10V, ID=12A		14		nC
Gate-to-Drain "Miller" Charge	Qgd	VDS=200V, VGS=10V, ID=12A		12.5		nC
Diode Forward Voltage	VSD	IS=12A, VGS=0V		0.9	1.2	V

Package Dimensions

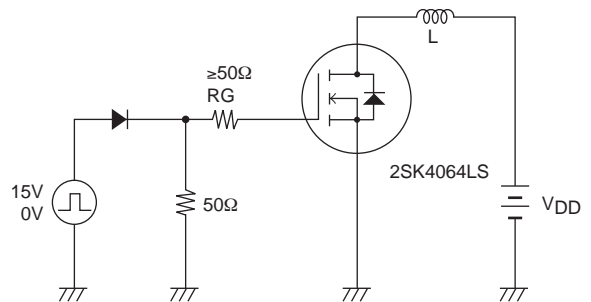
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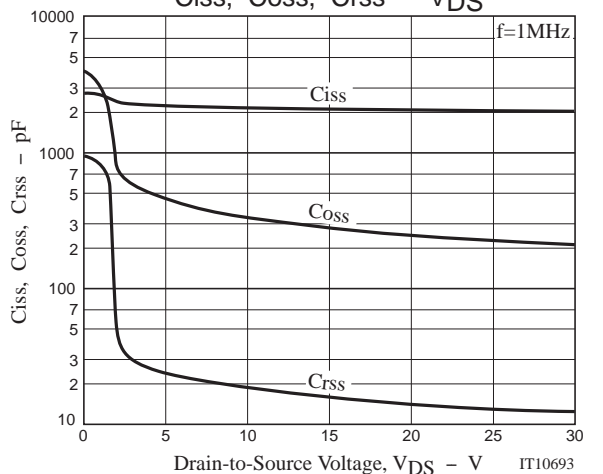
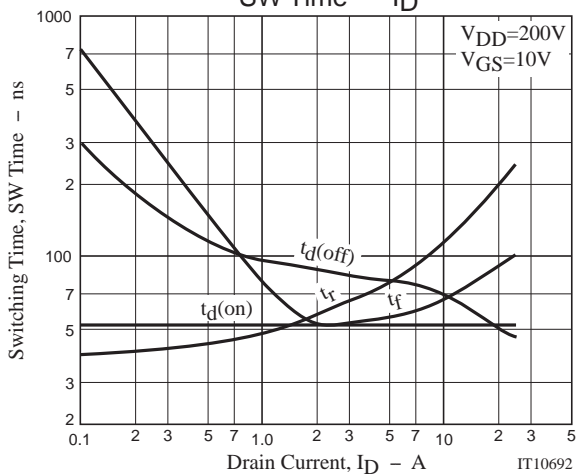
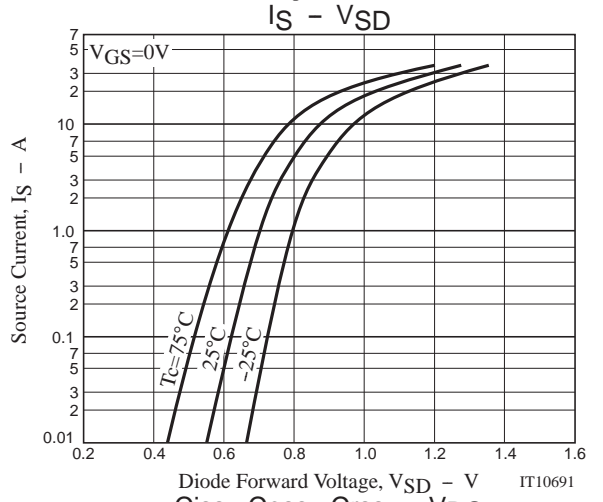
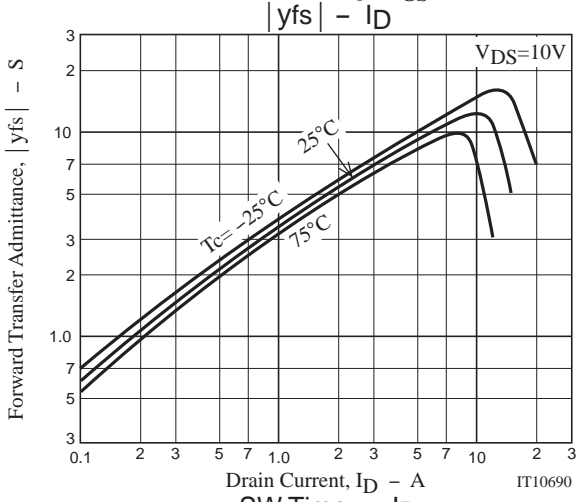
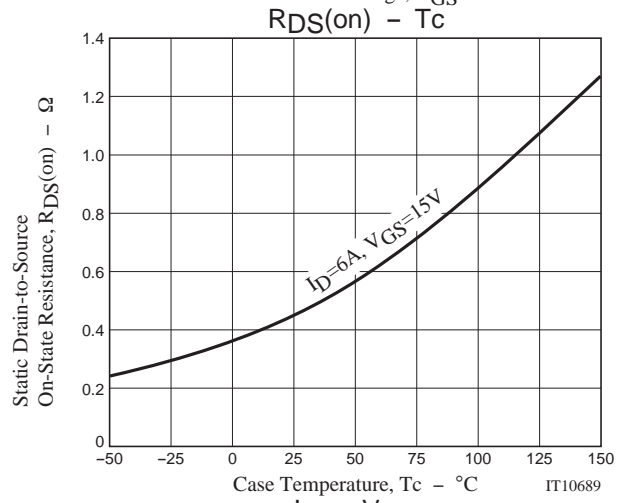
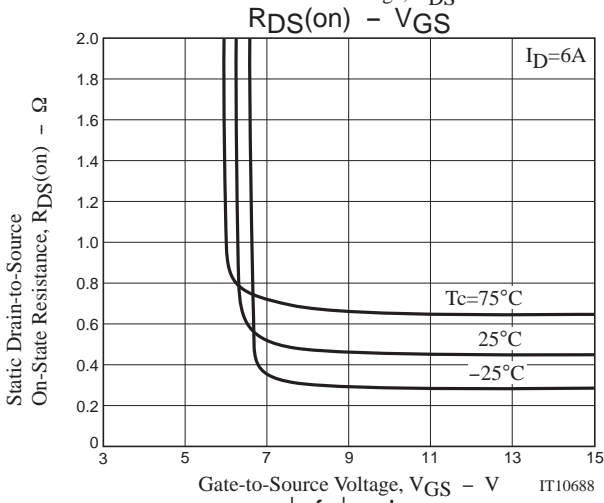
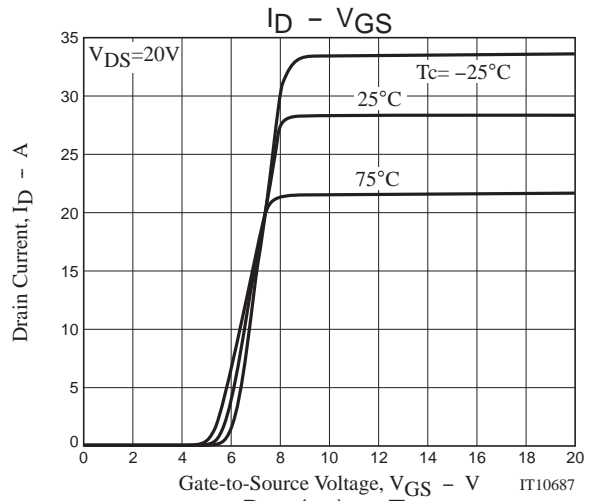
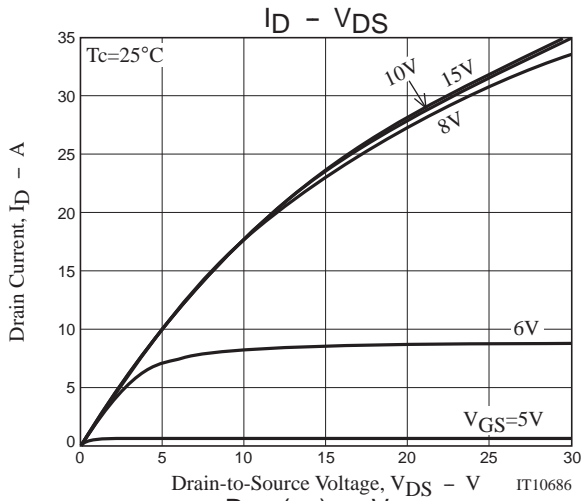


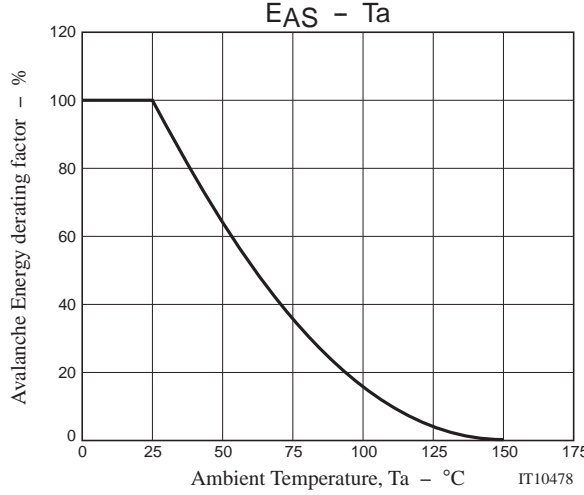
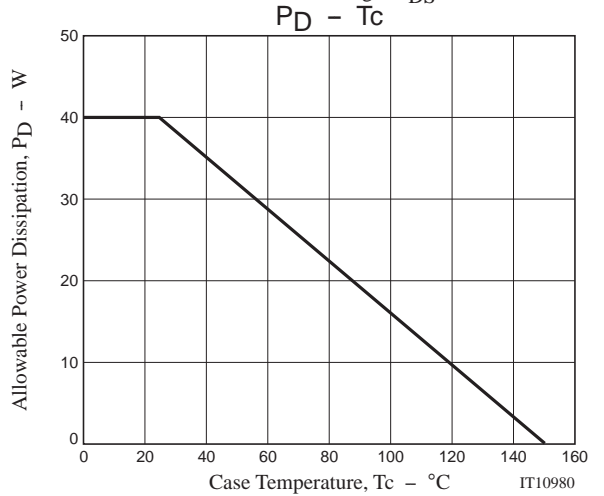
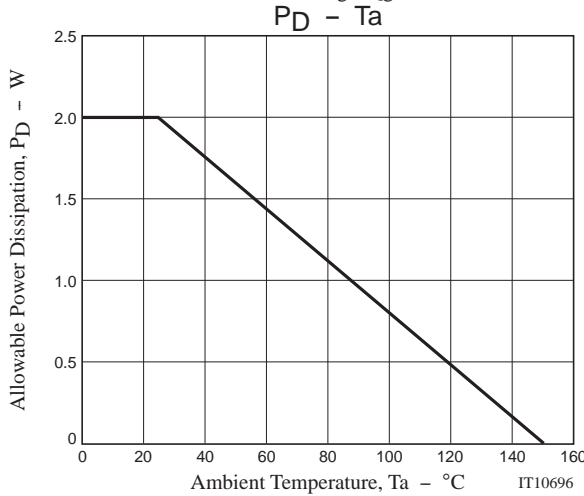
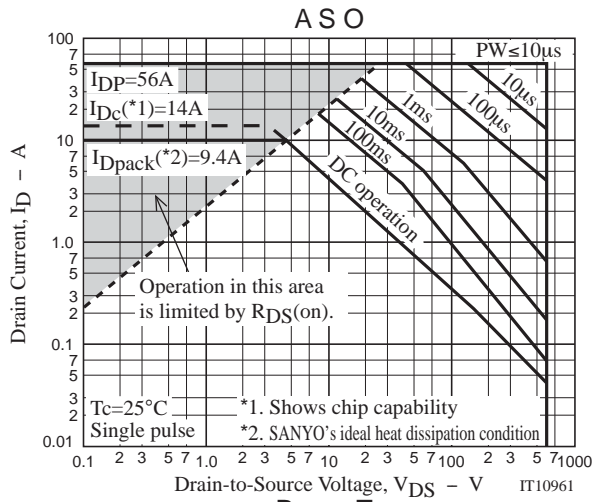
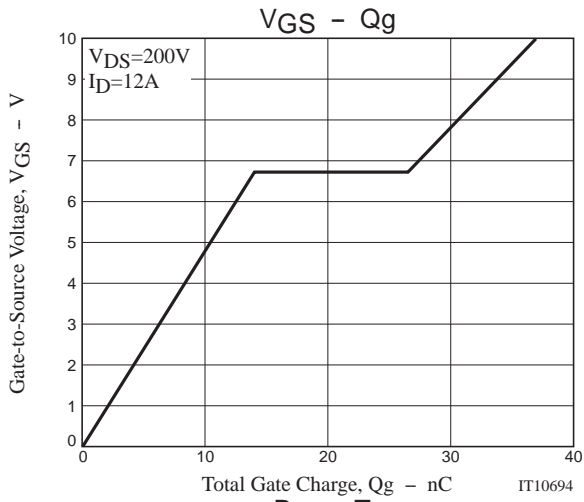
Switching Time Test Circuit



Avalanche Resistance Test Circuit







Note on usage : Since the 2SK4064LS is a MOSFET product, please avoid using this device in the vicinity of highly charged objects.

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