

DATA SHEET



N-Channel Silicon MOSFET **2SK4101LS** — 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 Ta=25°C

Parameter	Symbol	Conditions	Ratings	Unit
Drain-to-Source Voltage	VDSS		650	V
Gate-to-Source Voltage	VGSS		±30	V
Drain Current (DC)	I _{Dc} *1	Limited only by maximum temperature	7	А
	I _{Dpack} *2	SANYO's ideal heat dissipation condition	6.4	А
Drain Current (Pulse)	IDP	PW≤10µs, duty cycle≤1%	28	А
Allowable Power Dissipation	D-		2.0	W
	PD	Tc=25°C (SANYO's ideal heat dissipation condition)	35	W
Channel Temperature	Tch		150	°C
Storage Temperature	Tstg		-55 to +150	°C
Avalanche Energy (Single Pulse) *3	EAS		289	mJ
Avalanche Current *4	IAV		7	Α

*1 Shows chip capability

*2 Package limited

*3 VDD=99V, L=10mH, IAV=7A

*4 L≤10mH, single pulse

Marking: K4101

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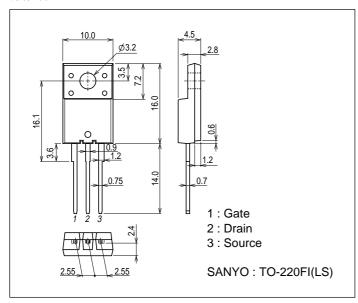
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Electrical Characteristics at Ta=25°C

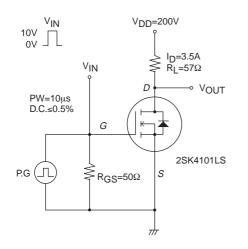
Parameter	Symbol	Conditions		Ratings		
			min	typ	max	Unit
Drain-to-Source Breakdown Voltage	V(BR)DSS	ID=10mA, VGS=0V	650			V
Zero-Gate Voltage Drain Current	IDSS	V _{DS} =520V, V _{GS} =0V			100	μΑ
Gate-to-Source Leakage Current	IGSS	V _{GS} =±30V, V _{DS} =0V			±100	nA
Cutoff Voltage	VGS(off)	VDS=10V, ID=1mA	3		5	V
Forward Transfer Admittance	yfs	V _{DS} =10V, I _D =3.5A	2.3	4.6		S
Static Drain-to-Source On-State Resistance	RDS(on)	ID=3.5A, VGS=10V		0.85	1.1	Ω
Input Capacitance	Ciss	V _{DS} =30V, f=1MHz		750		pF
Output Capacitance	Coss	V _{DS} =30V, f=1MHz		136		pF
Reverse Transfer Capacitance	Crss	V _{DS} =30V, f=1MHz		28		pF
Turn-ON Delay Time	t _d (on)	See specified Test Circuit.		21		ns
Rise Time	tr	See specified Test Circuit.		40		ns
Turn-OFF Delay Time	td(off)	See specified Test Circuit.		89		ns
Fall Time	tf	See specified Test Circuit.		31		ns
Total Gate Charge	Qg	V _{DS} =200V, V _{GS} =10V, I _D =7A		28.5		nC
Gate-to-Source Charge	Qgs	VDS=200V, VGS=10V, ID=7A		5.2		nC
Gate-to-Drain "Miller" Charge	Qgd	V _{DS} =200V, V _{GS} =10V, I _D =7A		16		nC
Diode Forward Voltage	VSD	IS=7A, VGS=0V		0.9	1.2	V

Package Dimensions

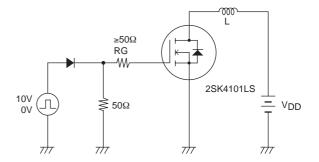
unit : mm (typ) 7509-002

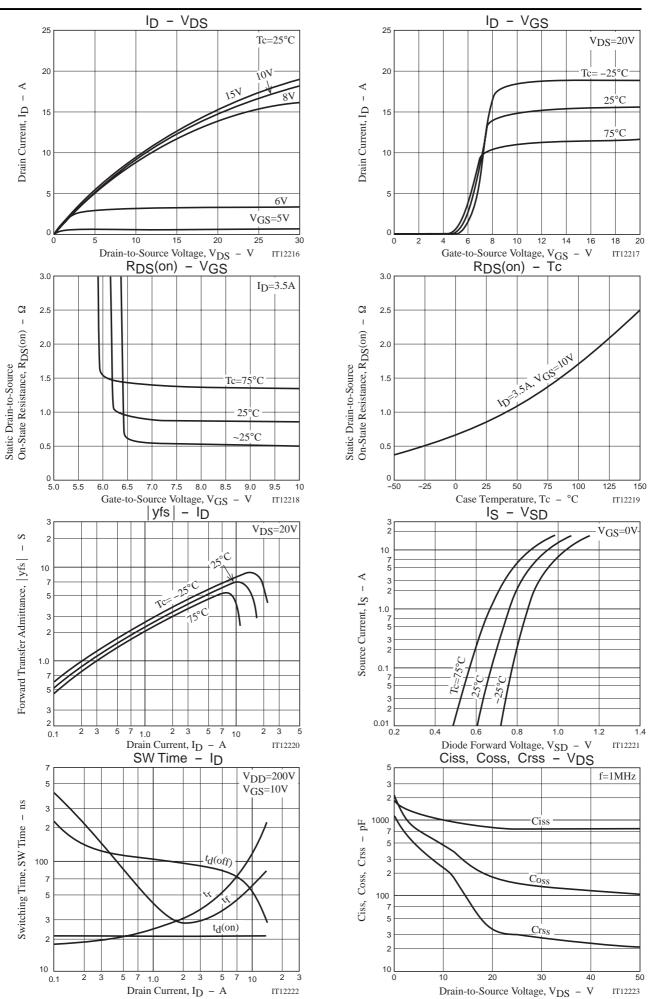


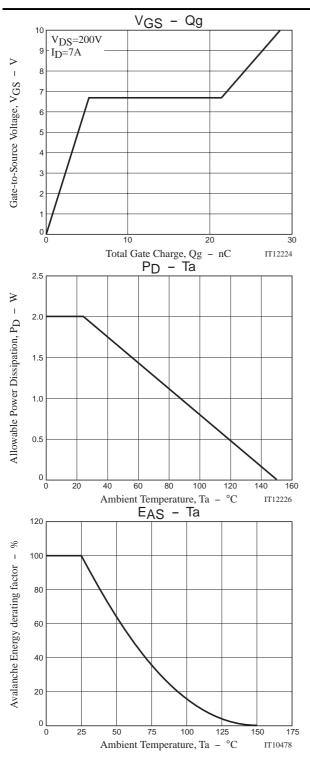
Switching Time Test Circuit

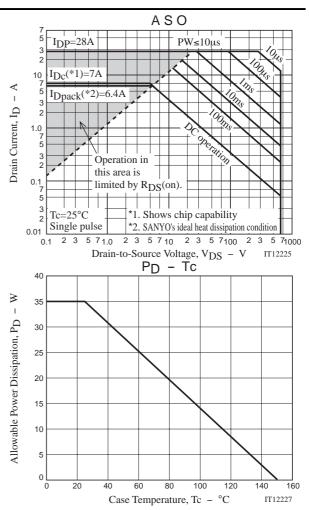


Avalanche Resistance Test Circuit









Note on usage : Since the 2SK4101LS is a MOSFET product, please avoid using this device in the vicinity of highly charged objects.

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