



SANYO Semiconductors

DATA SHEET

2SK4096LS — General-Purpose Switching Device Applications

Features

- Low ON-resistance, low input capacitance, ultrahigh-speed switching.
- Adoption of high reliability 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	V _{DSS}		500	V
Gate-to-Source Voltage	V _{GSS}		±30	V
Drain Current (DC)	I _{Dc} ^{*1}	Limited only by maximum temperature	8	A
	I _{Dpack} ^{*2}	SANYO's ideal heat dissipation condition	7.1	A
Drain Current (Pulse)	I _{DP}	PW≤10μs, duty cycle≤1%	32	A
Allowable Power Dissipation	P _D		2.0	W
		T _c =25°C (SANYO's ideal heat dissipation condition)	33	W
Channel Temperature	T _{ch}		150	°C
Storage Temperature	T _{stg}		-55 to +150	°C
Avalanche Energy (Single Pulse) ^{*3}	E _{AS}		397	mJ
Avalanche Current ^{*4}	I _{AV}		8	A

^{*1} Shows chip capability

^{*2} Package limited

^{*3} V_{DD}=99V, L=10mH, I_{AV}=8A

^{*4} L≤10mH, single pulse

Marking : K4096

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2SK4096LS

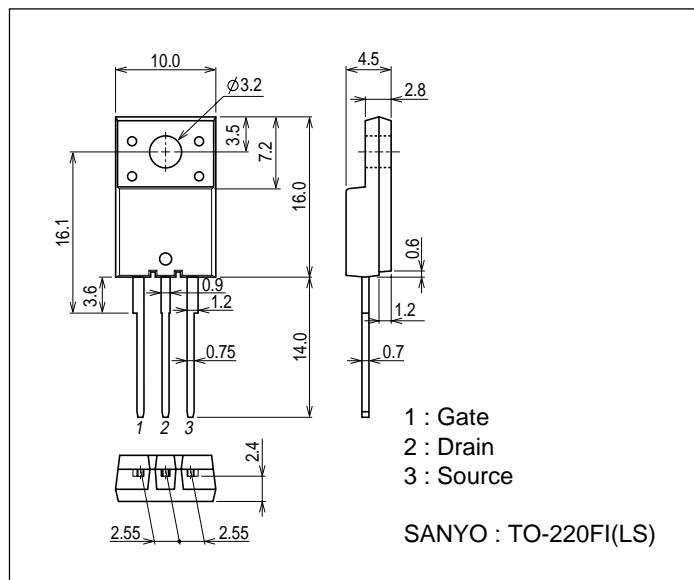
Electrical Characteristics at Ta=25°C

Parameter	Symbol	Conditions	Ratings			Unit
			min	typ	max	
Drain-to-Source Breakdown Voltage	V(BR)DSS	Id=10mA, VGS=0V	500			V
Zero-Gate Voltage Drain Current	IdSS	VDS=400V, 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=4A	2.2	4.5		S
Static Drain-to-Source On-State Resistance	RDS(on)	Id=4A, VGS=10V		0.65	0.85	Ω
Input Capacitance	Ciss	VDS=30V, f=1MHz		600		pF
Output Capacitance	Coss	VDS=30V, f=1MHz		130		pF
Reverse Transfer Capacitance	Crss	VDS=30V, f=1MHz		28		pF
Turn-ON Delay Time	td(on)	See specified Test Circuit.		18.5		ns
Rise Time	tr	See specified Test Circuit.		46		ns
Turn-OFF Delay Time	td(off)	See specified Test Circuit.		75		ns
Fall Time	tf	See specified Test Circuit.		33		ns
Total Gate Charge	Qg	VDS=200V, VGS=10V, Id=8A		24		nC
Gate-to-Source Charge	Qgs	VDS=200V, VGS=10V, Id=8A		4.5		nC
Gate-to-Drain "Miller" Charge	Qgd	VDS=200V, VGS=10V, Id=8A		14		nC
Diode Forward Voltage	VSD	Is=8A, VGS=0V		0.9	1.2	V

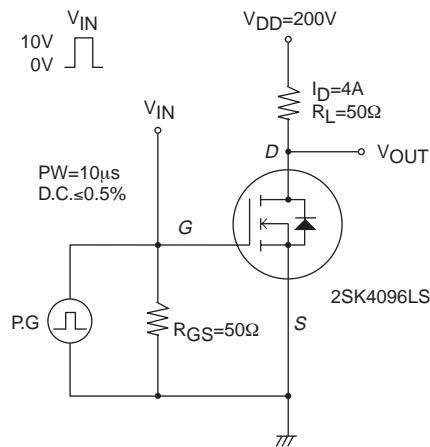
Package Dimensions

unit : mm (typ)

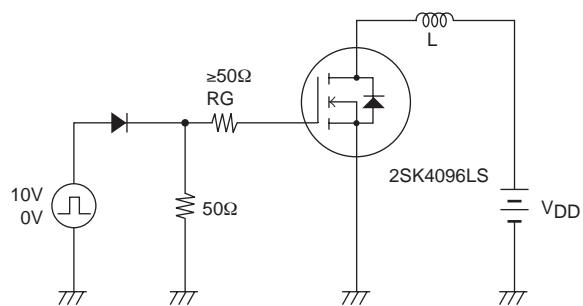
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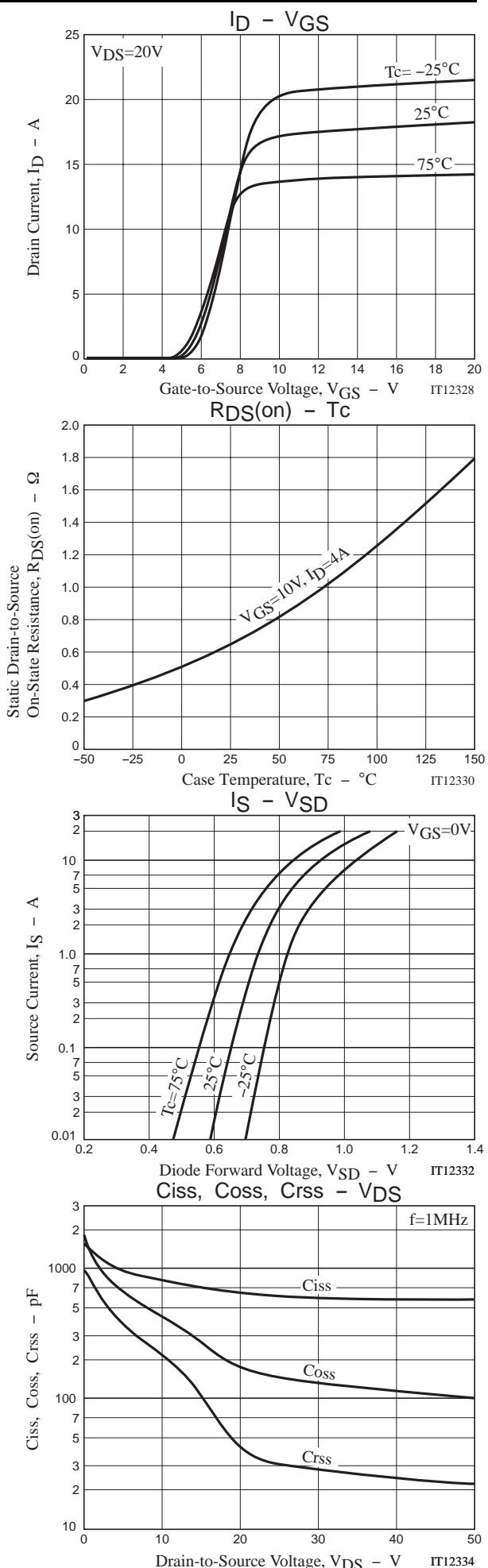
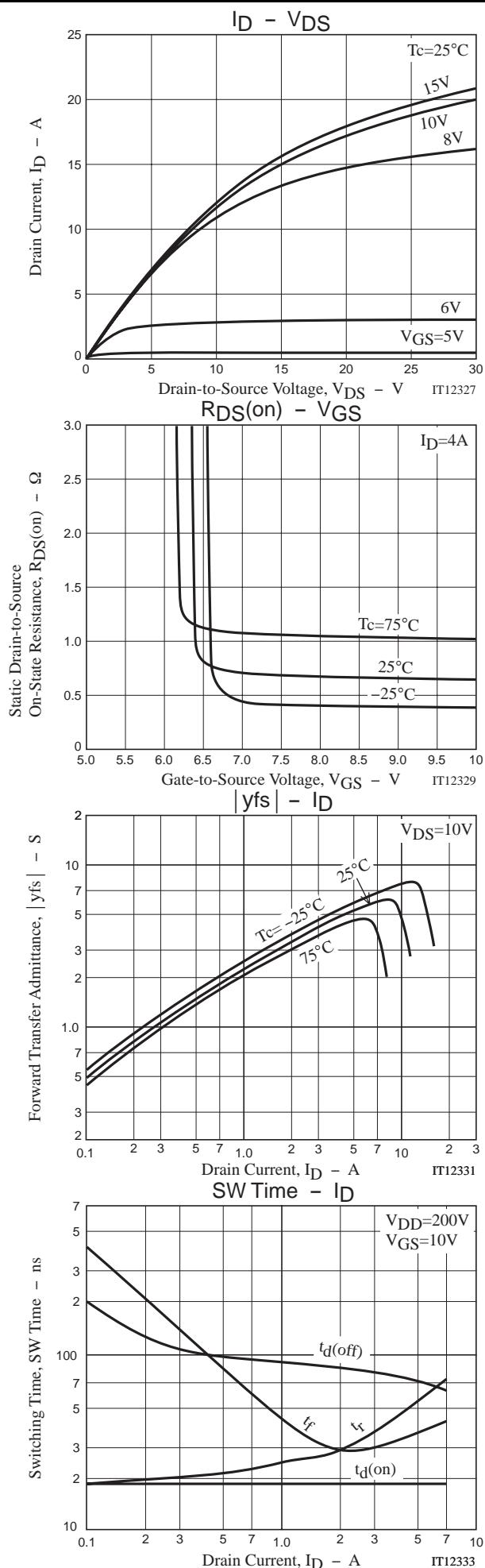
Switching Time Test Circuit



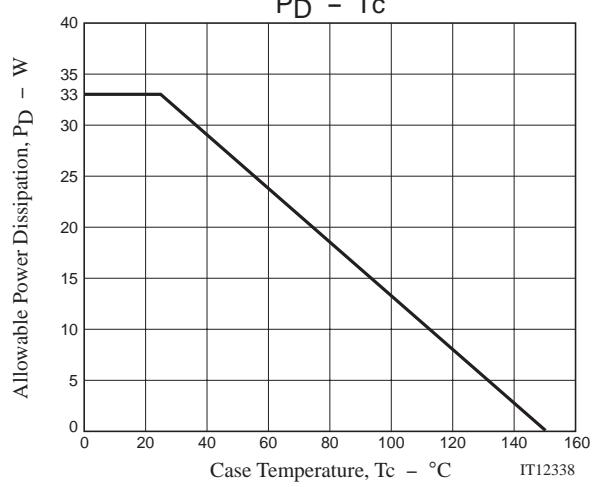
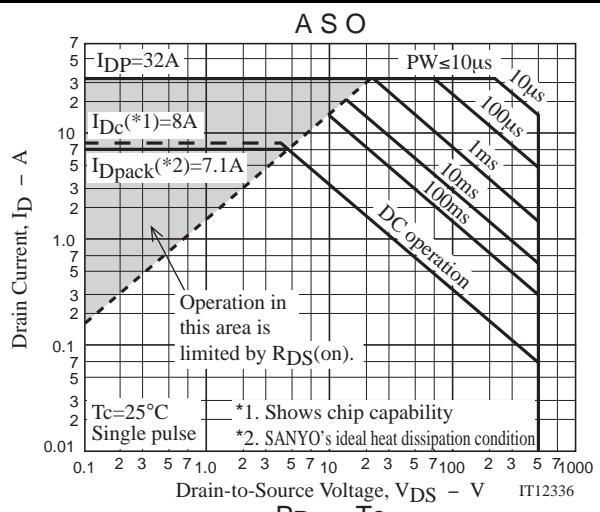
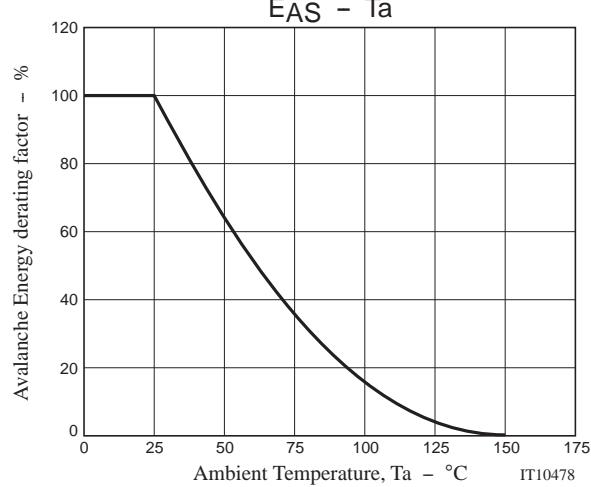
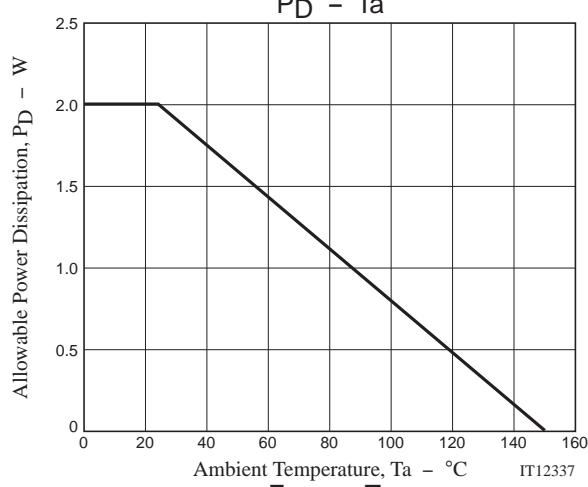
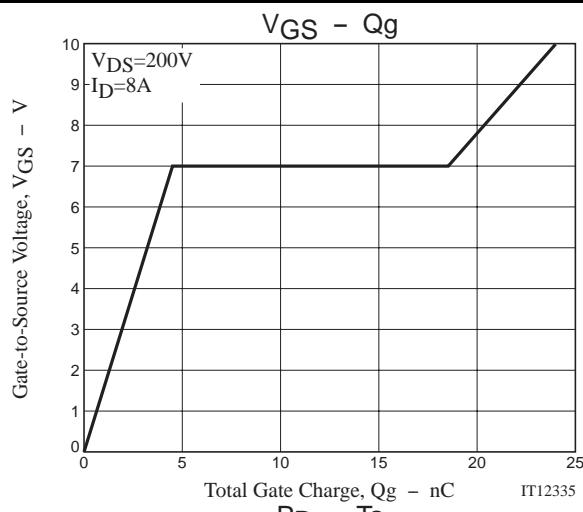
Avalanche Resistance Test Circuit



2SK4096LS



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Note on usage : Since the 2SK4096LS is a MOSFET product, please avoid using this device in the vicinity of highly charged objects.

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