

SANYO Semiconductors DATA SHEET

2SK3097LS—General-Purpose Switching Device Applications

Features

- · Low ON-resistance.
- · Low Qg.
- · Ultrahigh-Speed Switching Applications.
- · Avalanche resistance guarantee.

Specifications

Absolute Maximum Ratings at Ta=25°C

Parameter	Symbol	Conditions	Ratings	Unit
Drain-to-Source Voltage	VDSS		400	V
Gate-to-Source Voltage	VGSS		±30	V
Drain Current (DC)	ID		6.5	Α
Drain Current (Pulse)	IDP	PW≤10μs, duty cycle≤1%	26	Α
Allowable Power Dissipation	D-		2.0	W
	PD	Tc=25°C	30	W
Channel Temperature	Tch		150	°C
Storage Temperature	Tstg		-55 to +150	°C
Avalanche Enargy (Single Pulse) *1	EAS		120.7	mJ
Avalanche Current *2	IAV		6.5	Α

^{*1} V_{DD}=50V, L=5mH, I_{AV}=6.5A

Electrical Characteristics at Ta=25°C

Parameter	Symbol	Conditions	Ratings			Unit
			min	typ	max	Offic
Drain-to-Source Breakdown Voltage	V(BR)DSS	I _D =1mA, V _{GS} =0V	400			V
Zero-Gate Voltage Drain Current	IDSS	V _{DS} =320V, V _{GS} =0V			1.0	mA
Gate-to-Source Leakage Current	IGSS	VGS= ±30V, VDS=0V			±100	nA
Cutoff Voltage	VGS(off)	V _{DS} =10V, I _D =1mA	3.0		4.0	V
Forward Transfer Admittance	yfs	V _{DS} =10V, I _D =3.5A	1.8	3.6		S
Static Drain-to-Source On-State Resistance	RDS(on)	ID=3.5A, VGS=15V		0.68	0.87	Ω

Marking: K3097 Continued on next page.

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^{*2} L≤5mH, single pulse

2SK3097LS

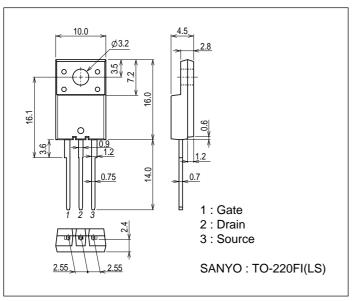
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Parameter	Symbol	Conditions	Ratings			Unit
			min	typ	max	
Input Capacitance	Ciss	V _{DS} =20V, f=1MHz		860		pF
Output Capacitance	Coss	V _{DS} =20V, f=1MHz		230		pF
Reverse Transfer Capacitance	Crss	V _{DS} =20V, f=1MHz		110		pF
Turn-ON Delay Time	td(on)	See specified Test Circuit.		15		ns
Rise Time	t _r	See specified Test Circuit.		20		ns
Turn-OFF Delay Time	t _d (off)	See specified Test Circuit.		60		ns
Fall Time	tf	See specified Test Circuit.		35		ns
Total Gate Charge	Qg	V _{DS} =200V, V _{GS} =10V, I _D =6.5A		27		nC
Diode Forward Voltage	VSD	IS=6.5A, VGS=0V		0.9	1.2	V

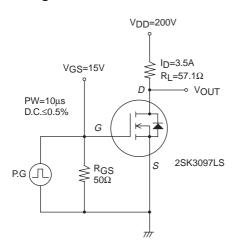
Note: Be careful in handling the 2SK3097LS because it has no protection diode between gate and source.

Package Dimensions

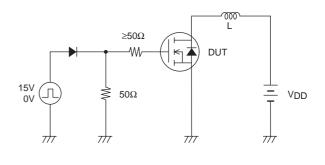
unit : mm (typ) 7509-002

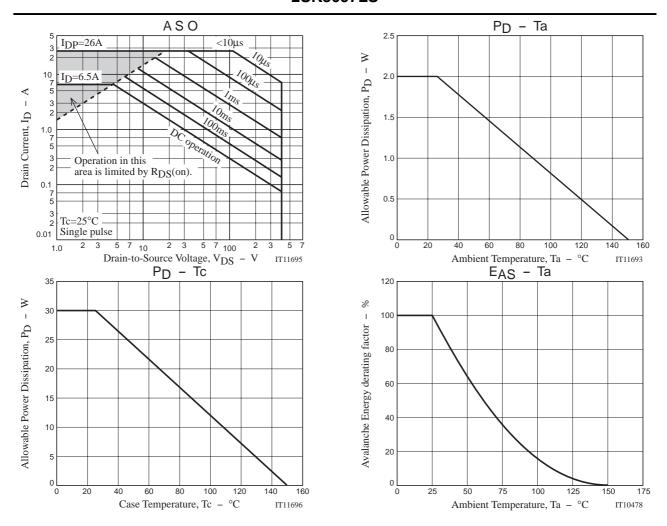


Switching Time Test Circuit



Avalanche Resistance Test Circuit





Note on usage: Since the 2SK3097LS is a MOSFET product, please avoid using this device in the vicinity of highly charged objects.

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