

SANYO Semiconductors

DATA SHEET



N-Channel Silicon MOSFET - General-Purpose Switching Device Applications

Features

- · Low ON-resistance.
- Low Qg.
- Ultrahigh-speed switching.

Specifications

Absolute Maximum Ratings at Ta=25°C

Parameter	Symbol	Conditions	Ratings	Unit
Drain-to-Source Voltage	VDSS		500	V
Gate-to-Source Voltage	VGSS		±30	V
Drain Current (DC)	I _{Dc} *1	Limited only by maximum temperature	5	А
	IDpack*2	SANYO's ideal heat dissipation condition	4.5	А
Drain Current (Pulse)	IDP	PW≤10μs, duty cycle≤1%	16	A
Allowable Power Dissipation	De		2.0	W
	PD	Tc=25°C (SANYO's ideal heat dissipation condition)	25	W
Channel Temperature	Tch		150	°C
Storage Temperature	Tstg		-55 to +150	°C
Avalanche Energy (Single Pulse) *3	EAS		88	mJ
Avalanche Current *4	IAV		4	А

*1 Shows chip capability

*2 Package limited

*3 V_{DD}=50V, L=10mH, I_{AV}=4A

*4 L≤10mH, single pulse

Marking : K2617

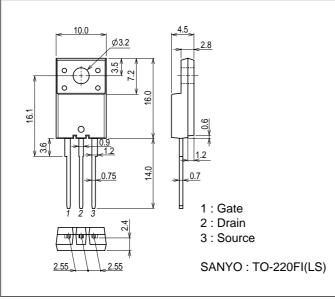
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Electrical Characteristics at Ta= $25^{\circ}C$

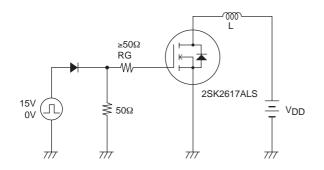
Parameter	Symbol	Conditions		Ratings		
			min	typ	max	Unit
Drain-to-Source Breakdown Voltage	V(BR)DSS	ID=1mA, VGS=0V	500			V
Zero-Gate Voltage Drain Current	IDSS	V _{DS} =500V, V _{GS} =0V			1.0	mA
Gate-to-Source Leakage Current	IGSS	VGS=±30V, VDS=0V			±100	nA
Cutoff Voltage	VGS(off)	VDS=10V, ID=1mA	3.5		5.5	V
Forward Transfer Admittance	yfs	V _{DS} =10V, I _D =2A	1.1	2.2		S
Static Drain-to-Source On-State Resistance	RDS(on)	ID=2A, VGS=15V		1.2	1.6	Ω
Input Capacitance	Ciss	V _{DS} =20V, f=1MHz		550		pF
Output Capacitance	Coss	V _{DS} =20V, f=1MHz		190		pF
Reverse Transfer Capacitance	Crss	VDS=20V, f=1MHz		95		pF
Total Gate Charge	Qg	V _{DS} =200V, I _D =4A, V _{GS} =10V		15		nC
Turn-ON Delay Time	t _d (on)	See specified Test Circuit.		15		ns
Rise Time	tr	See specified Test Circuit.		15		ns
Turn-OFF Delay Time	t _d (off)	See specified Test Circuit.		45		ns
Fall Time	tf	See specified Test Circuit.		25		ns
Diode Forward Voltage	VSD	IS=4A, VGS=0V		0.95	1.2	V

Package Dimensions

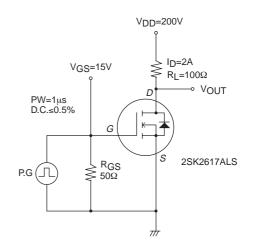
unit : mm (typ) 7509-002

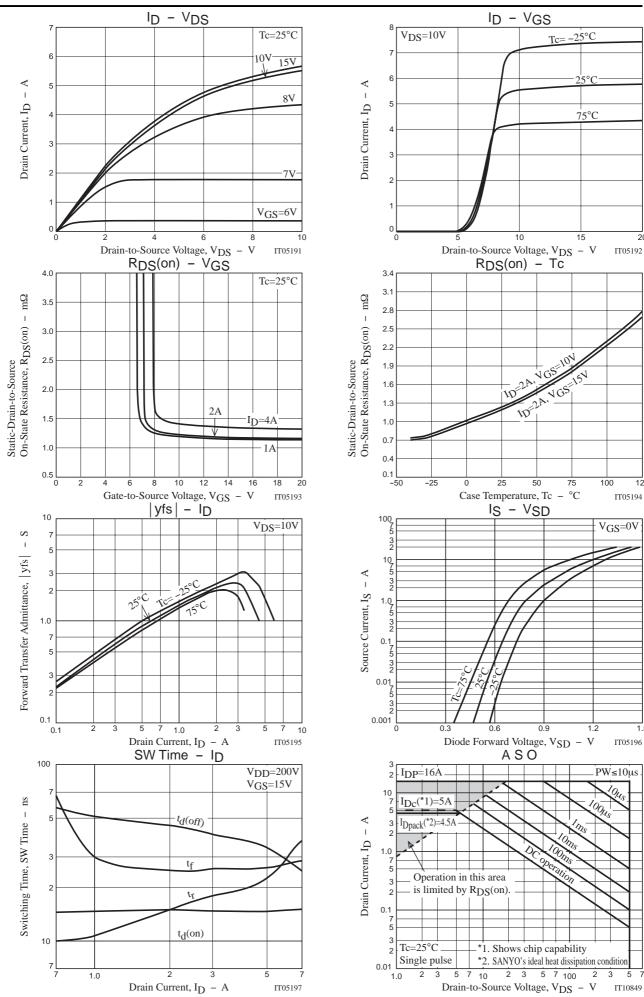


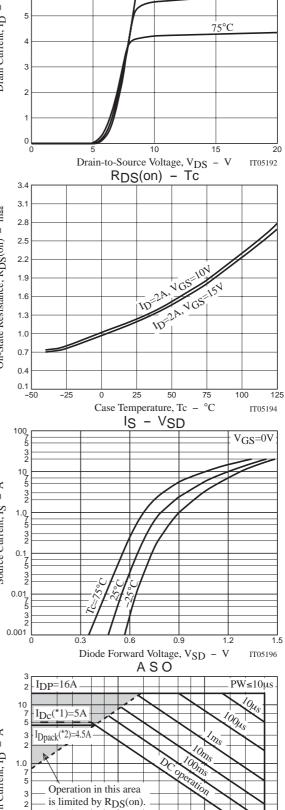
Avalanche Resistance Test Circuit



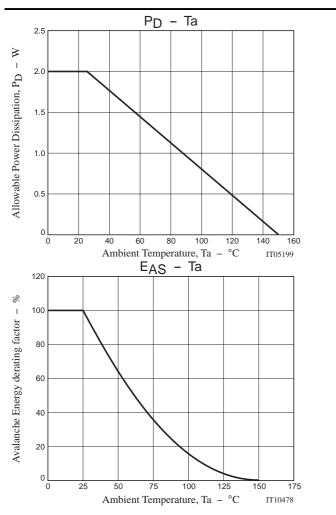
Switching Time Test Circuit

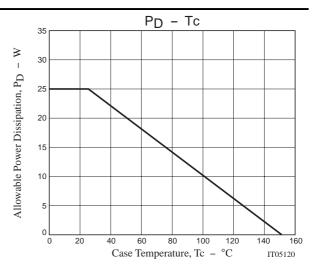






 $Tc = -25^{\circ}C$





Note on usage : Since the 2SK2617ALS is a MOSFET product, please avoid using this device in the vicinity of highly charged objects.

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