



SANYO Semiconductors

DATA SHEET

2SK2617ALS

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	V _{DSS}		500	V
Gate-to-Source Voltage	V _{GSS}		±30	V
Drain Current (DC)	I _{DC} *1	Limited only by maximum temperature	5	A
	I _{Dpack} *2	Tc=25°C (SANYO's ideal heat dissipation condition)*3	4.5	A
Drain Current (Pulse)	I _{DP}	PW≤10μs, duty cycle≤1%	16	A
Allowable Power Dissipation	P _D		2.0	W
		Tc=25°C (SANYO's ideal heat dissipation condition)*3	25	W
Channel Temperature	T _{ch}		150	°C
Storage Temperature	T _{stg}		-55 to +150	°C
Avalanche Energy (Single pulse) *4	E _{AS}		88	mJ
Avalanche Current *5	I _{AV}		4	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}=50V, L=10mH, I_{AV}=4A

*5 L≤10mH, single pulse

Marking : K2617

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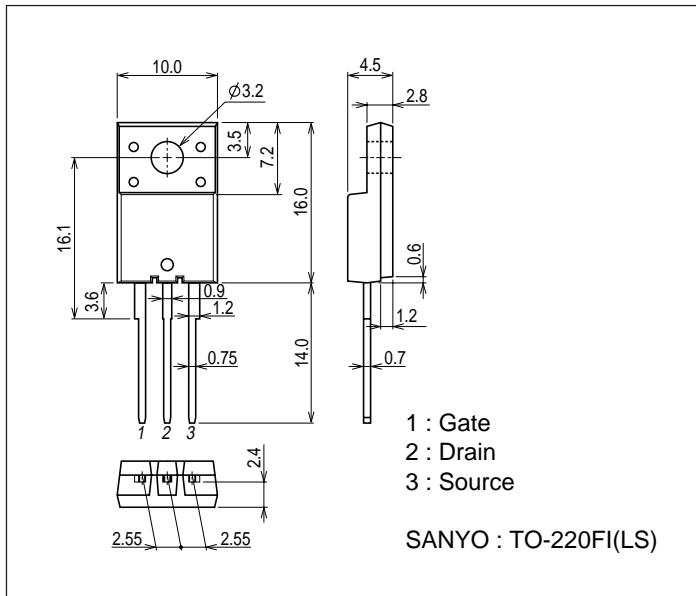
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Electrical Characteristics at Ta=25°C

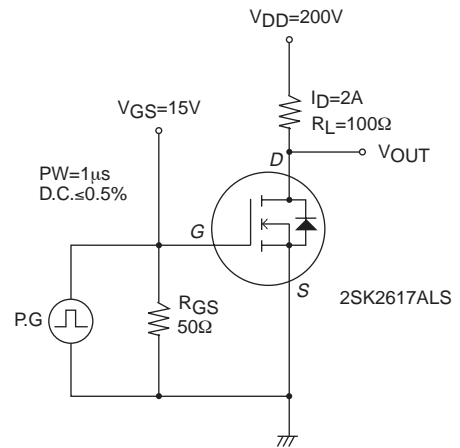
Parameter	Symbol	Conditions	Ratings			Unit
			min	typ	max	
Drain-to-Source Breakdown Voltage	$V_{(BR)DSS}$	$I_D=1mA, V_{GS}=0V$	500			V
Zero-Gate Voltage Drain Current	I_{DSS}	$V_{DS}=500V, V_{GS}=0V$			1.0	mA
Gate-to-Source Leakage Current	I_{GSS}	$V_{GS}=\pm 30V, V_{DS}=0V$			± 100	nA
Cutoff Voltage	$V_{GS(off)}$	$V_{DS}=10V, I_D=1mA$	3.5		5.5	V
Forward Transfer Admittance	$ y_{fs} $	$V_{DS}=10V, I_D=2A$	1.1	2.2		S
Static Drain-to-Source On-State Resistance	$R_{DS(on)}$	$I_D=2A, V_{GS}=15V$		1.2	1.6	Ω
Input Capacitance	C_{iss}	$V_{DS}=20V, f=1MHz$		550		pF
Output Capacitance	C_{oss}	$V_{DS}=20V, f=1MHz$		190		pF
Reverse Transfer Capacitance	C_{rss}	$V_{DS}=20V, f=1MHz$		95		pF
Total Gate Charge	Q_g	$V_{DS}=200V, I_D=4A, V_{GS}=10V$		15		nC
Turn-ON Delay Time	$t_d(on)$	See specified Test Circuit.		15		ns
Rise Time	t_r	See specified Test Circuit.		15		ns
Turn-OFF Delay Time	$t_d(off)$	See specified Test Circuit.		45		ns
Fall Time	t_f	See specified Test Circuit.		25		ns
Diode Forward Voltage	V_{SD}	$I_S=4A, V_{GS}=0V$		0.95	1.2	V

Package Dimensions

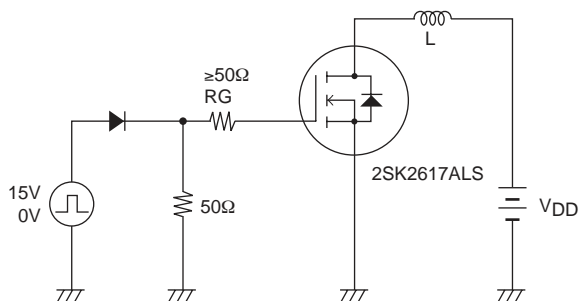
unit : mm (typ)
7509-002



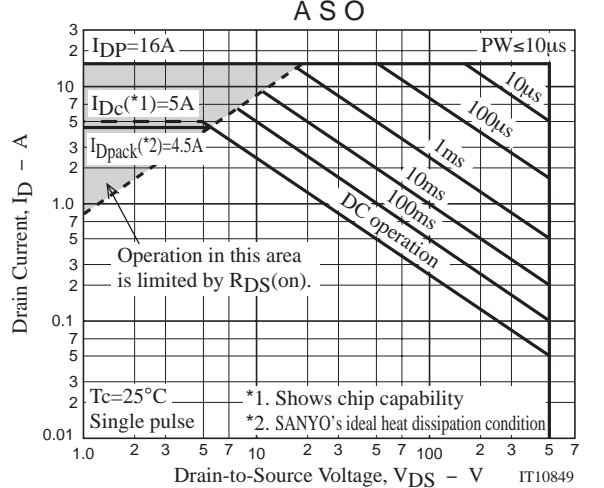
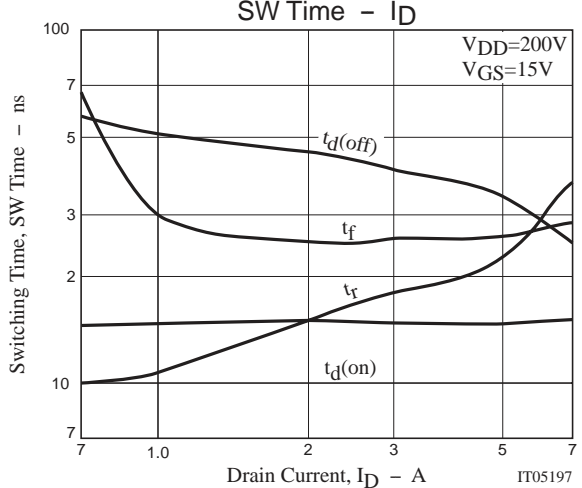
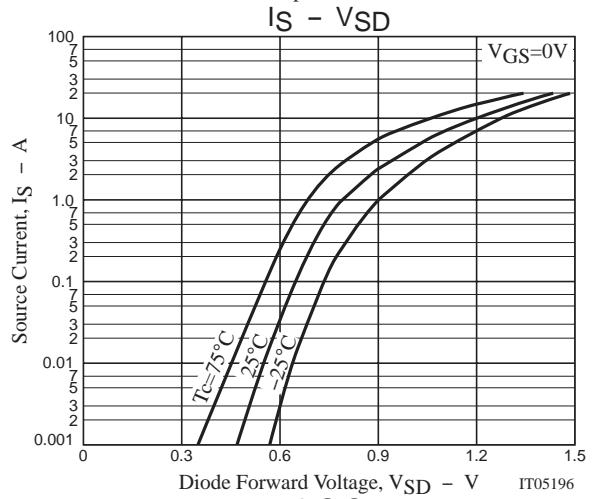
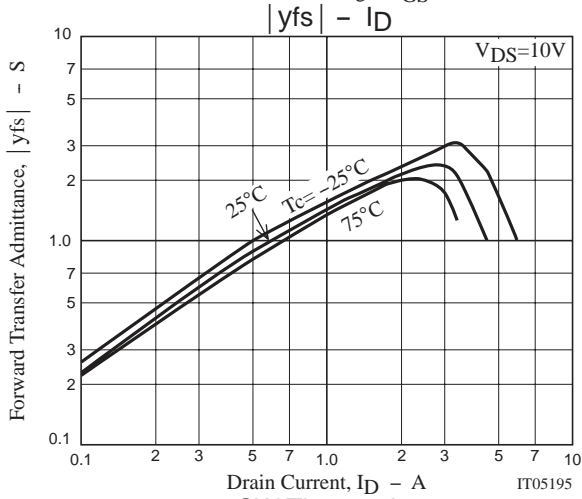
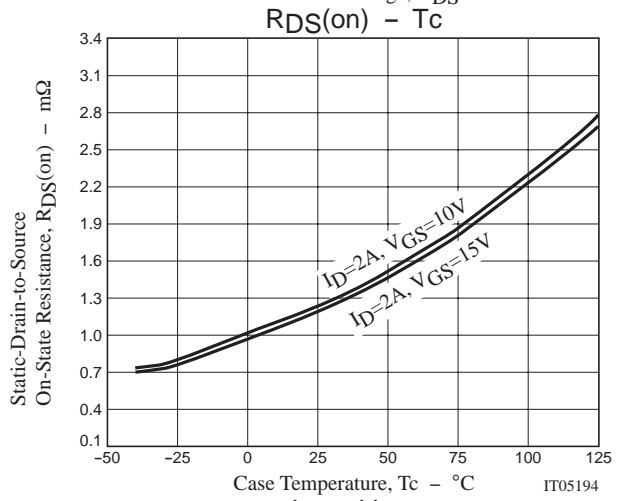
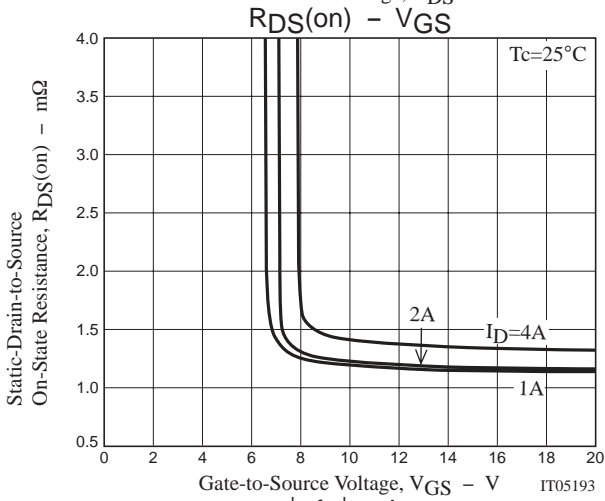
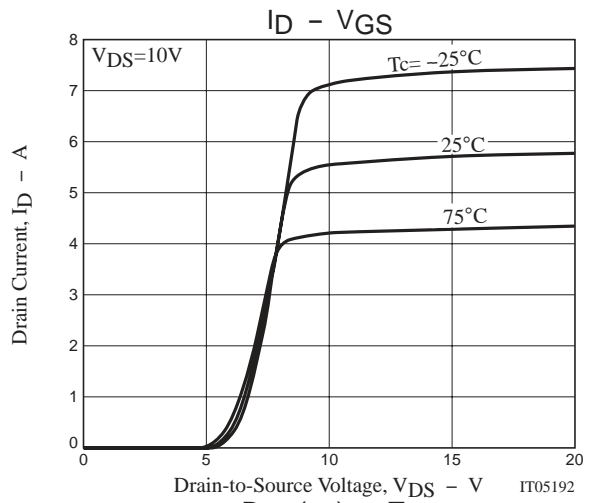
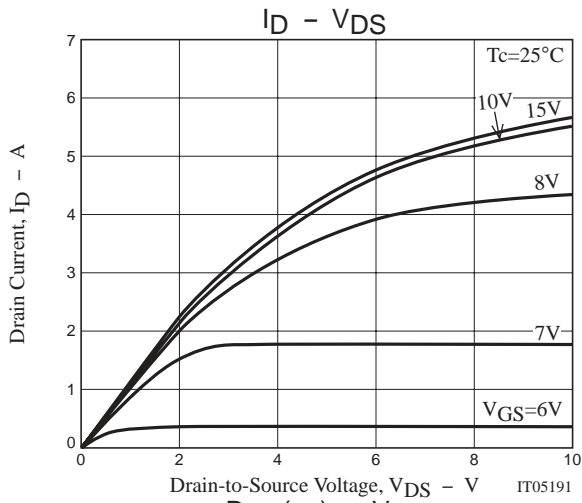
Switching Time Test Circuit



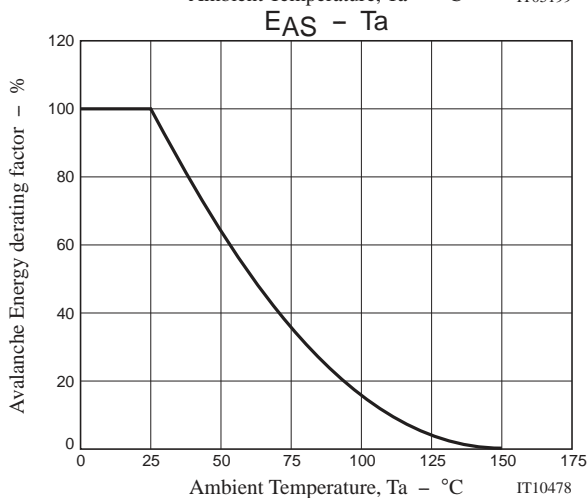
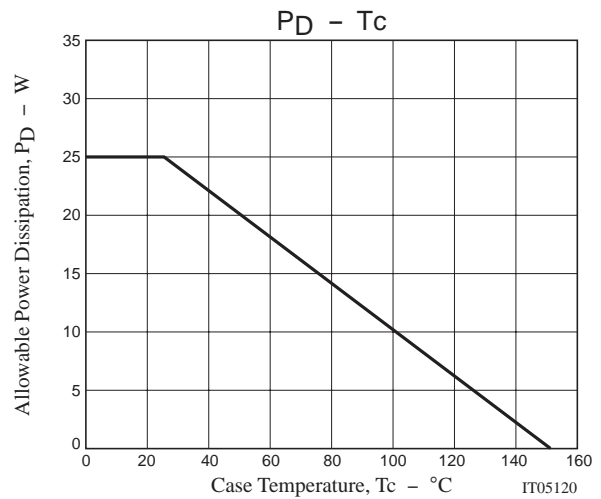
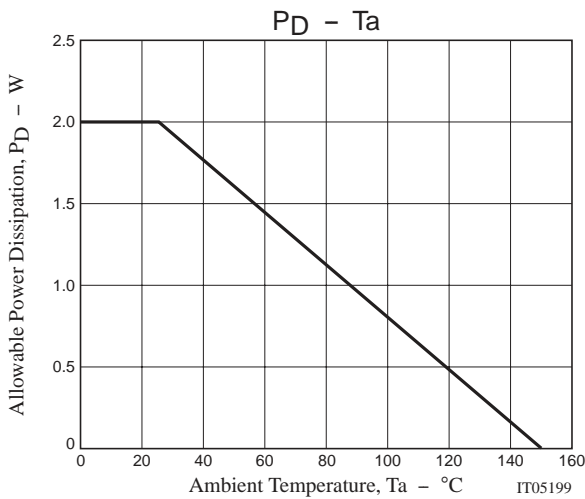
Avalanche Resistance Test Circuit



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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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