Ordering number : ENN5443A

N-Channl Silicon MOSFET

2SK2617LS

Ultrahigh-Speed Switching Applications

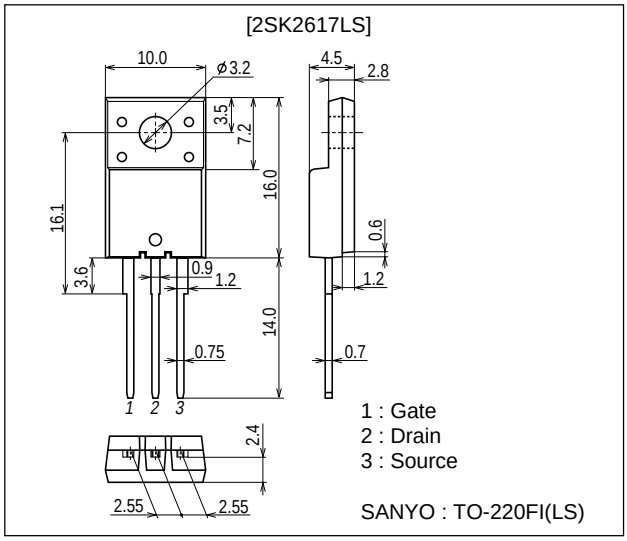
Features

- Low ON-resistance.
- Low Qg.

Package Dimensions

unit : mm

2078C



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_D		4	A
Drain Current (Pulse)	I_{DP}		16	A
Allowable Power Dissipation	PD		2.0	W
		Tc=25˚C	25	W
Channel Temperature	Tch		150	°C
Storage Temperature	Tstg		–55 to +150	°C

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}=0	500			V
Zero-Gate Voltage Drain Current	I_{DSS}	V_{DS}=500V, V_{GS}=0			1.0	mA
Gate-to-Source Leakage Current	I_{GSS}	V_{GS}=±30V, V_{DS}=0			±100	nA
Cutoff Voltage	V_{GS}(off)	V_{DS}=10V, I_D=1mA	3.5		5.5	V
Forward Transfer Admittance	|yfs|	V_{DS}=10V, I_D=2A	1.1	2.2		S

Marking : K2617

Continued on next page.

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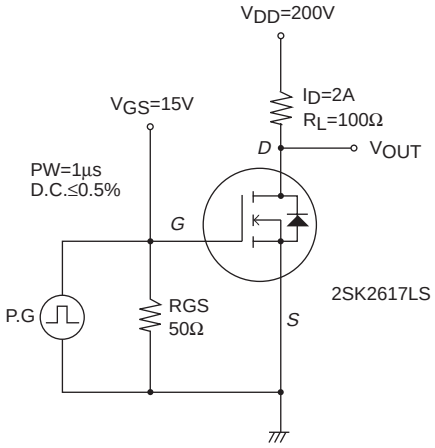
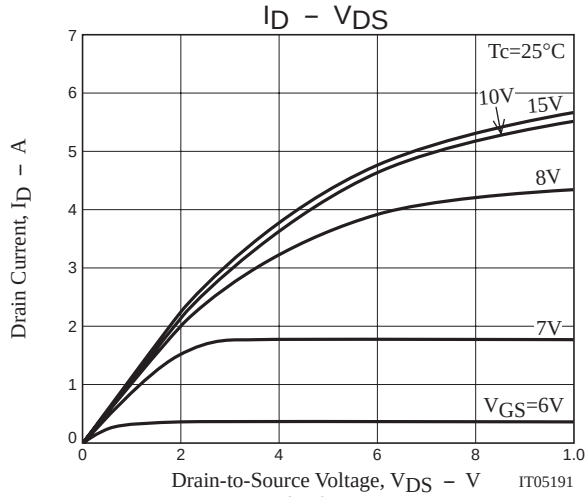
TOKYO OFFICE Tokyo Bldg., 1-10, 1 Chome, Ueno, Taito-ku, TOKYO, 110-8534 JAPAN

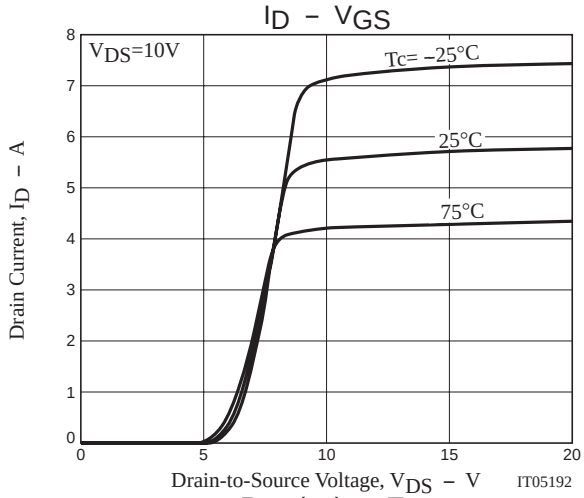
Continued from preceding page.

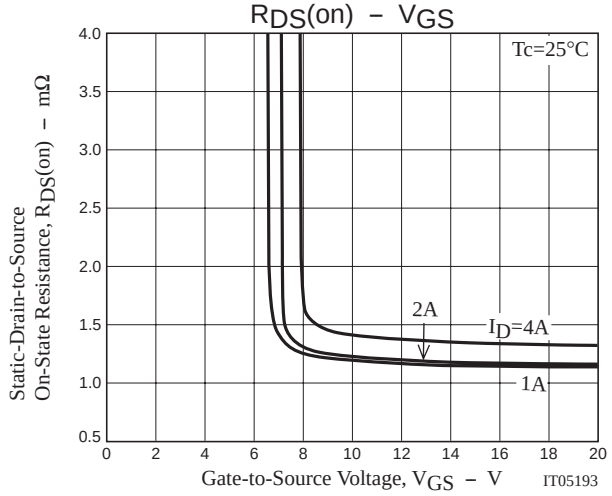
Parameter	Symbol	Conditions	Ratings			Unit
			min	typ	max	
Static Drain-to-Source On-State Resistance	$R_{DS}(on)$	I_D=2A, V_{GS}=15V		1.2	1.6	Ω
Input Capacitance	Ciss	V_{DS}=20V, f=1MHz		550		pF
Output Capacitance	Coss	V_{DS}=20V, f=1MHz		190		pF
Reverse Transfer Capacitance	Crss	V_{DS}=20V, f=1MHz		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	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}=0		0.95	1.2	V

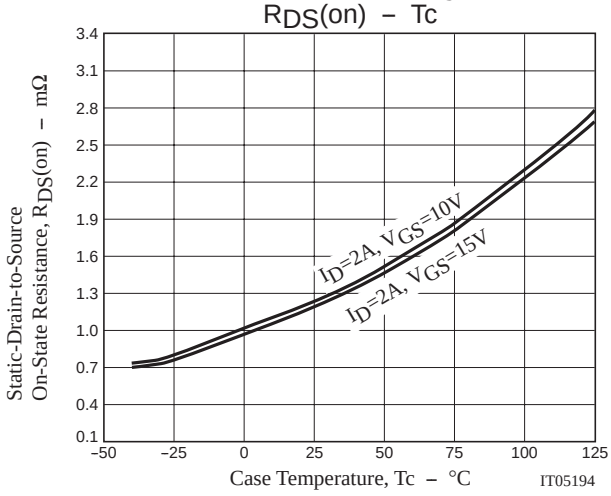
Switching Time Test Circuit

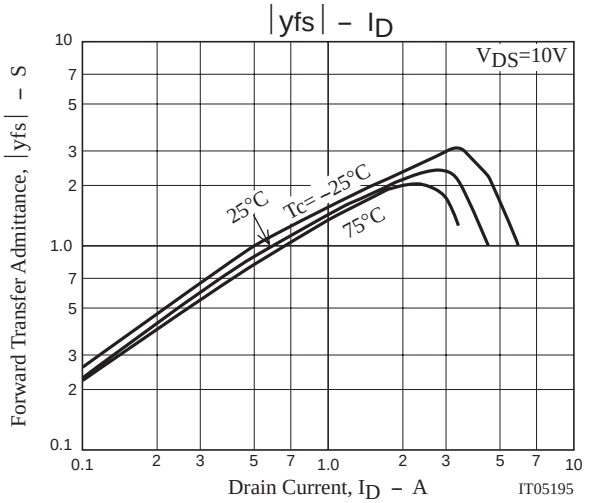


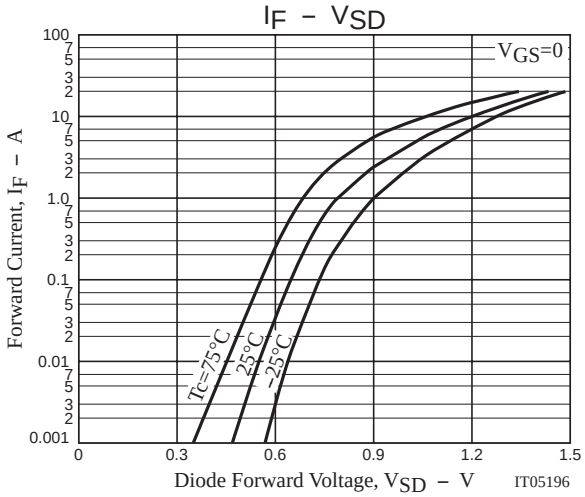


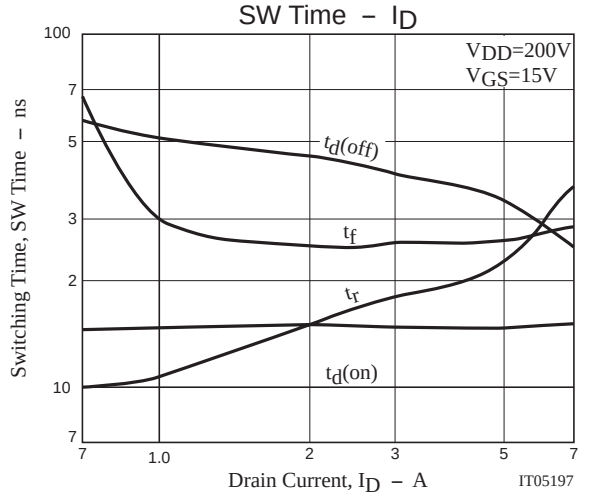


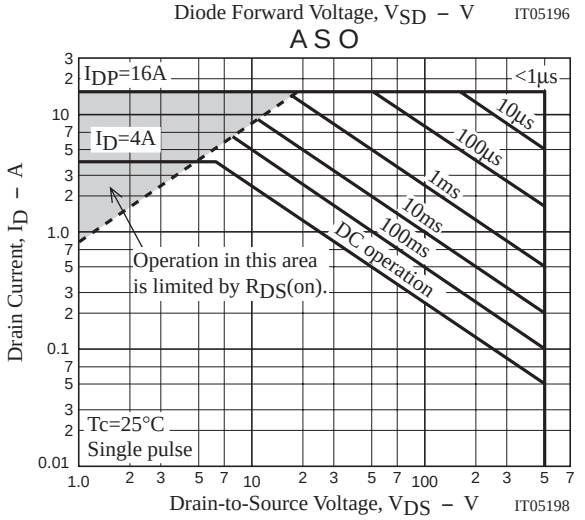


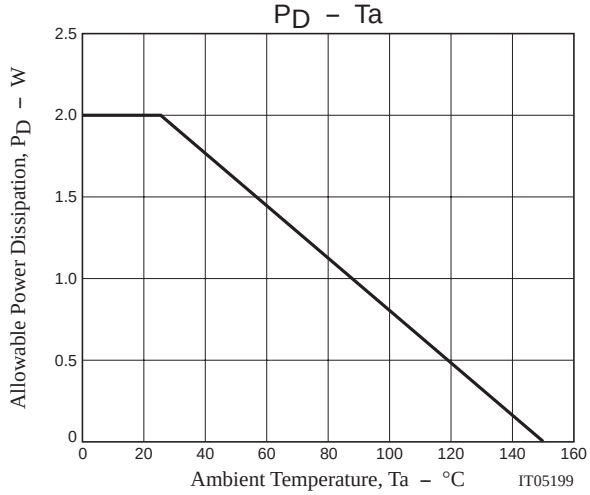


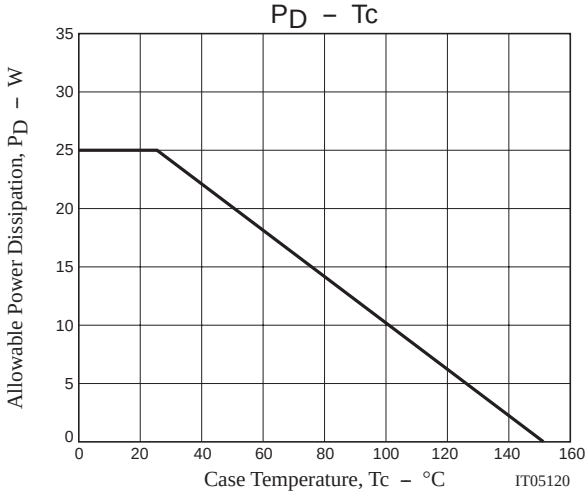

|yfs| – ID
VDS=10V
25°C
Tc=–25°C
75°C
Forward Transfer Admittance, |yfs| – S
Drain Current, ID – A
IT05195


IF – VSD
VGS=0
Tc=75°C
25°C
–25°C
Forward Current, IF – A
Diode Forward Voltage, VSD – V
IT05196


SW Time – ID
VDD=200V
VGS=15V
td(off)
tf
tr
td(on)
Switching Time, SW Time – ns
Drain Current, ID – A
IT05197


A S O
IDP=16A
ID=4A
<1µs
10µs
100µs
1ms
10ms
100ms
DC operation
Operation in this area
is limited by RDS(on).
Tc=25°C
Single pulse
Drain Current, ID – A
Drain-to-Source Voltage, VDS – V
IT05198


PD – Ta
Allowable Power Dissipation, PD – W
Ambient Temperature, Ta – °C
IT05199


PD – Tc
Allowable Power Dissipation, PD – W
Case Temperature, Tc – °C
IT05120