Ordering number: EN 3461A

SANYO

No.3461A

2SK1458

N-Channel Silicon MOSFET

Ultarahigh-Speed Switching Applications

Features

- Low ON-state resistance.
- Ultrahigh-speed switching.
- Micaless package facilitating mounting.

Absolute Maximum Ratings at Ta = 25°C

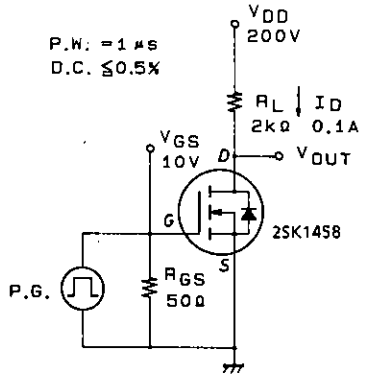
				unit
Drain-to-Source Voltage	V_{DSS}		900	V
Gate-to-Source Voltage	V_{GSS}		±30	V
Drain Current(DC)	I_D		0.2	A
Drain Current(Pulse)	I_{DP}	PW≦10μs, duty cycle≦1%	0.4	A
Allowable Power Dissipation	P_D		2.0	W
		Tc=25°C	20	W
Channel Temperature	Tch		150	°C
Storage Temperature	Tstg		−55 to +150	°C

Electrical Characteristics at Ta = 25°C

			min	typ	max	unit
D-S Breakdown Voltage	$V_{(BR)DSS}$	I_D=1mA, V_{GS}=0	900			V
Zero-Gate Voltage Drain Current	I_{DSS}	V_{DS}=900V, 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	2.0		3.0	V
Forward Transfer Admittance	$\lvert y_{fs} \rvert$	V_{DS}=20V, I_D=0.1A	0.08	0.15		S
Static Drain-to-Source ON-State Resistance	$R_{DS(on)}$	I_D=0.1A, V_{GS}=10V		50	70	Ω
Input Capacitance	Ciss	V_{DS}=20V, f=1MHz		45		pF
Output Capacitance	Coss	V_{DS}=20V, f=1MHz		25		pF
Reverse Transfer Capacitance	Crss	V_{DS}=20V, f=1MHz		10		pF
Turn-ON Delay Time	$t_{d(on)}$	I_D=0.1A, V_{GS}=10V, V_{DD}=200V, R_{GS}=50Ω		10		ns
Rise Time	t_r			15		ns
Turn-OFF Delay Time	$t_{d(off)}$			30		ns
Fall Time	t_f			180		ns
Diode Forward Voltage	V_{SD}	I_S=0.2A, V_{GS}=0			1.8	V

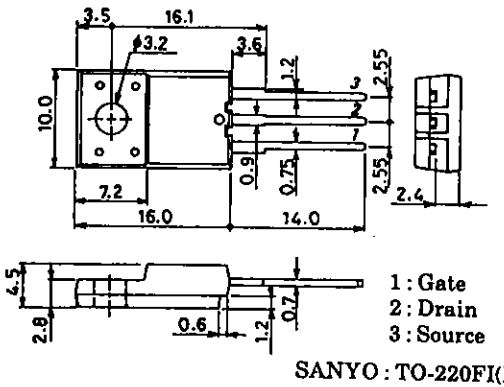
(Note) Be careful in handling the 2SK1458 because it has no protection diode between gate and source.

Switching Time Test Circuit



Package Dimensions 2078B

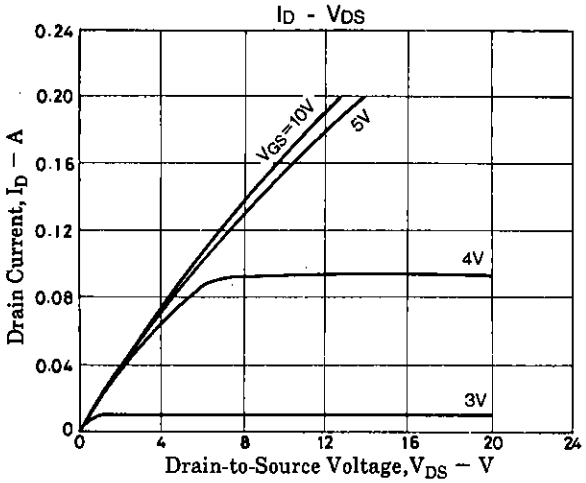
(unit : mm)



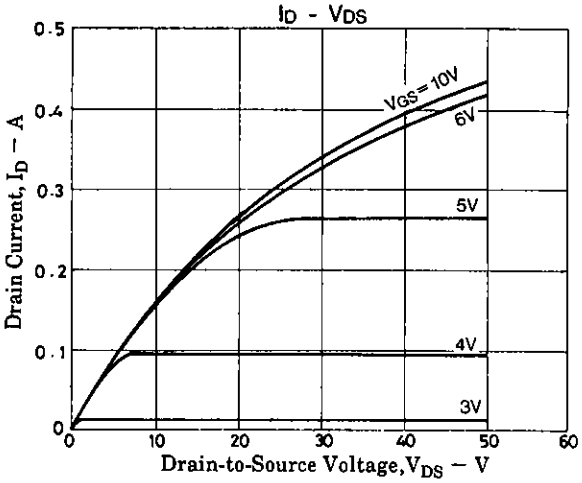
1 : Gate
2 : Drain
3 : Source

SANYO : TO-220FI(LS)

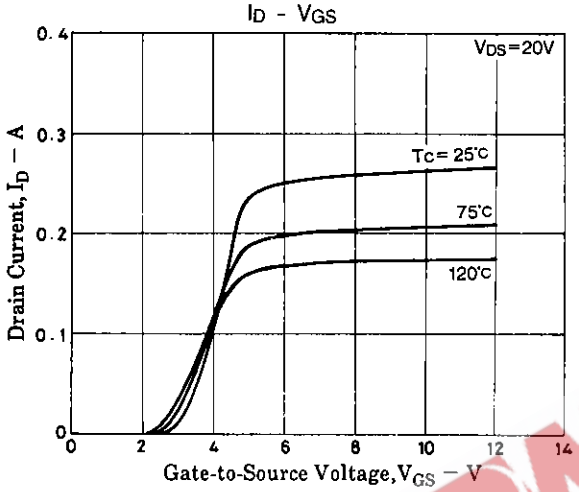
I_D - V_{DS}



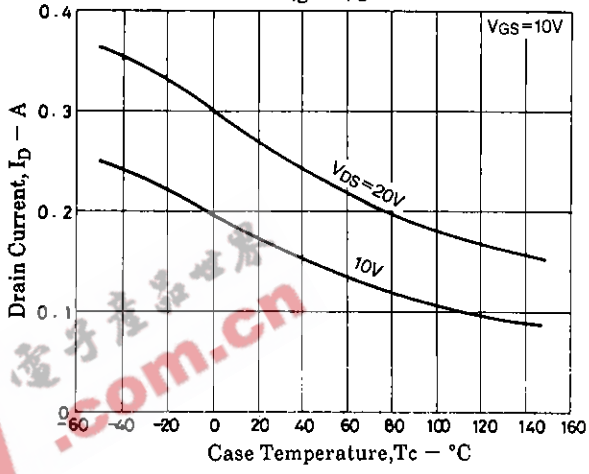
I_D - V_{DS}



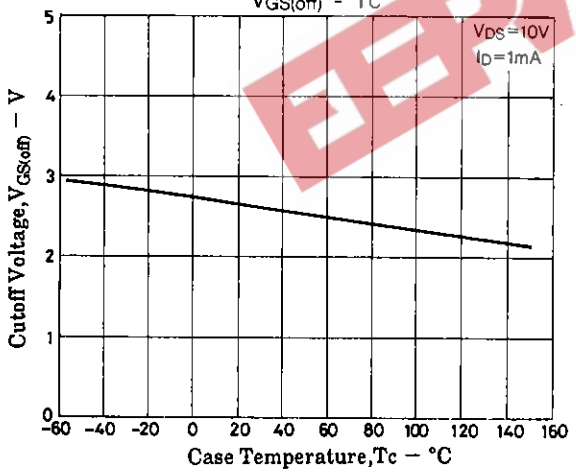
I_D - V_{GS}



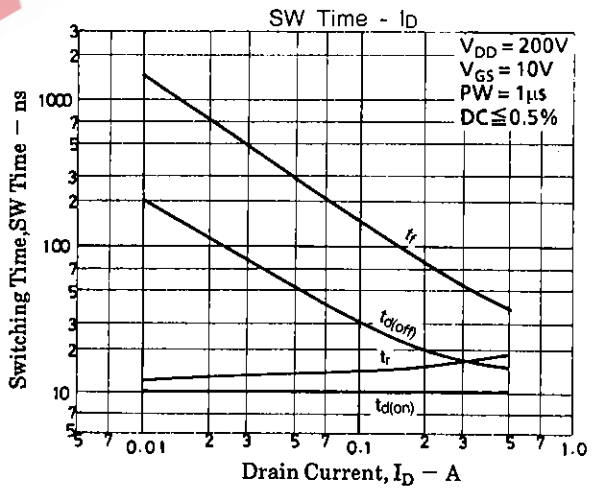
I_D - Tc



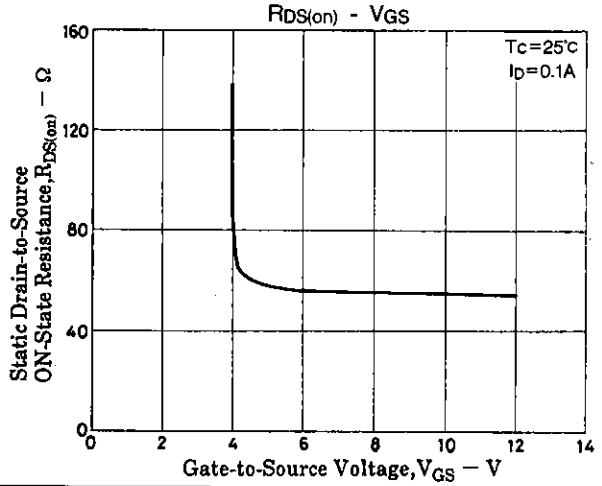
$V_{GS(off)}$ - Tc



SW Time - I_D



$R_{DS(on)}$ - V_{GS}



$R_{DS(on)}$ - Tc