Ordering number: EN3442

SANYO

No.3442

2SK1439

N-Channel MOS Silicon FET

Very High-Speed Switching Applications

Features

- Low ON-state resistance.
- Very high-speed switching.

Absolute Maximum Ratings at Ta = 25°C

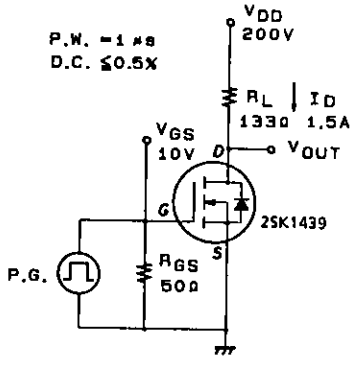
				unit
Drain to Source Voltage	V_{DSS}		450	V
Gate to Source Voltage	V_{GSS}		±30	V
Drain Current(DC)	I_D		3	A
Drain Current(Pulse)	I_{DP}	PW≦10μs, duty cycle≦1%	12	A
Allowable Power Dissipation	P_D	Tc = 25°C	50	W
			1.75	W
Channel Temperature	Tch		150	°C
Storage Temperature	Tstg		−55 to +150	°C

Electrical Characteristics at Ta = 25°C

			min	typ	max	unit
D-S Breakdown Voltage	$V_{(BR)DSS}$	I_D = 1mA, V_{GS} = 0	450			V
Zero Gate Voltage Drain Current	I_{DSS}	V_{DS} = 450V, 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	$\|Y_{fs}\|$	V_{DS} = 10V, I_D = 1.5A	1.0	2.0		S
Static Drain to Source on State Resistance	$R_{DS(on)}$	I_D = 1.5A, V_{GS} = 10V		2.0	2.6	Ω
Input Capacitance	Ciss	V_{DS} = 20V, f = 1MHz		400		pF
Output Capacitance	Coss	V_{DS} = 20V, f = 1MHz		60		pF
Reverse Transfer Capacitance	Crss	V_{DS} = 20V, f = 1MHz		25		pF
Turn-ON Delay Time	$t_{d(on)}$	I_D = 1.5A, V_{GS} = 10V, V_{DD} = 200V, R_{GS} = 50Ω		12		ns
Rise Time	t_r			20		ns
Turn-OFF Delay Time	$t_{d(off)}$			80		ns
Fall Time	t_f			35		ns
Diode Forward Voltage	V_{SD}	I_S = 3A, V_{GS} = 0			1.8	V

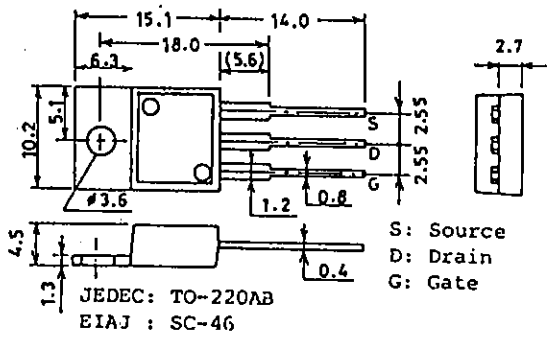
(Note) Be careful in handling the 2SK1439 because it has no protection diode between gate and source.

Switching Time Test Circuit



Package Dimensions 2052B

(unit: mm)



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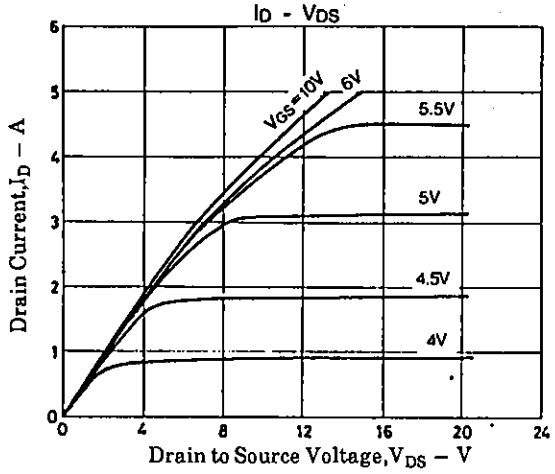
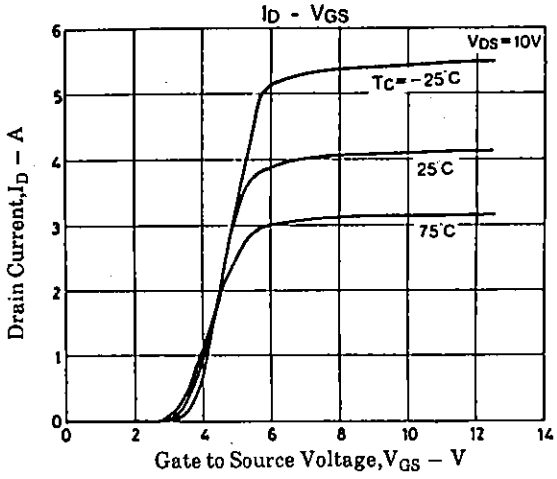
TOKYO OFFICE Tokyo Bldg.,1-10,1 Chome, Ueno, Taito-ku, TOKYO, 110 JAPAN

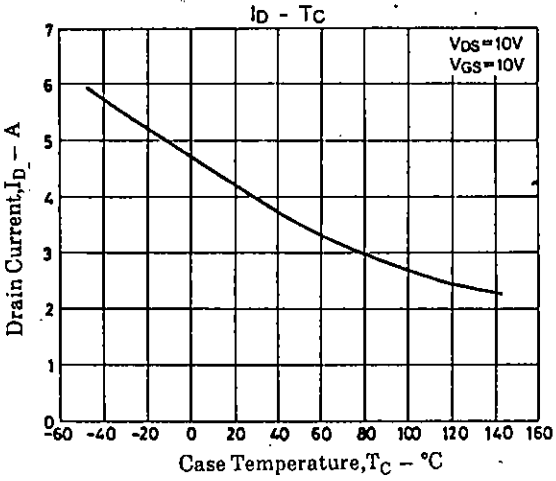
I_D - V_{DS}



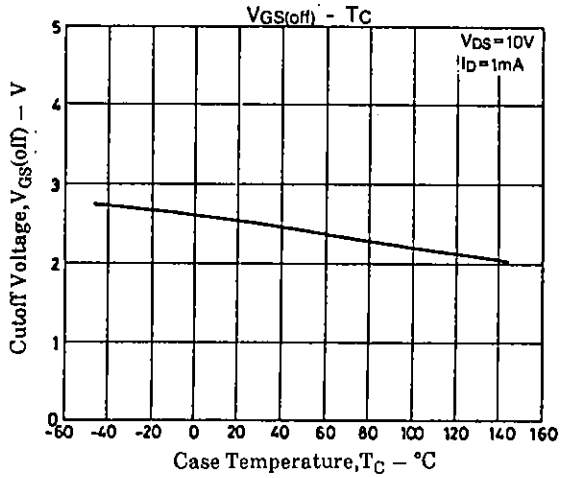
I_D - V_{GS}



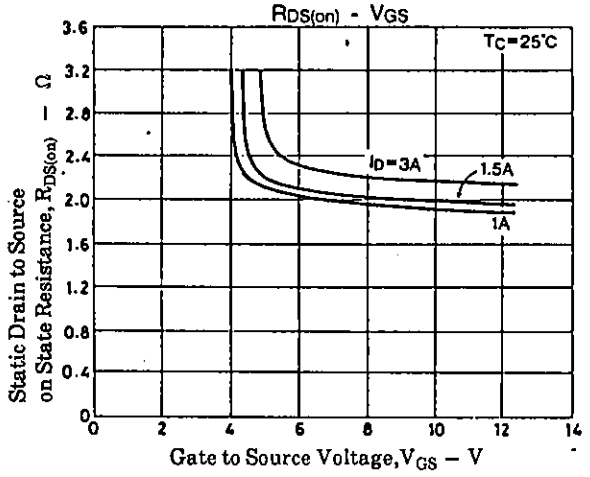
I_D - T_C



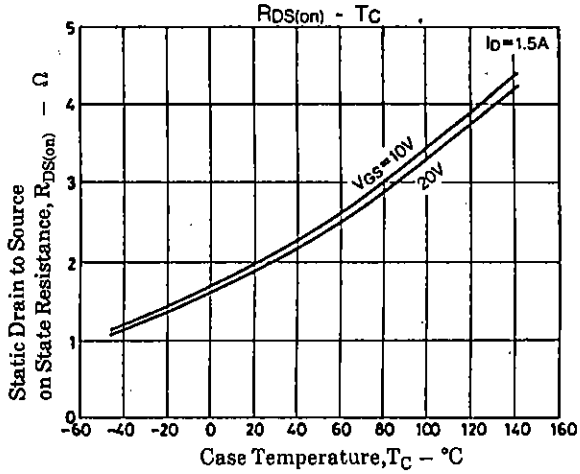
$V_{GS(off)}$ - T_C



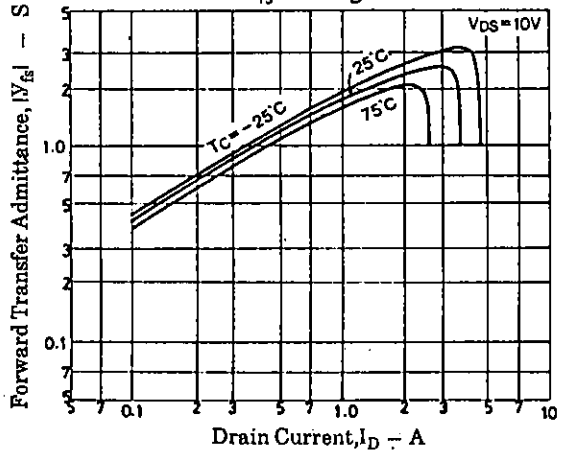
$R_{DS(on)}$ - V_{GS}



$R_{DS(on)}$ - T_C



$|Y_{fs}|$ – I_D



SW Time - I_D