Ordering number:EN3823

N-Channel Silicon MOSFET

2SK1728

Ultrahigh-Speed Switching Applications

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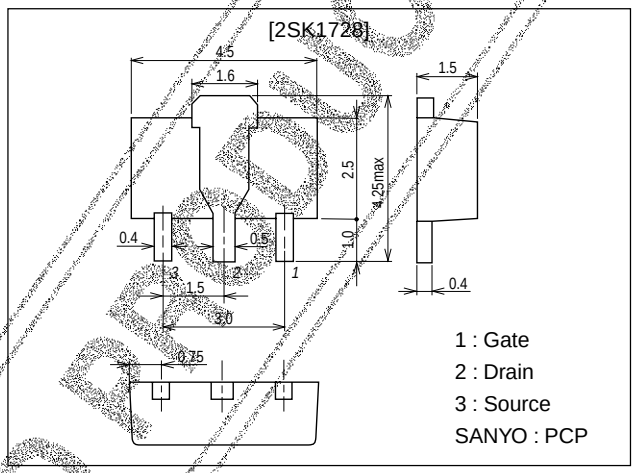
Features

- Low ON resistance.
- Ultrahigh-speed switching.
- Low-voltage drive.

Package Dimensions

unit:mm

2062A



Specifications

Absolute Maximum Ratings at Ta = 25˚C

Parameter	Symbol	Conditions	Ratings	Unit
Drain-to-Source Voltage	V_{DSS}		100	V
Gate-to-Source Voltage	V_{GSS}		±15	V
Drain Current (DC)	I_D		1	A
Drain Current (Pulse)	I_{DP}	PW≤10μs, duty cycle≤1%	4	A
Allowable Power Dissipation	P_D	Tc=25°C	3.5	W
		Mounted on a ceramic board (250mm²×0.8mm)	1.3	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	100			V
Zero-Gate Voltage Drain Current	I_{DSS}	V_{DS}=100V, V_{GS}=0			100	μA
Gate-to-Source Leakage Current	I_{GSS}	V_{GS}=±12V, V_{DS}=0			±10	μA
Cutoff Voltage	$V_{GS(off)}$	V_{DS}=10V, I_D=1mA	1.0		2.0	V
Forward Transfer Admittance	| yfs |	V_{DS}=10V, I_D=500mA	0.6	1.0		S
Static Drain-to-Source ON-State Resistance	$R_{DS(on)}$	I_D=500mA, V_{GS}=10V		2.7	3.5	Ω
	$R_{DS(on)}$	I_D=500mA, V_{GS}=4V		3.2	4.2	Ω

Continued on next page.

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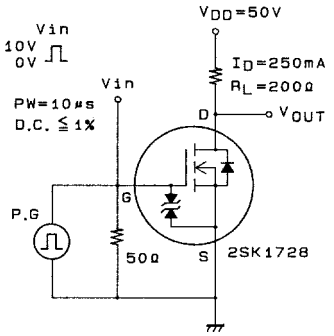
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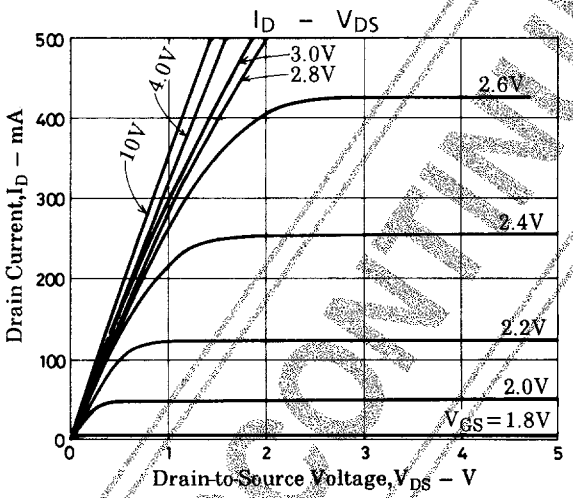
SANYO Electric Co.,Ltd. Semiconductor Company
TOKYO OFFICE Tokyo Bldg., 1-10, 1 Chome, Ueno, Taito-ku, TOKYO, 110-8534 JAPAN

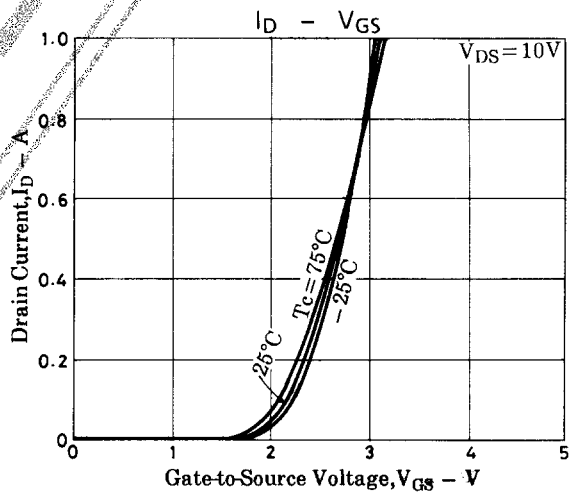
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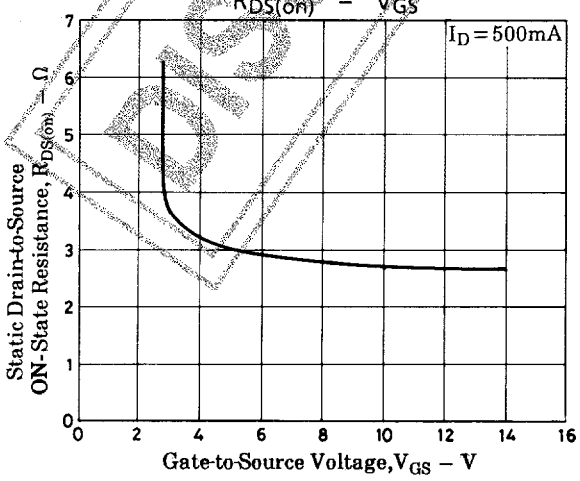
Parameter	Symbol	Conditions	Ratings			Unit
Input Capacitance	Ciss	V_{DS}=20V, f=1MHz		45		pF
Output Capacitance	Coss	V_{DS}=20V, f=1MHz		15		pF
Reverse Transfer Capacitance	Crss	V_{DS}=20V, f=1MHz		3		pF
Turn-ON Delay Time	$t_{d(on)}$	See specified Test Circuit		5		ns
Rise Time	t_r	See specified Test Circuit		10		ns
Turn-OFF Delay Time	$t_{d(off)}$	See specified Test Circuit		30		ns
Fall Time	t_f	See specified Test Circuit		20		ns
Diode Forward Voltage	V_{SD}	I_S=1A, V_{GS}=0		1.0		V

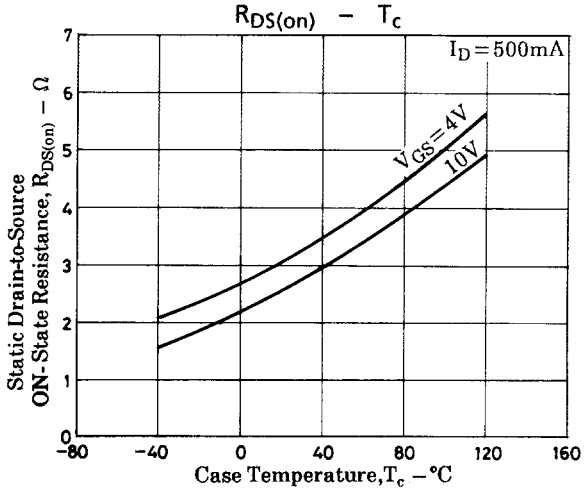
Switching Time Test Circuit



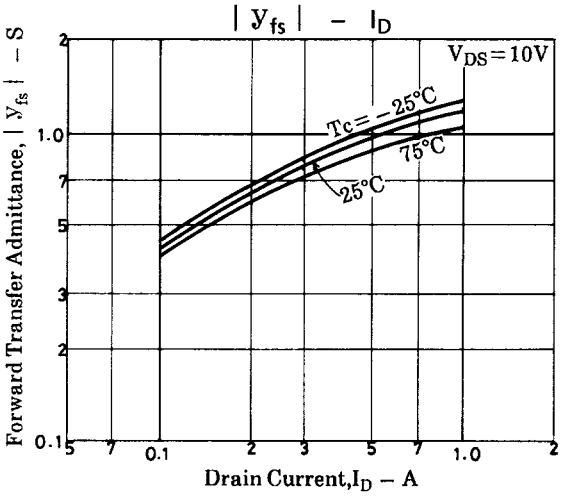


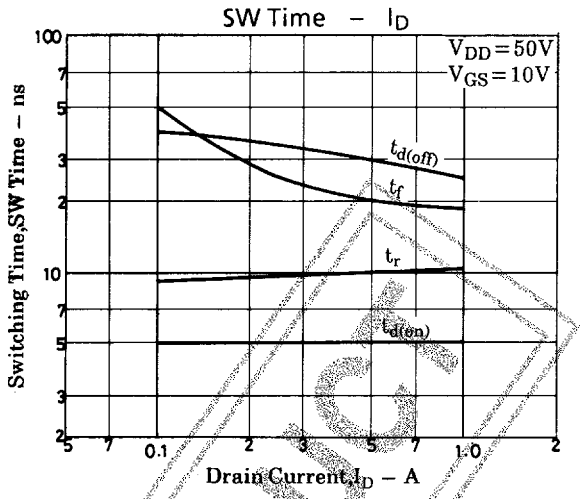


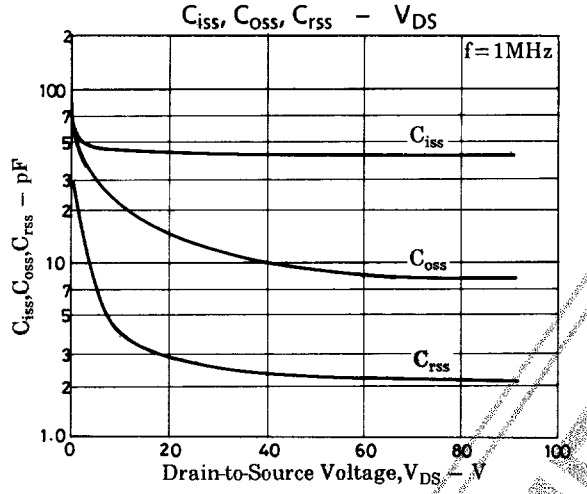


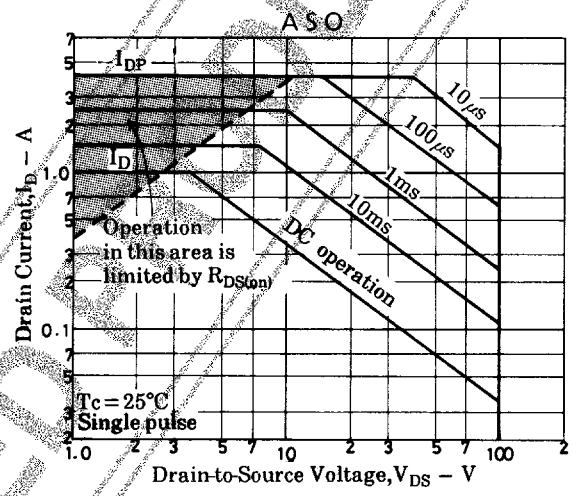


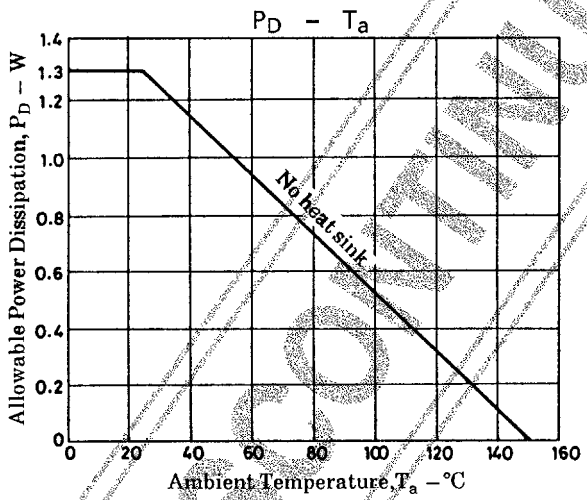
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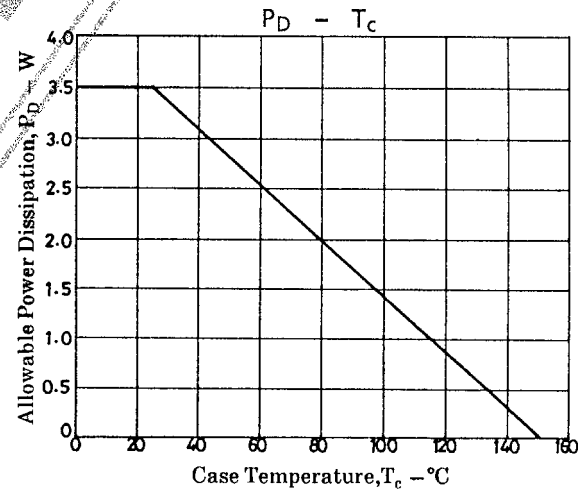












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