

SANYO	No.3566	2SK1428
		N-Channel MOS Silicon FET Very High-Speed Switching Applications

Features

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

Absolute Maximum Ratings at Ta = 25°C

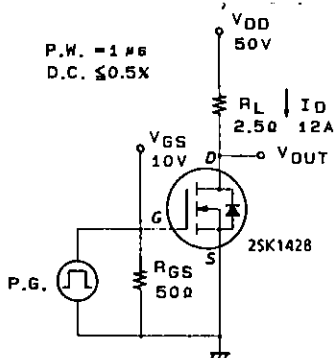
			unit
Drain to Source Voltage	V_{DSS}	100	V
Gate to Source Voltage	V_{GSS}	± 20	V
Drain Current(DC)	I_D	20	A
Drain Current(Pulse)	I_{DP}	$PW \leq 10\mu s, \text{ duty cycle} \leq 1\%$	A
Allowable Power Dissipation	P_D	$T_c = 25^\circ C$	W
		60	W
		1.75	W
Channel Temperature	T_{ch}	150	$^\circ C$
Storage Temperature	T_{stg}	-55 to +150	$^\circ C$

Electrical Characteristics at Ta = 25°C

			min	typ	max	unit
D-S 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}	$V_{GS} = \pm 20V, V_{DS} = 0$			± 100	nA
Cutoff Voltage	$V_{GS(off)}$	$V_{DS} = 10V, I_D = 1mA$	1.5		2.5	V
Forward Transfer Admittance	$ Y_{fs} $	$V_{DS} = 10V, I_D = 12A$	8.0	14		S
Static Drain to Source on State Resistance	$R_{DS(on)}$	$I_D = 12A, V_{GS} = 10V$	0.075	0.10		Ω
Input Capacitance	C_{iss}	$V_{DS} = 20V, f = 1MHz$		1200		pF
Output Capacitance	C_{oss}	$V_{DS} = 20V, f = 1MHz$		350		pF
Reverse Transfer Capacitance	C_{rss}	$V_{DS} = 20V, f = 1MHz$		100		pF
Turn-ON Delay Time	$t_{d(on)}$	$I_D = 12A, V_{GS} = 10V$ $V_{DD} = 30V, R_{GS} = 50\Omega$		18		ns
Rise Time	t_r		52		ns	
Turn-OFF Delay Time	$t_{d(off)}$		140		ns	
Fall Time	t_f		70		ns	
Diode Forward Voltage	V_{SD}	$I_S = 20A, V_{GS} = 0$			1.8	V

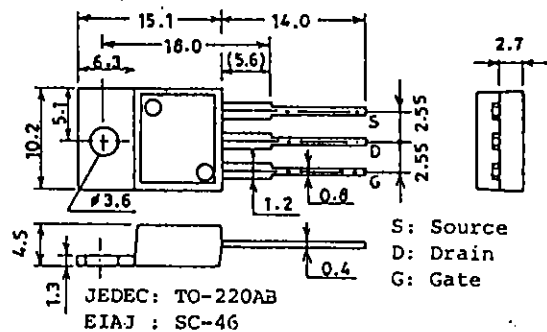
(Note) Be careful in handling the 2SK1428 because it has no protection diode between gate and source.

Switching Time Test Circuit

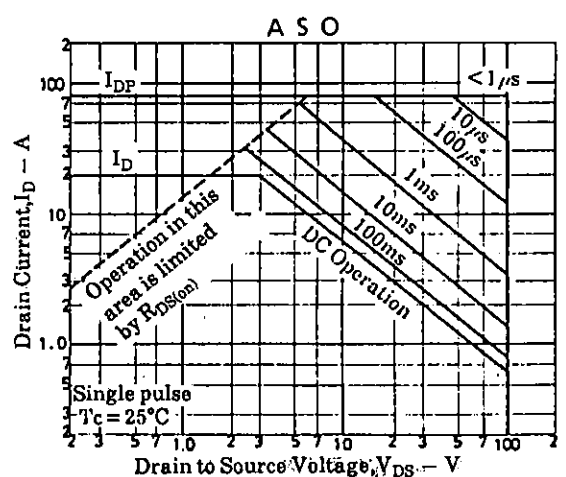
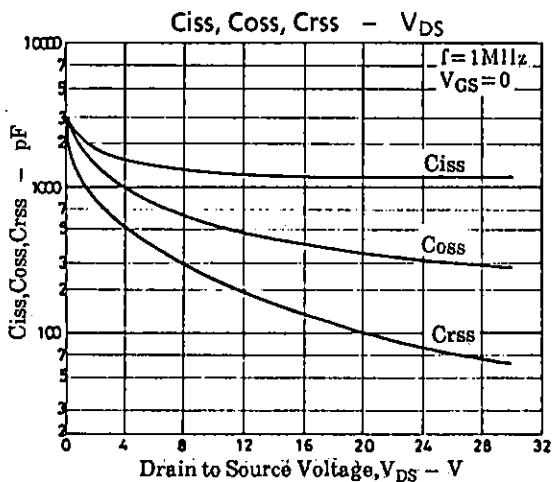
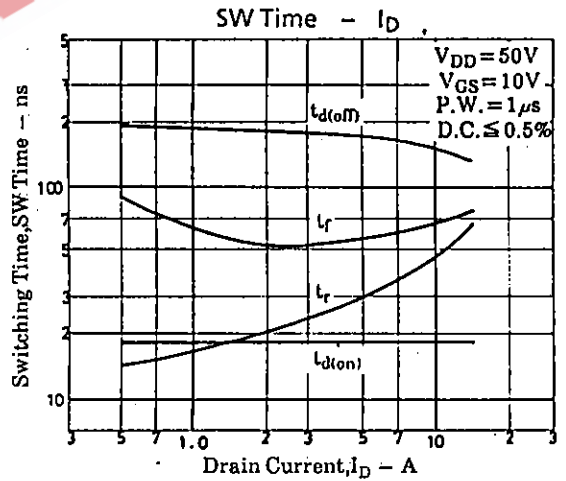
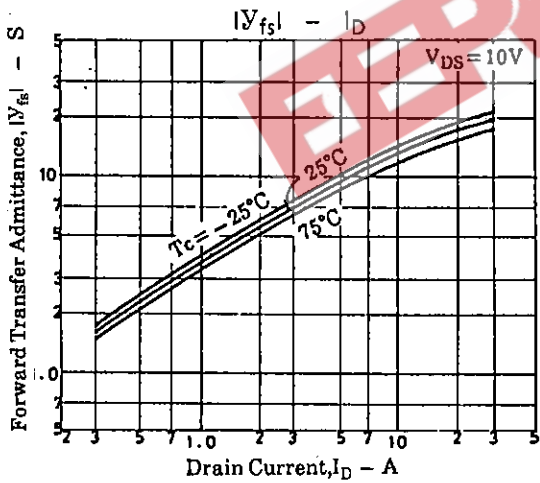
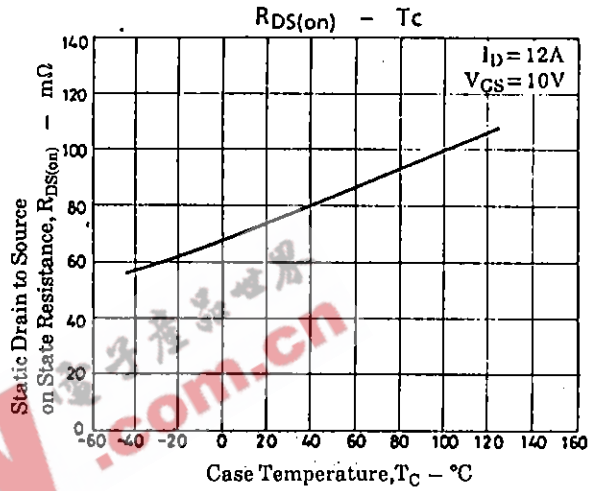
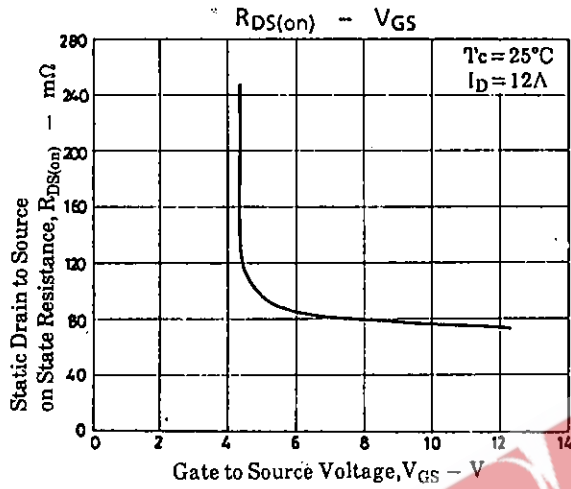
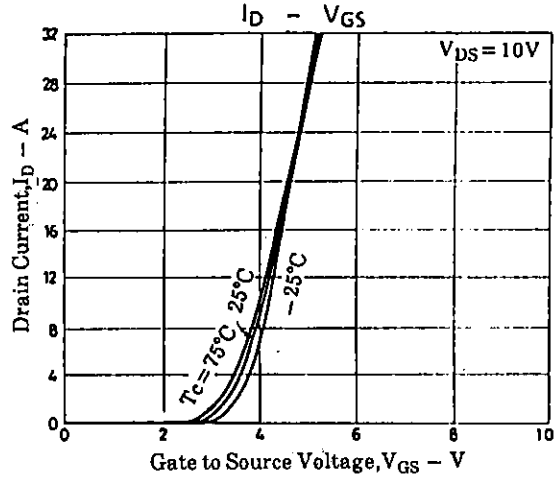
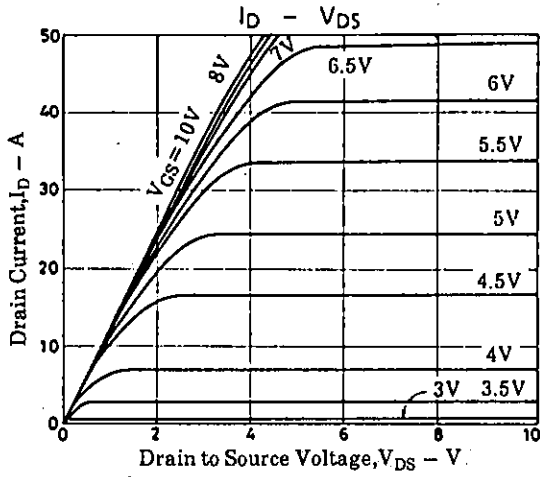


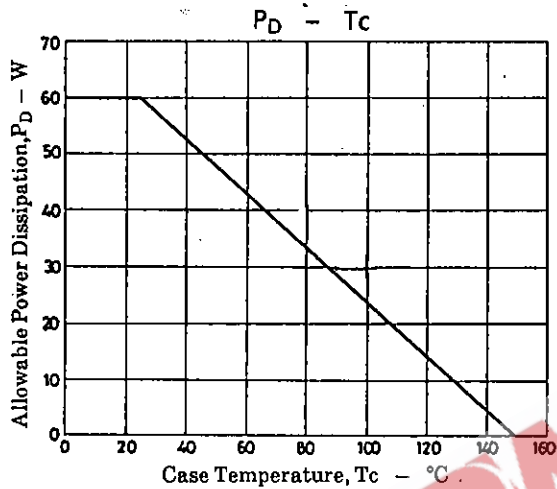
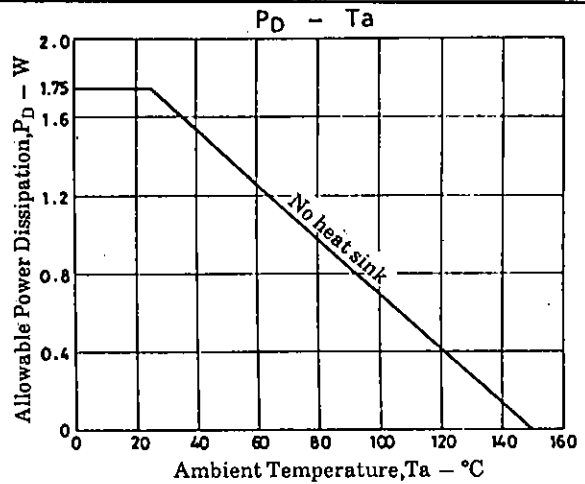
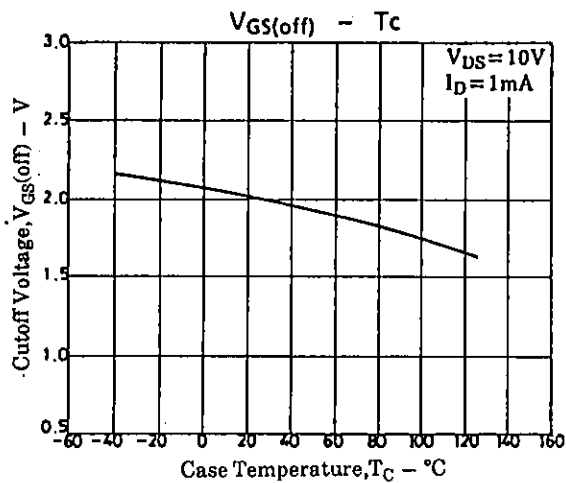
Package Dimensions 2052B

(unit: mm)



S: Source
D: Drain
G: Gate





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