

SANYO

No.3558

2SK1420

N-Channel MOS Silicon FET

Very High-Speed
Switching Applications**Features**

- Low ON-state resistance.
- Very high-speed switching.
- Converters.
- Micaless package facilitating mounting.

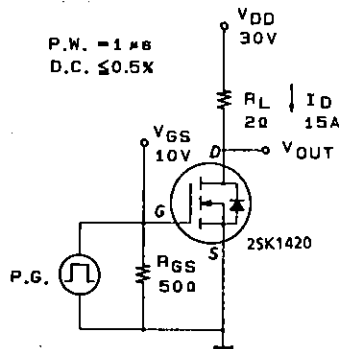
Absolute Maximum Ratings at $T_a = 25^\circ\text{C}$

Absolute Maximum Ratings at Ta= 25°C				unit
Drain to Source Voltage	V _{DSS}		60	V
Gate to Source Voltage	V _{GSS}		± 20	V
Drain Current(DC)	I _D		25	A
Drain Current(Pulse)	I _{DP}	PW≤ 10μs, duty cycle≤ 1%	100	A
Allowable Power Dissipation	P _D	Tc= 25°C	30	W
			2.0	W
Channel Temperature	Tch		150	°C
Storage Temperature	Tstg		- 55 to + 150	°C

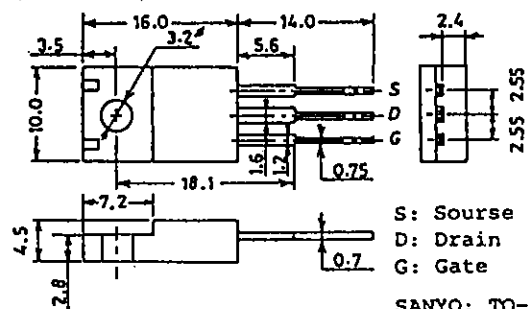
Electrical Characteristics at $T_a = 25^\circ\text{C}$

			min	typ	max	unit
D-S Breakdown Voltage	$V_{(BR)DSS}$	$I_D = 1\text{mA}$, $V_{GS} = 0$	60			V
Zero Gate Voltage Drain Current	I_{DSS}	$V_{DS} = 60\text{V}$, $V_{GS} = 0$			100	μA
Gate to Source Leakage Current	I_{GSS}	$V_{GS} = \pm 20\text{V}$, $V_{DS} = 0$			± 100	nA
Cutoff Voltage	$V_{GS(off)}$	$V_{DS} = 10\text{V}$, $I_D = 1\text{mA}$	1.5		2.5	V
Forward Transfer Admittance	$ Y_{fs} $	$V_{DS} = 10\text{V}$, $I_D = 15\text{A}$	10	15		S
Static Drain to Source on State Resistance	$R_{DS(on)}$	$I_D = 15\text{A}$, $V_{GS} = 10\text{V}$	0.035	0.045		Ω
Input Capacitance	C_{iss}	$V_{DS} = 20\text{V}$, $f = 1\text{MHz}$		1200		pF
Output Capacitance	C_{oss}	$V_{DS} = 20\text{V}$, $f = 1\text{MHz}$		550		pF
Reverse Transfer Capacitance	C_{rss}	$V_{DS} = 20\text{V}$, $f = 1\text{MHz}$		150		pF
Turn-ON Delay Time	$t_{d(on)}$	$I_D = 15\text{A}$, $V_{GS} = 10\text{V}$ $V_{DD} = 30\text{V}$, $R_{GS} = 50\Omega$		18		ns
Rise Time	t_r			102		ns
Turn-OFF Delay Time	$t_{d(off)}$			130		ns
Fall Time	t_f			90		ns
Diode Forward Voltage	V_{SD}	$I_S = 25\text{A}$, $V_{GS} = 0$			1.8	V

(Note) Be careful in handling the 2SK1420 because it has no protection diode between gate and source.

Switching Time Test Circuit**Package Dimensions 2063**

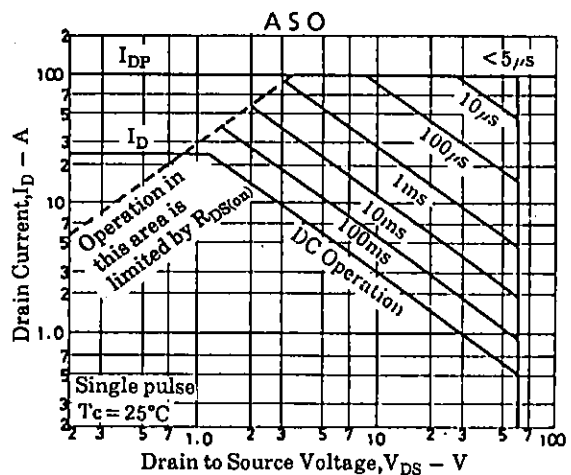
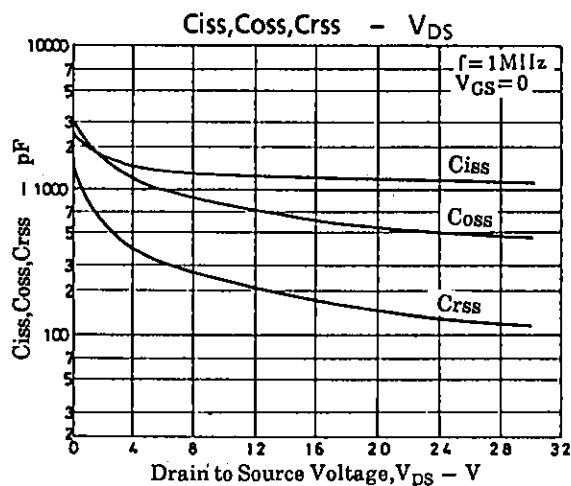
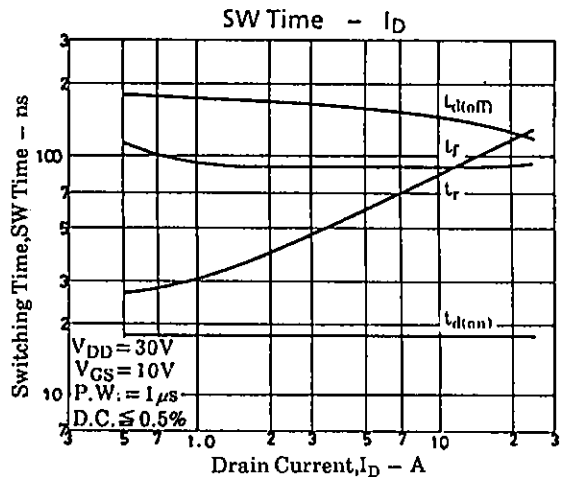
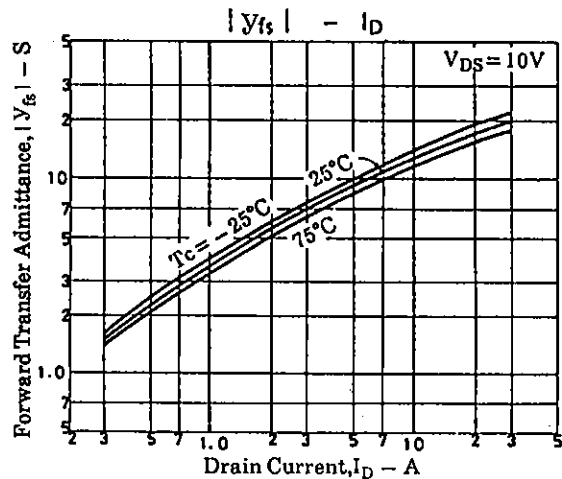
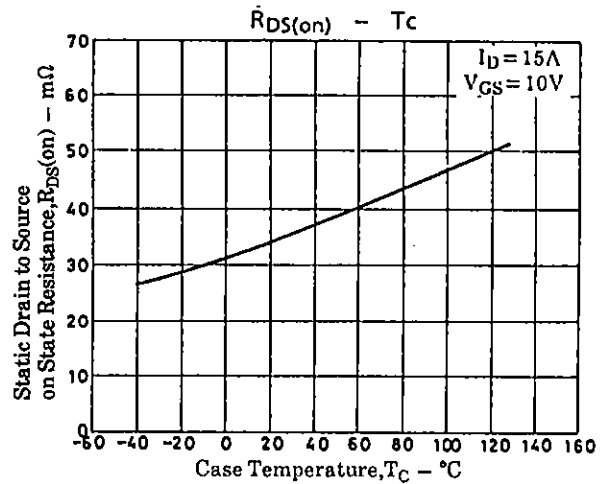
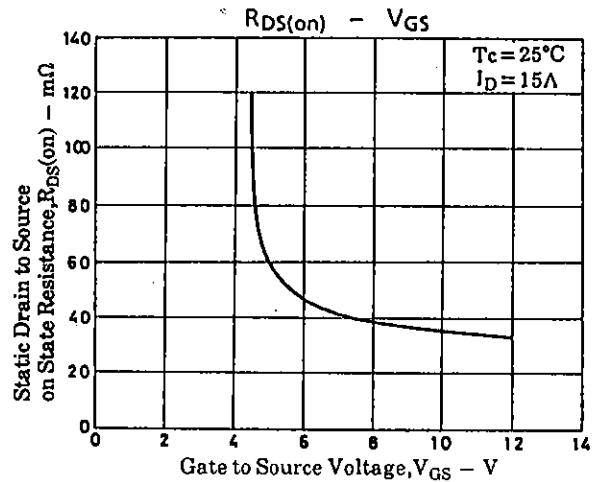
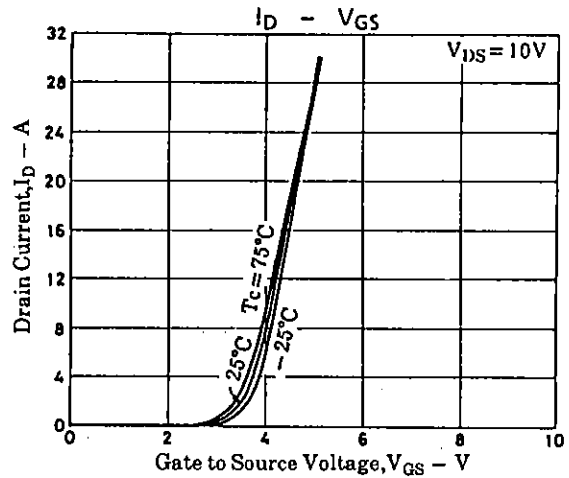
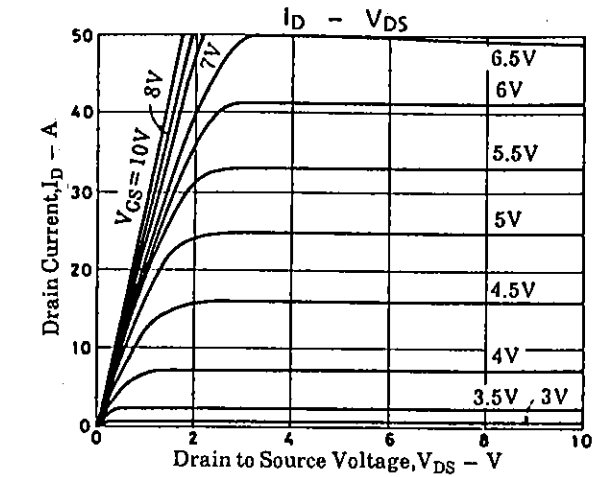
(unit : mm)

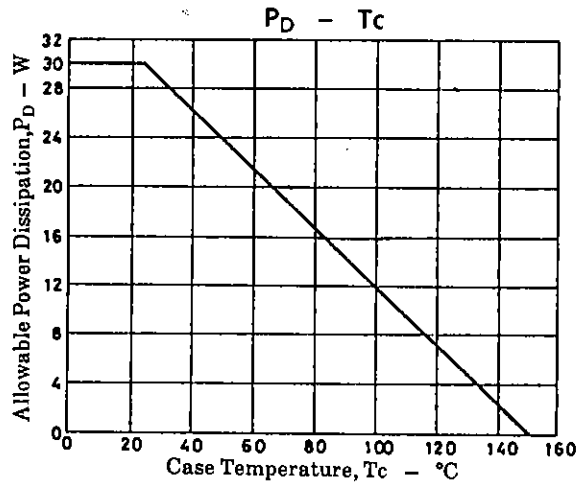
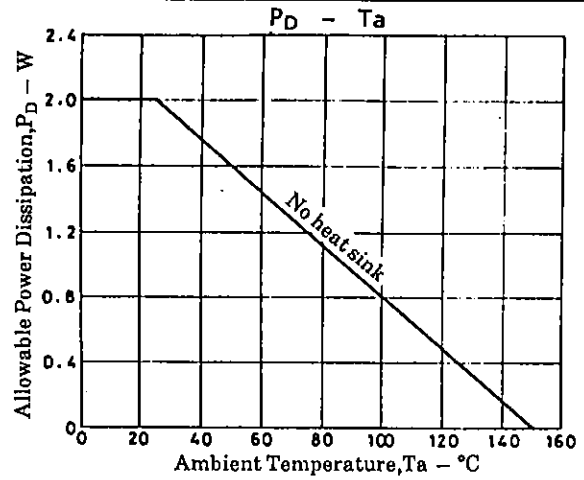
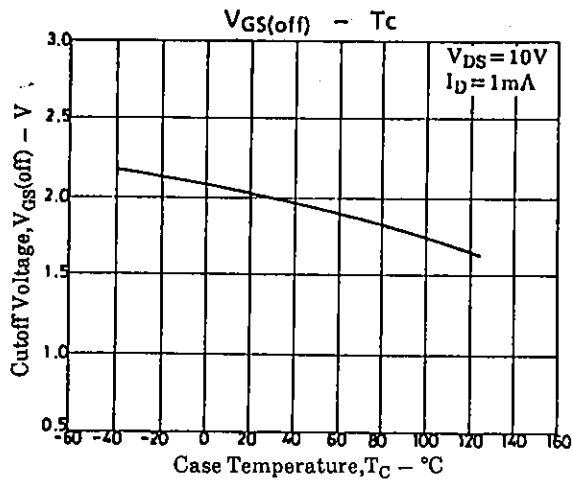
S: Source
D: Drain
G: Gate

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