

2SK1420



2063

AP (Advanced Performance) Series

$V_{DSS} = 60V$

N Channel Power MOSFET

3558

Features

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

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

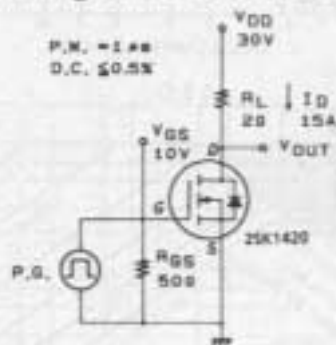
Parameter	Symbol	Condition	Value	unit
Drain to Source Voltage	V_{DSS}		60	V
Gate to Source Voltage	V_{GSS}		± 20	V
Drain Current(DC)	I_D		25	A
Drain Current(Pulse)	I_{DP}	$PW \leq 10\mu s, \text{ duty cycle} \leq 1\%$	100	A
Allowable Power Dissipation	P_D	$T_c = 25^\circ C$	30	W
Channel Temperature	T_{ch}		150	$^\circ C$
Storage Temperature	T_{stg}		-55 to +150	$^\circ C$

Electrical Characteristics at $T_a = 25^\circ C$

Parameter	Symbol	Condition	min	typ	max	unit
D-S Breakdown Voltage	$V_{(BR)DSS}$	$I_D = 1mA, V_{GS} = 0$	60			V
Zero Gate Voltage Drain Current	I_{DSS}	$V_{DS} = 60V, V_{GS} = 0$			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} $	$V_{DS} = 10V, I_D = 15A$	10	15		S
Static Drain to Source on State Resistance	$R_{DS(on)}$	$I_D = 15A, V_{GS} = 10V$	0.035	0.045		Ω
Input Capacitance	C_{iss}	$V_{DS} = 20V, f = 1MHz$		1200		pF
Output Capacitance	C_{oss}	$V_{DS} = 20V, f = 1MHz$		550		pF
Reverse Transfer Capacitance	C_{rss}	$V_{DS} = 20V, f = 1MHz$		150		pF
Turn-ON Delay Time	$t_{d(on)}$	$I_D = 15A, V_{GS} = 10V$ $V_{DD} = 30V, R_{GS} = 50\Omega$		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}	$I_S = 25A, V_{GS} = 0$			1.8	V

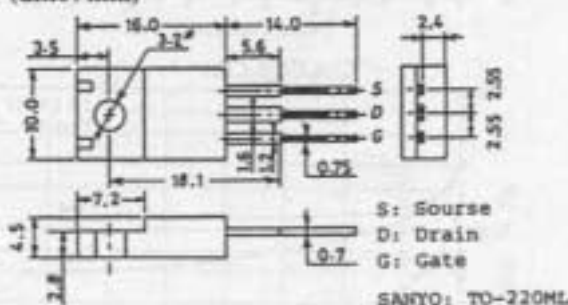
(Note) Be careful in handling the 2SK1420 because it has no protection diode between gate and source.

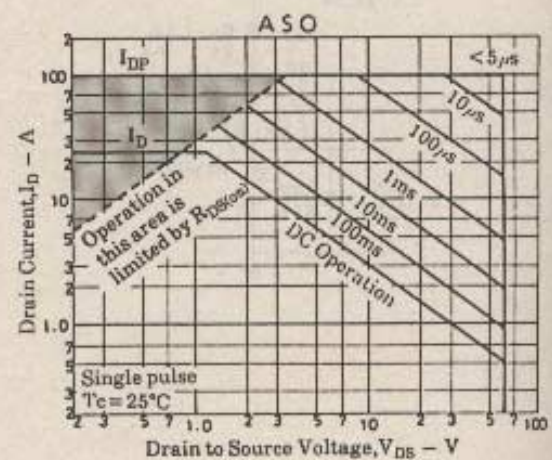
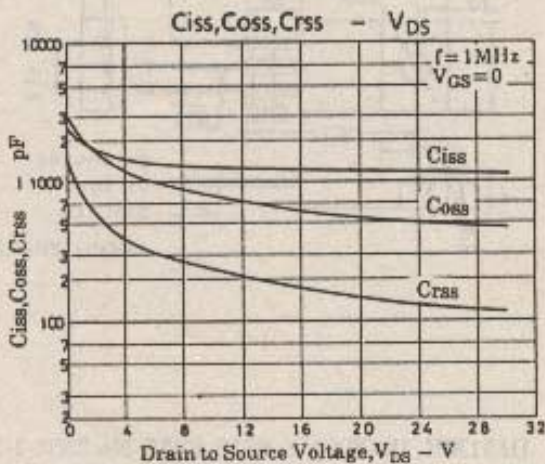
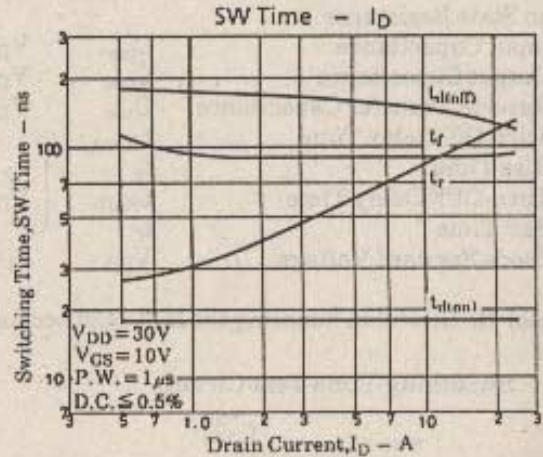
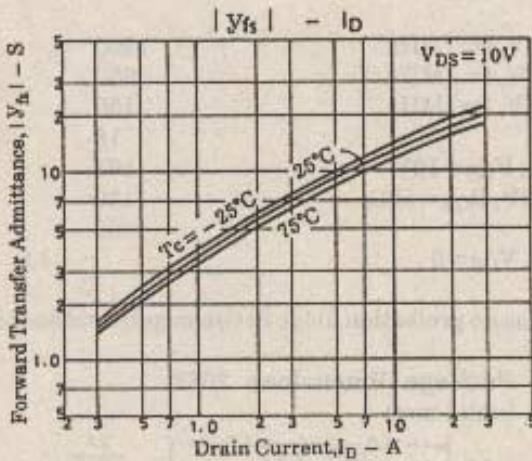
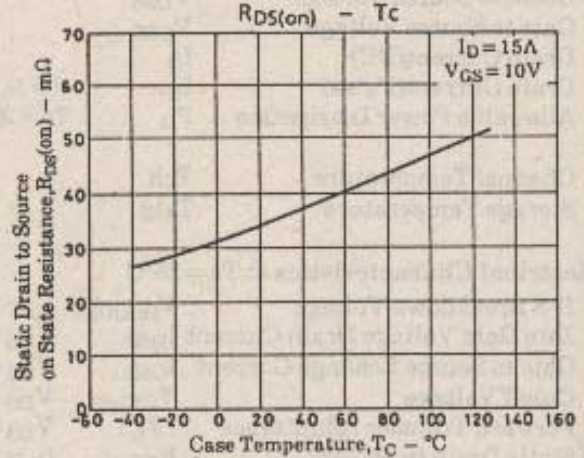
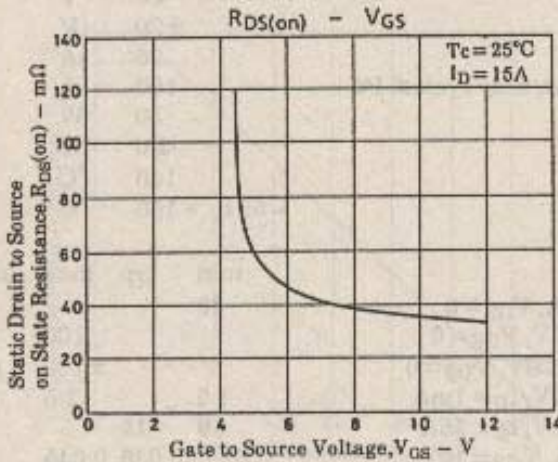
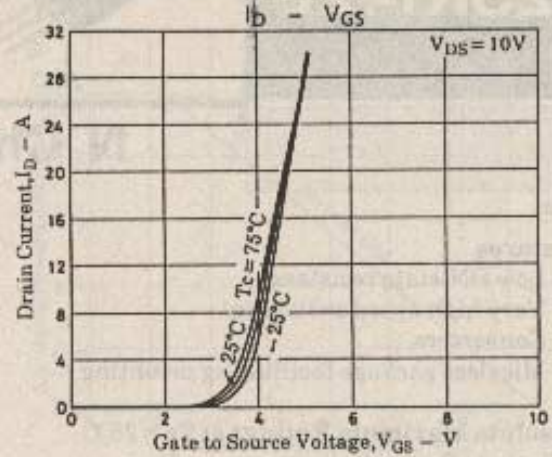
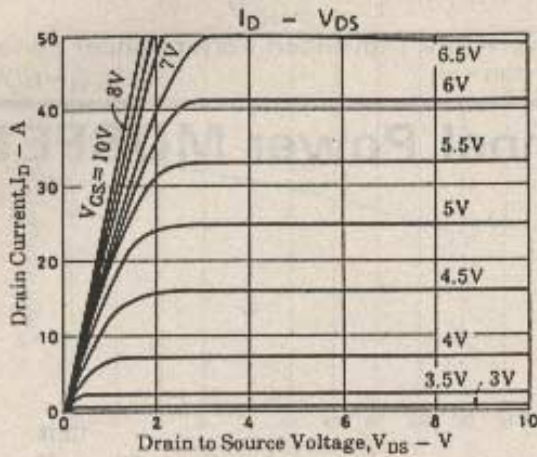
Switching Time Test Circuit



Package Dimensions 2063

(unit : mm)





2SK1420

