

SANYO	No.3453	2SK1450
		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

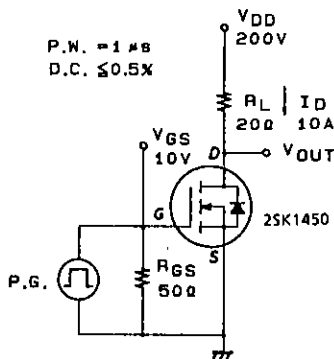
Drain to Source Voltage	V_{DSS}		450	V
Gate to Source Voltage	V_{GSS}		±30	V
Drain Current(DC)	I_D		20	A
Drain Current(Pulse)	I_{DP}	$PW \leq 10\mu s, \text{ duty cycle} \leq 1\%$	80	A
Allowable Power Dissipation	P_D	$T_c = 25^\circ C$	150	W
			2.5	W
Channel Temperature	T_{ch}		150	°C
Storage Temperature	T_{stg}		-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}	$V_{GS} = \pm 30V, V_{DS} = 0$			±100	nA
Cutoff Voltage	$V_{GS(off)}$	$V_{DS} = 10V, I_D = 1mA$	2.0		3.0	V
Forward Transfer Admittance	$ Y_{fs} $	$V_{DS} = 10V, I_D = 10A$	7.5	15		S
Static Drain to Source on State Resistance	$R_{DS(on)}$	$I_D = 10A, V_{GS} = 10V$	0.24	0.3		Ω
Input Capacitance	C_{iss}	$V_{DS} = 20V, f = 1MHz$		3200		pF
Output Capacitance	C_{oss}	$V_{DS} = 20V, f = 1MHz$		440		pF
Reverse Transfer Capacitance	C_{rss}	$V_{DS} = 20V, f = 1MHz$		160		pF
Turn-ON Delay Time	$t_{d(on)}$	$I_D = 10A, V_{GS} = 10V$ $V_{DD} = 200V, R_{GS} = 50\Omega$		40		ns
Rise Time	t_r		100		ns	
Turn-OFF Delay Time	$t_{d(off)}$		450		ns	
Fall Time	t_f		150		ns	
Diode Forward Voltage	V_{SD}	$I_S = 20A, V_{GS} = 0$			1.8	V

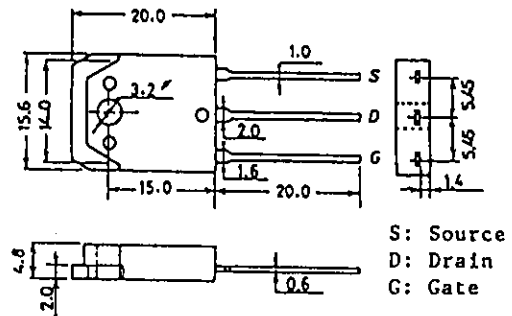
(Note) Be careful in handling the 2SK1450 because it has no protection diode between gate and source.

Switching Time Test Circuit



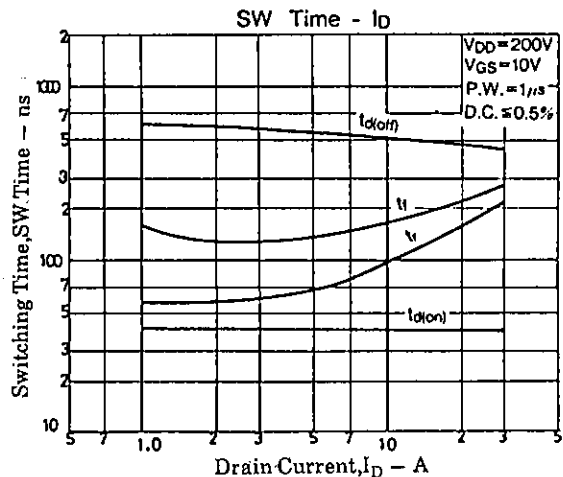
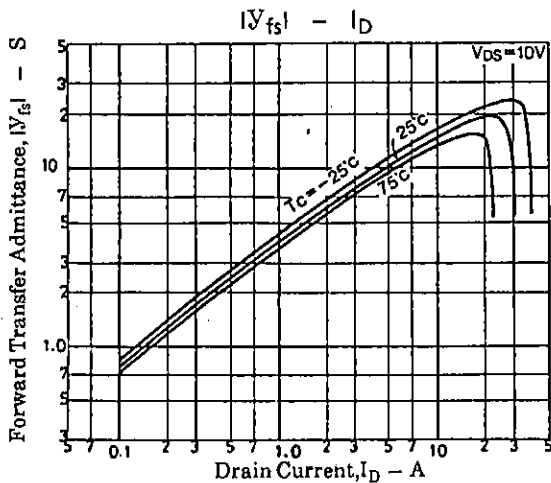
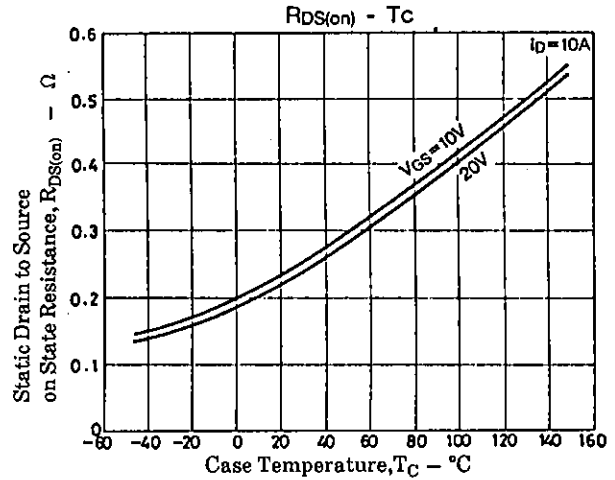
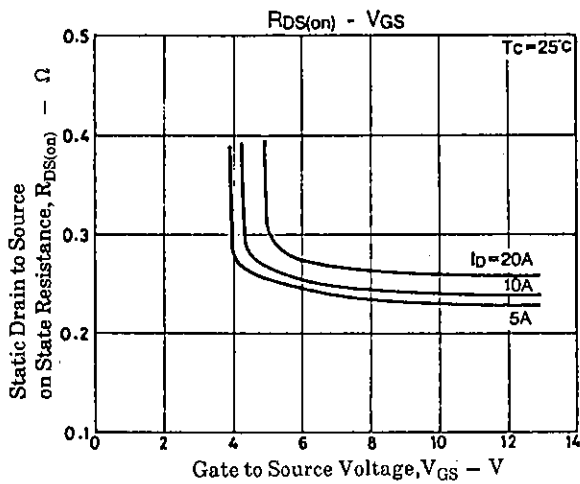
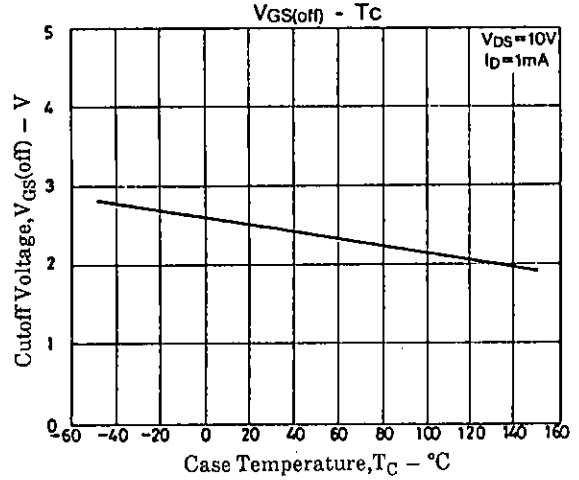
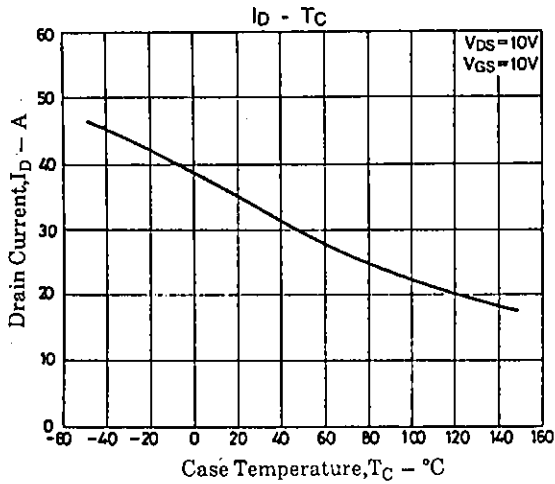
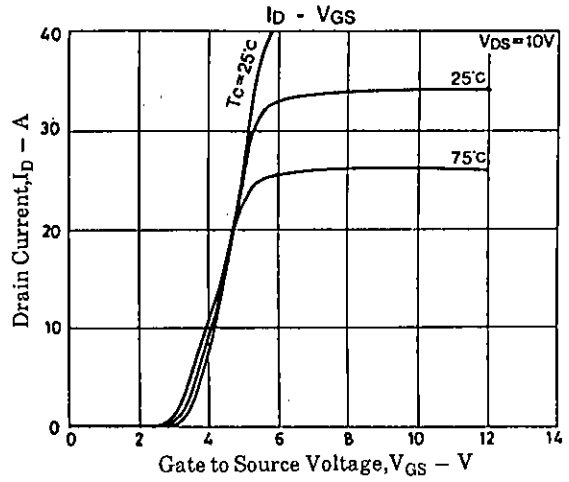
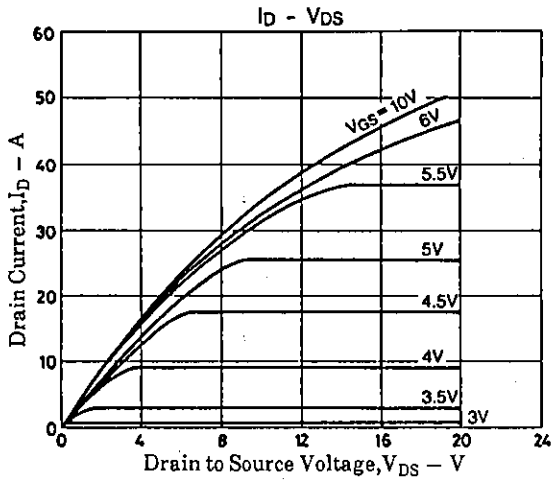
Package Dimensions 2056

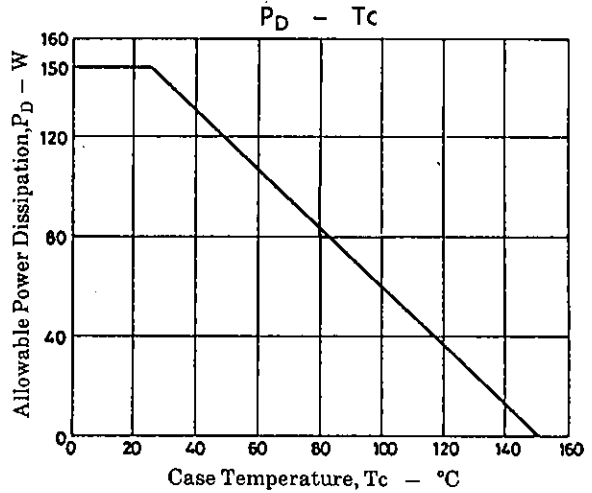
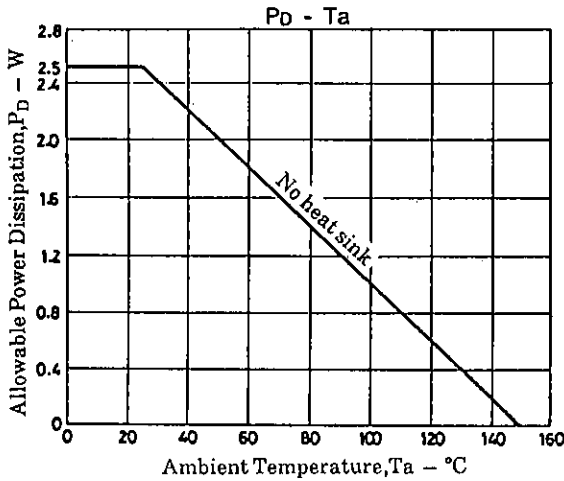
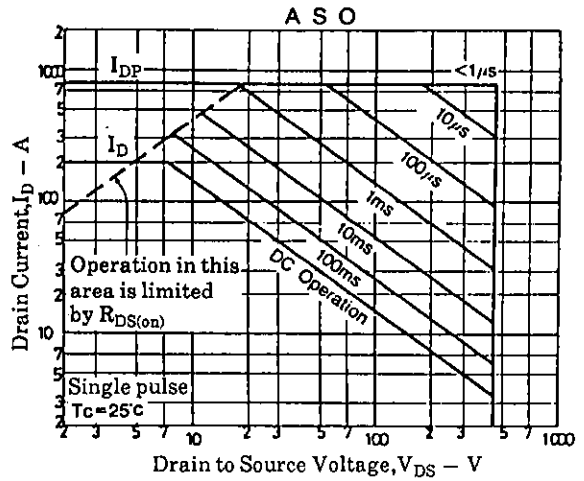
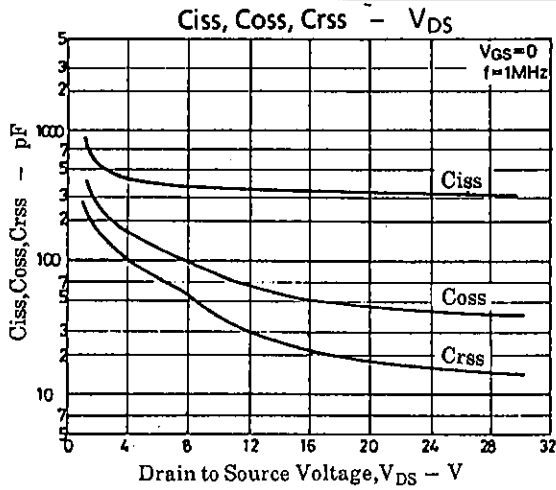
(unit : mm)



SANYO: TO3PB

2SK1450





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