



2SK2348

High-Voltage, High-Speed Switching Applications

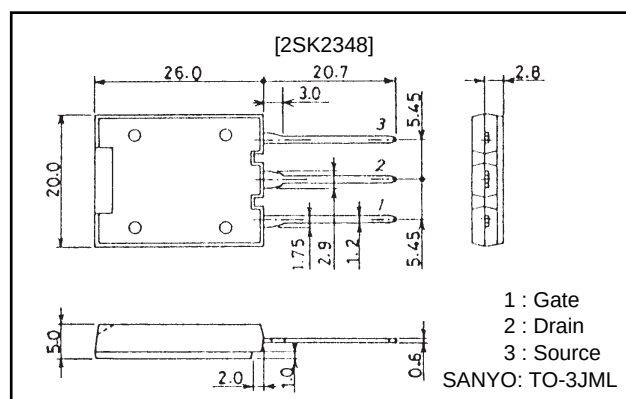
Features

- Low ON resistance, ultrahigh-speed switching.
- High reliability (Adoption of HVP process).

Package Dimensions

unit: mm

2131-TO-3JML



Specifications

Absolute Maximum Ratings at Ta=25°C

Parameter	Symbol	Conditions	Ratings	Unit
Drain-to-Source Voltage	V_{DSS}		1200	V
Gate-to-Source Voltage	V_{GSS}		± 30	V
Drain Current (DC)	I_D		14	A
Drain Current (pulse)	I_{DP}	$PW \leq 10\mu s$, duty cycle $\leq 1\%$	28	A
Allowable Power Dissipation	P_D		4.6	W
		$T_c = 25^\circ C$	160	W
Channel Temperature	T_{ch}		150	$^\circ C$
Storage temperature	T_{stg}		-55 to +150	$^\circ C$

Electrical Characteristics at Ta=25°C

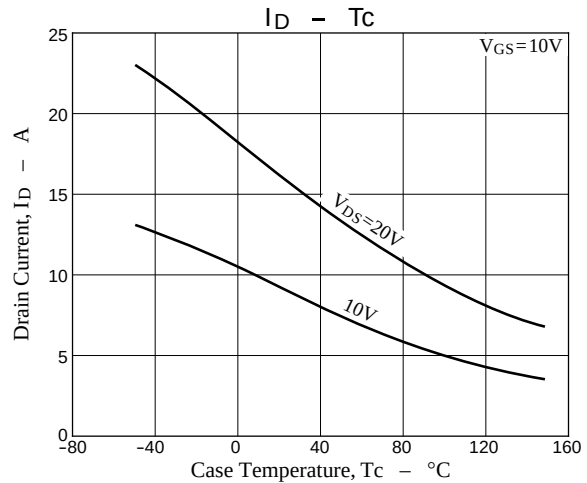
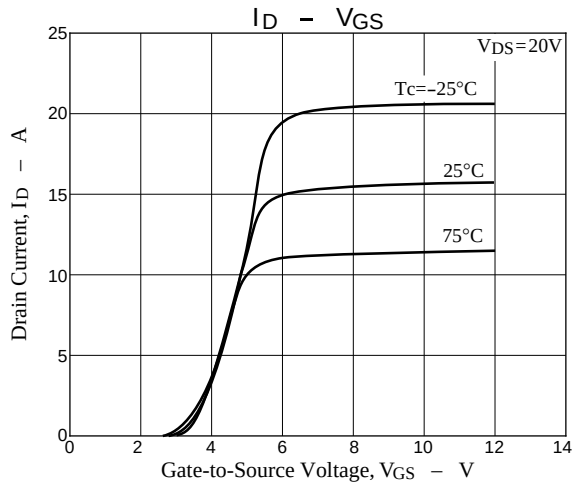
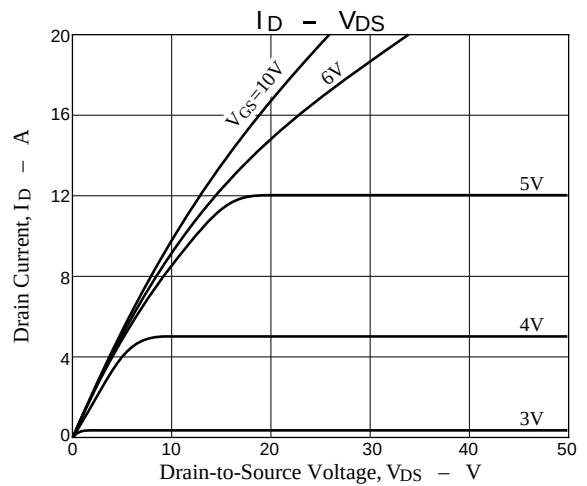
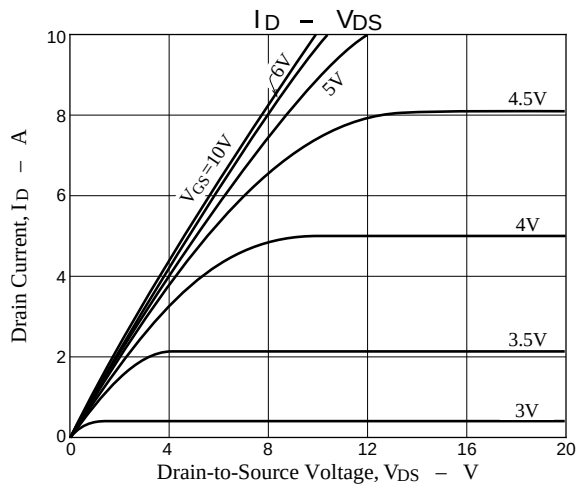
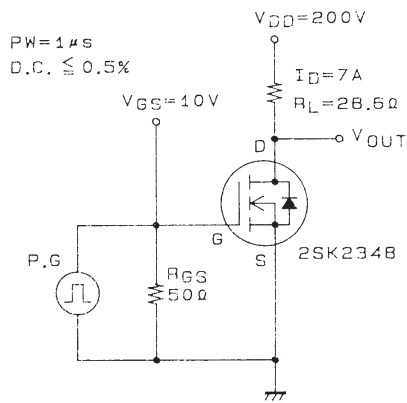
Parameter	Symbol	Conditions	Ratings			Unit
			min	typ	max	
D-S Breakdown Voltage	$V_{(BR)DSS}$	$I_D = 1mA$, $V_{GS} = 0$	1200			V
Zero-Gate Voltage Drain Current	I_{DSS}	$V_{DS} = 1200V$, $V_{GS} = 0$			1.0	mA
Gate-to Source Leak Current	I_{GSS}	$V_{GS} = \pm 30V$, $V_{DS} = 0$			± 100	nA
Cutoff Voltage	$V_{GS(off)}$	$V_{DS} = 10V$, $I_D = 1mA$	1.5		3.5	V
Forward Transfer Admittance	$ y_{fs} $	$V_{DS} = 20V$, $I_D = 7A$	3.0	6.0		S
Static Drain-to-Source ON-State Resistance	$R_{DS(on)}$	$I_D = 7A$, $V_{GS} = 10V$		1.0	1.5	Ω
Input Capacitance	C_{iss}	$V_{DS} = 20V$, $f = 1MHz$		3000		pF
Output Capacitance	C_{oss}	$V_{DS} = 20V$, $f = 1MHz$		500		pF
Reverse Transfer Capacitance	C_{rss}	$V_{DS} = 20V$, $f = 1MHz$		250		pF

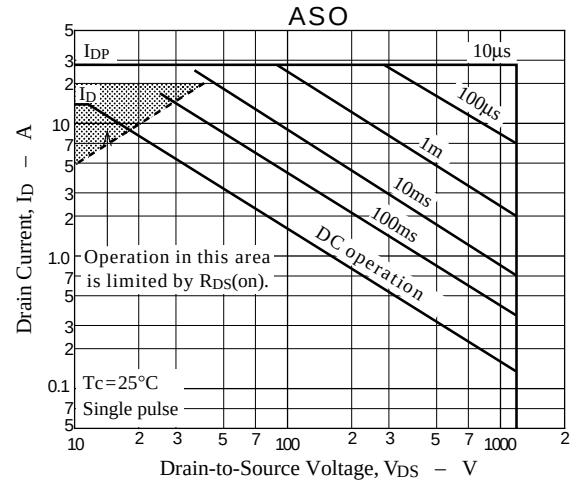
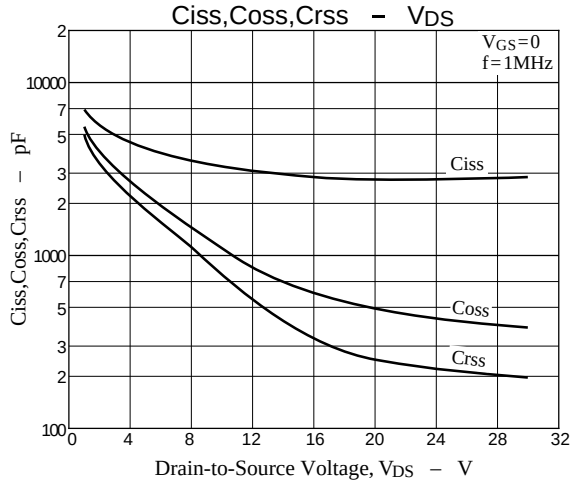
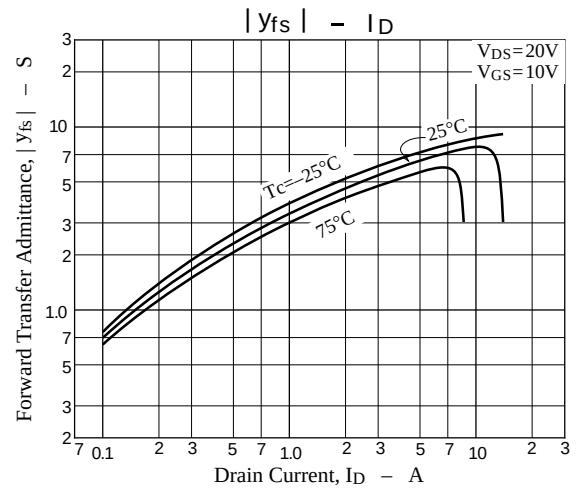
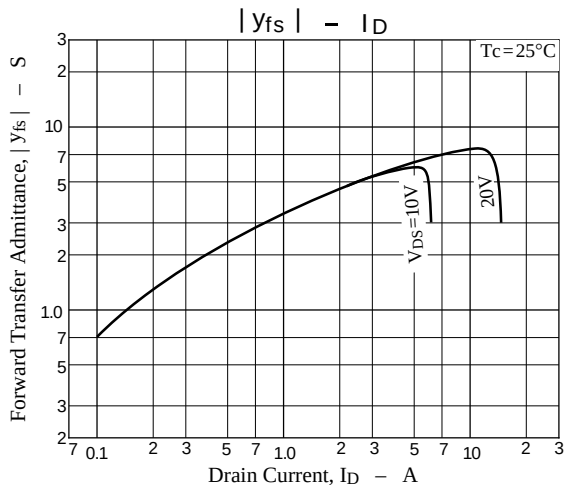
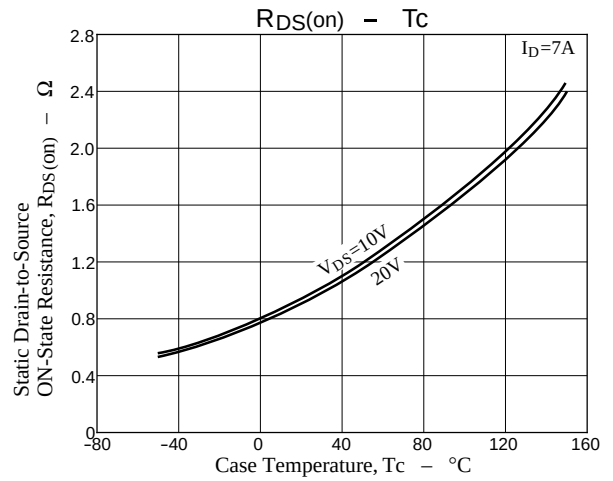
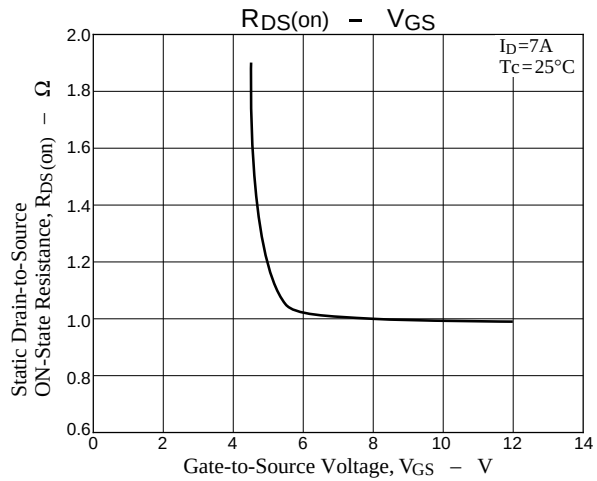
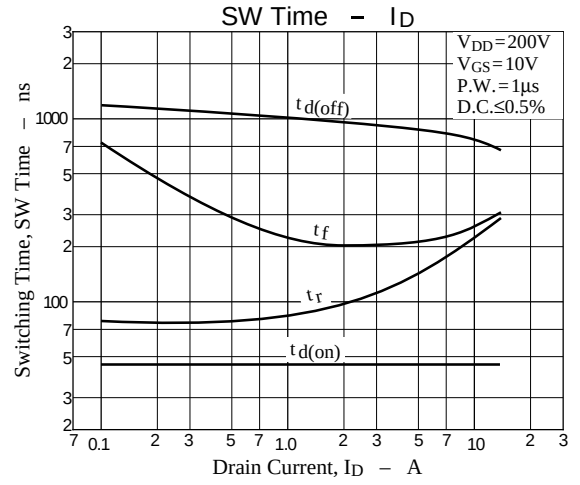
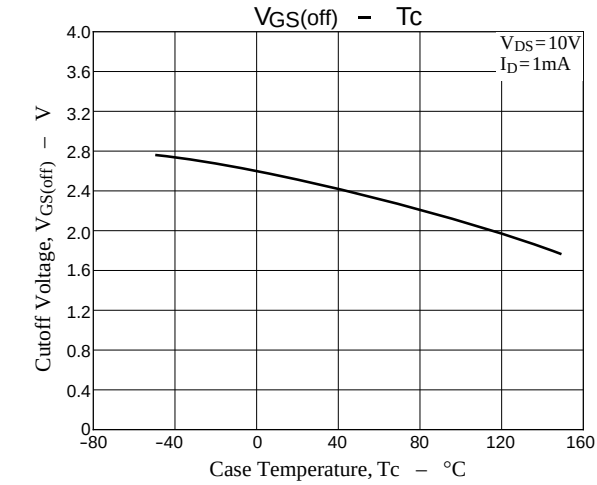
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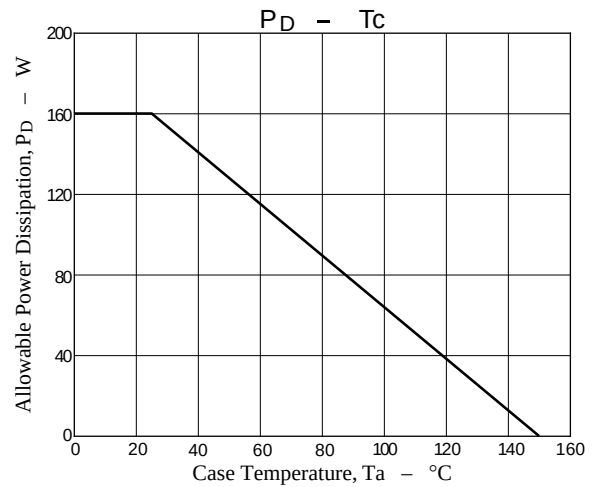
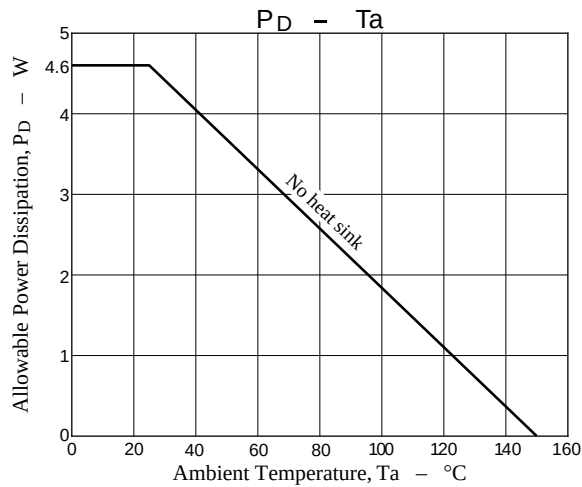
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Parameter	Symbol	Conditions	Ratings			Unit
			min	typ	max	
Turn-ON Delay Time	$t_{d(on)}$	$I_D=7A$, $V_{GS}=10V$, $V_{DD}=200V$, $R_{GS}=50\Omega$		45		ns
Rise Time	t_r			180		ns
Turn-OFF Delay Time	$t_{d(off)}$			850		ns
Fall Time	t_f			230		ns
Diode Forward Voltage	V_{SD}	$I_S=14A$, $V_{GS}=0$			1.5	V
Reverse Recovery Time	t_{rr}	$I_S=14A$, $di/dt=100A/\mu s$		0.75	1.5	μs

Switching Time Test Circuit







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