



2SK2348

High-Voltage, High-Speed Switching Applications

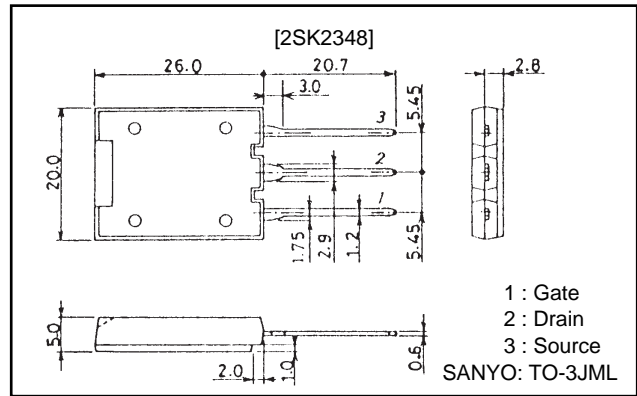
Features

- 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≤10μs, duty cycle≤1%	28	A
Allowable Power Dissipation	P _D		4.6	W
		T _c =25°C	160	W
Channel Temperature	T _{ch}		150	°C
Storage temperature	T _{stg}		-55 to +150	°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} =±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

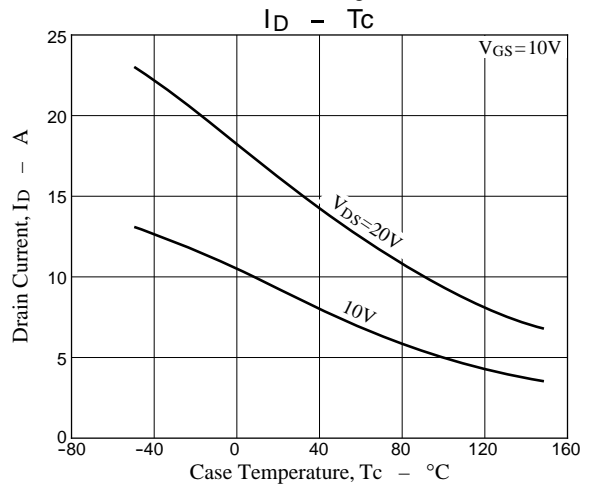
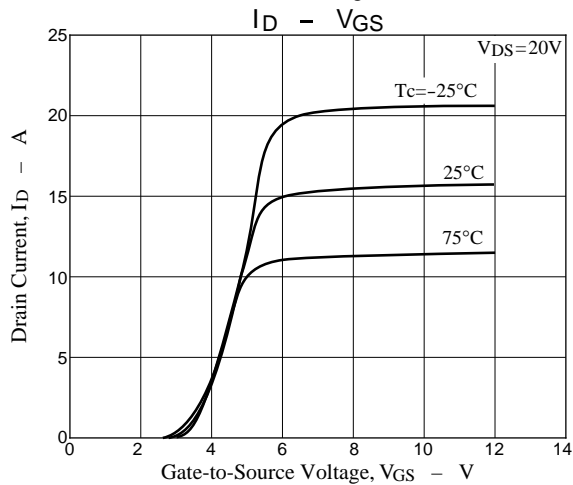
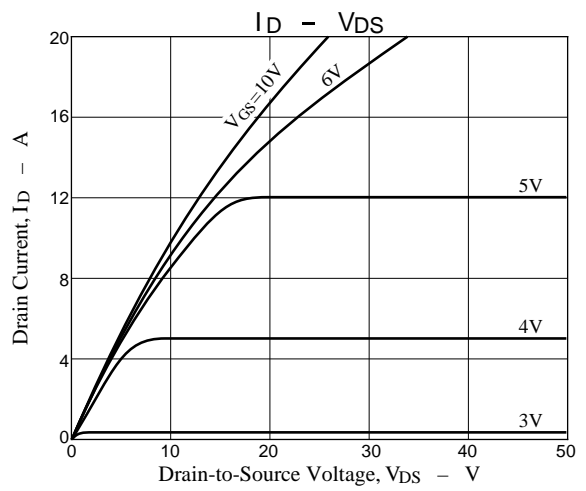
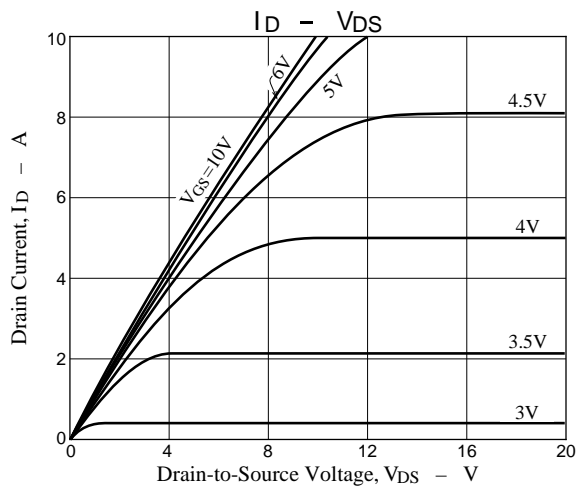
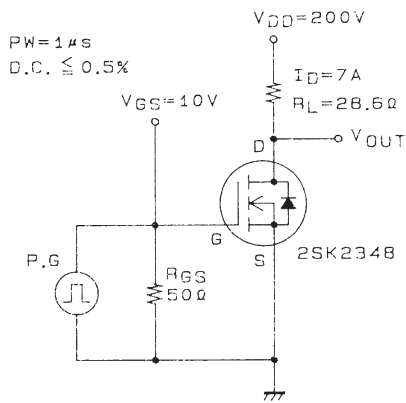
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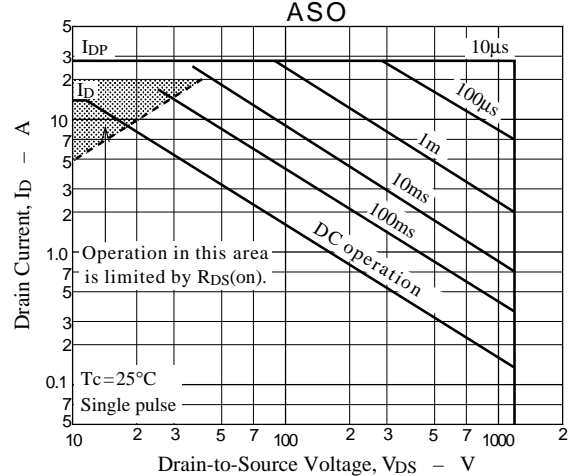
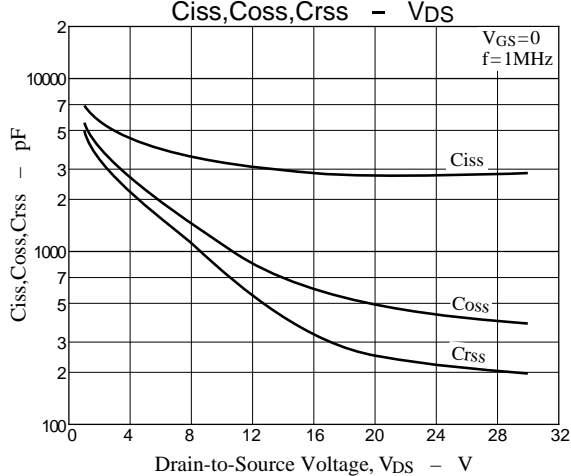
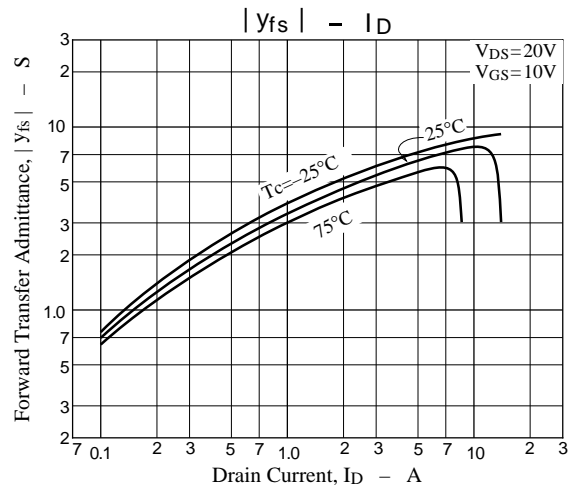
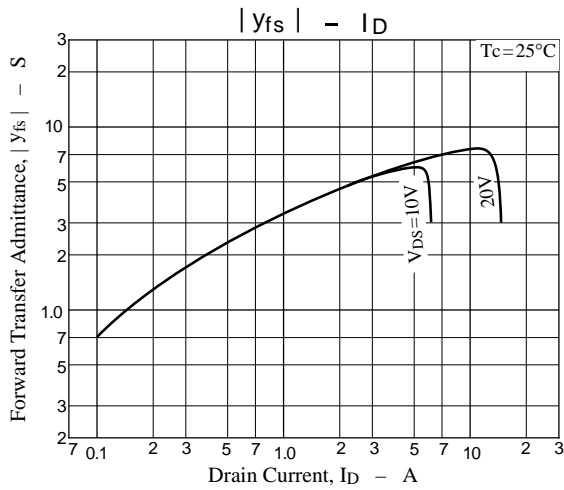
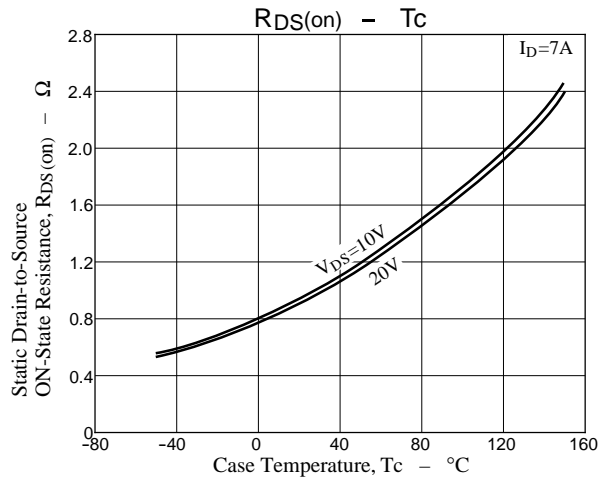
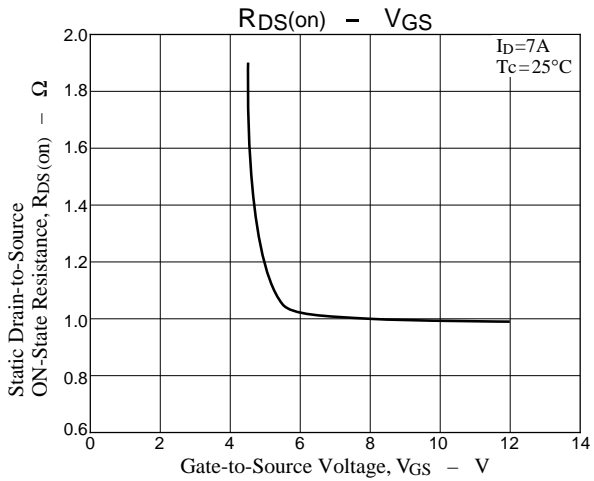
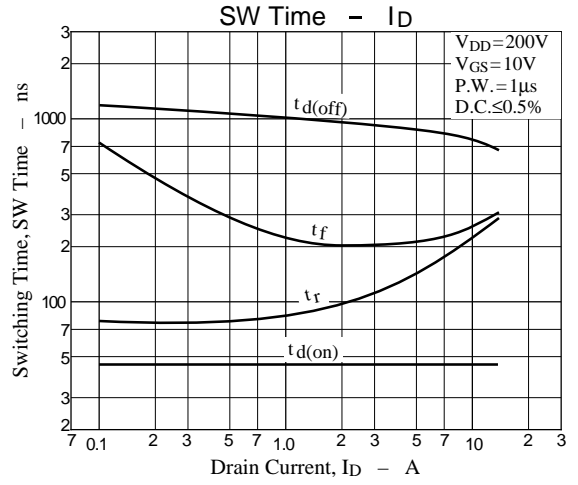
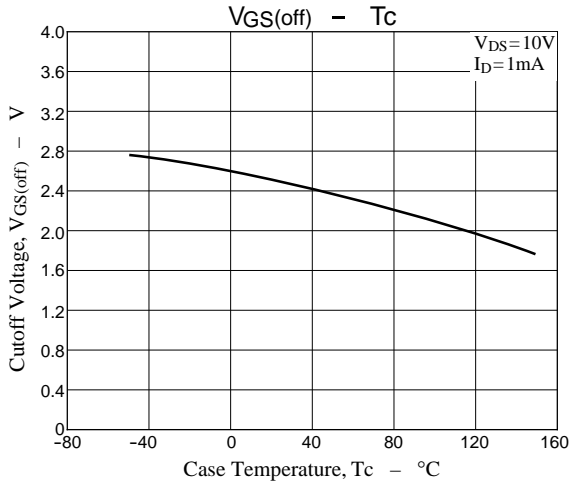
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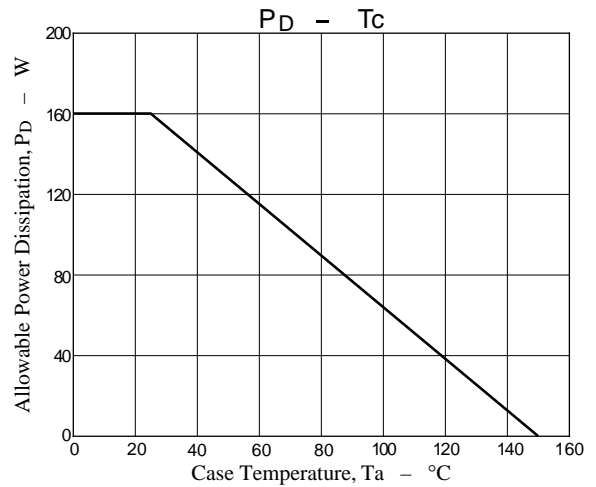
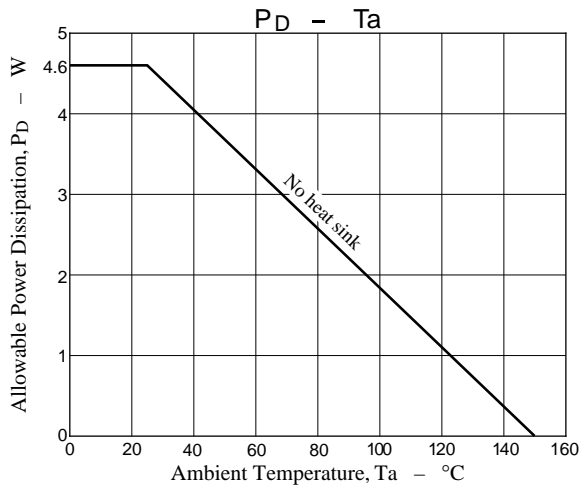
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Parameter	Symbol	Conditions	Ratings			Unit
			min	typ	max	
Turn-ON Delay Time	$t_{d(on)}$	$I_D=7A, V_{GS}=10V,$ $V_{DD}=200V, R_{GS}=50\Omega$		45		ns
Rise Time	t_r			180		ns
Turn-OFF Delay Time	$t_{d(off)}$			850		ns
Fall Time	t_f			230		ns
Diode 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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