

2SK1052

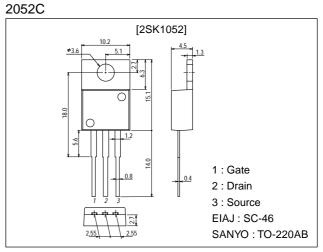
Ultrahigh-Speed Switching Applications

Features

- · Low ON-state resistance.
- \cdot Ultrahigh-speed switching.

Package Dimensions

unit:mm



Specifications

Absolute Maximum Ratings at Ta = 25°C

Parameter	Symbol	Conditions	Ratings	Unit
Drain-to-Source Voltage	V _{DSS}		450	V
Gate-to-Source Voltage	VGSS		±30	V
Drain Current (DC)	۱ _D		0.5	А
Drain Current (Pulse)	I _{DP}	PW≤10µs, duty cycle≤1%	2.0	А
Allowable Power Dissipation	P-	Tc=25°C	30	W
	PD		1.75	W
Channel Temperature	Tch		150	°C
Storage Temperature	Tstg		-55 to +150	°C

Electrical Characteristics at Ta = 25°C

Symbol	Conditions	Ratings			Unit
		min	typ	max	Unit
V(BR)DSS	I _D =1mA, V _{GS} =0	450			V
IDSS	V _{DS} =450V, V _{GS} =0			1.0	mA
IGSS	V _{GS} =±30V, V _{DS} =0			±100	nA
VGS(off)	V _{DS} =10V, I _D =1mA	2.0		3.0	V
yfs	V _{DS} =10V, I _D =0.3A	0.4	0.8		S
R _{DS(on)}	I _D =0.3A, V _{GS} =10V		5.5	7.0	Ω
	V(BR)DSS IDSS IGSS VGS(off) yfs	V(BR)DSS ID=1mA, VGS=0 IDSS VDS=450V, VGS=0 IGSS VGS=±30V, VDS=0 VGS(off) VDS=10V, ID=1mA yfs VDS=10V, ID=0.3A	V(BR)DSS ID=1mA, VGS=0 450 IDSS VDS=450V, VGS=0 1000000000000000000000000000000000000	Symbol Conditions min typ V(BR)DSS ID=1mA, VGS=0 450 450 IDSS VDS=450V, VGS=0 1000000000000000000000000000000000000	Symbol Conditions min typ max V(BR)DSS ID=1mA, VGS=0 450 1.0 IDSS VDS=450V, VGS=0 1.0 1.0 IGSS VGS=±30V, VDS=0 ±100 100 VGS(off) VDS=10V, ID=1mA 2.0 3.0 I yfs VDS=10V, ID=0.3A 0.4 0.8

(Note) Be careful in handling the 2SK1052 because it has no protection diode between gate and source.

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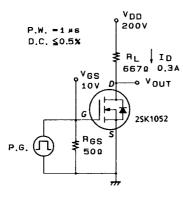
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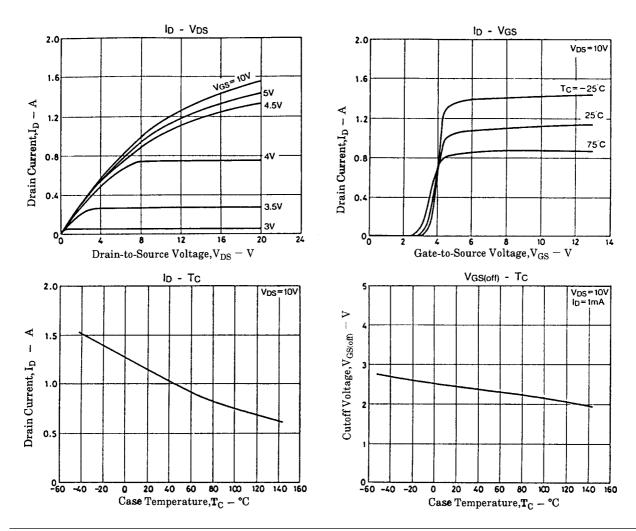
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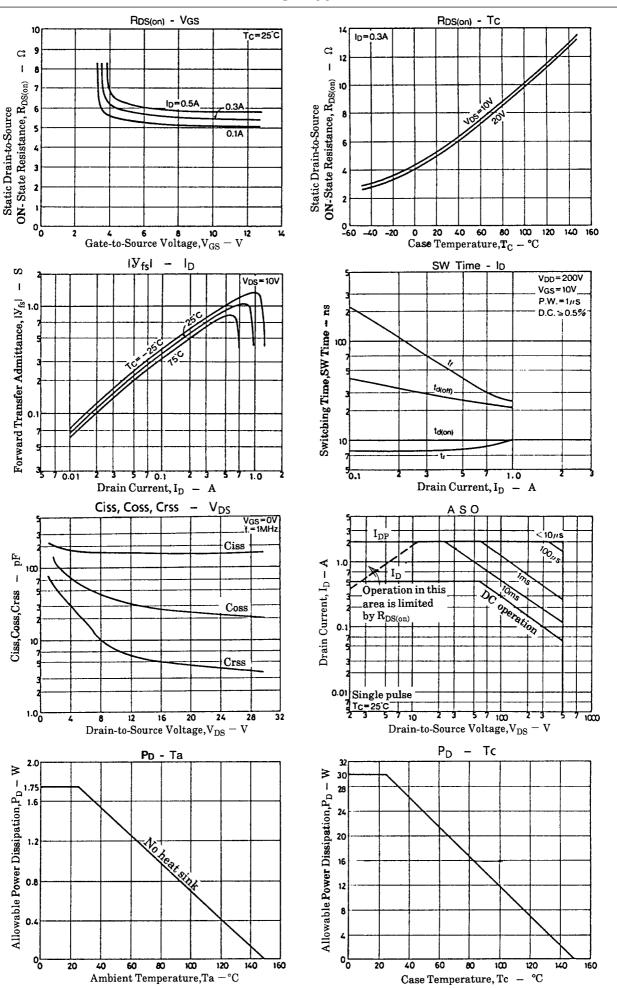
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Parameter	Symbol	Conditions	Ratings			Unit
			min	typ	max	Unit
Input Capacitance	Ciss	V _{DS} =20V, f=1MHz		160		pF
Output Capacitance	Coss	V _{DS} =20V, f=1MHz		25		pF
Reverse Transfer Capacitance	Crss	V _{DS} =20V, f=1MHz		5.0		pF
Turn-ON Delay Time	td(on)	I_{D} =0.3A, V_{GS} =10V, V_{DD} =200V, R_{GS} =50 Ω		10		ns
Rise Time	tr	I_{D} =0.3A, V_{GS} =10V, V_{DD} =200V, R_{GS} =50 Ω		8		ns
Turn-OFF Delay Time	td(off)	I_D =0.3A, V_{GS} =10V, V_{DD} =200V, R_{GS} =50 Ω		30		ns
Fall Time	t _f	I_{D} =0.3A, V_{GS} =10V, V_{DD} =200V, R_{GS} =50 Ω		70		ns
Diode Forward Voltage	V _{SD}	I _S =0.5A, V _{GS} =0			1.8	V

Switching Time Test Circuit







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