



2SK2531 — N-Channel Silicon MOSFET

General-Purpose Switching Device Applications

Features

- Low ON-resistance.
- High-speed diode.
- Enables simplified fabrication, high-density mounding, and miniaturization in end products due to the surface mountable package.

Specifications

Absolute Maximum Ratings at Ta=25°C

Parameter	Symbol	Conditions	Ratings	Unit
Drain-to-Source Voltage	V _{DSS}		250	V
Gate-to-Source Voltage	V _{GSS}		±30	V
Drain Current	I _D		6	A
Drain Current (Pulse)	I _{DP}	PW≤10μs, duty cycle≤1%	24	A
Allowable Power Dissipation	P _D	T _c =25°C	30	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	
Drain-to-Source Breakdown Voltage	V _{(BR)DSS}	I _D =1mA, V _{GS} =0V	250			V
Gate-to-Source Breakdown Voltage	V _{(BR)GSS}	I _G = ±100μA, V _{DS} =0V	±30			V
Zero-Gate Voltage Drain Current	I _{DSS}	V _{DS} =250V, V _{GS} =0V			1.0	mA
Gate-to-Source Leakage Current	I _{GSS}	V _{GS} = ±25V, V _{DS} =0V			±10	μA
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 =3A	2.5	4.0		S
Static Drain-to-Source On-State Resistance	R _{DS(on)}	I _D =3A, V _{GS} =10V		600	800	mΩ

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2SK2531

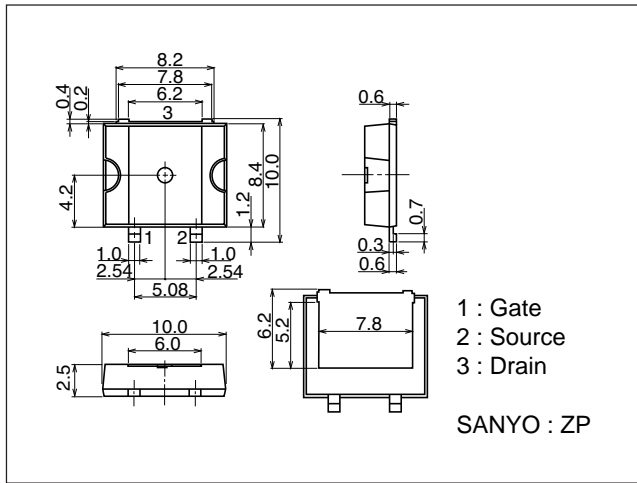
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Parameter	Symbol	Conditions	Ratings			Unit
			min	typ	max	
Input Capacitance	Ciss	$V_{DS}=20V, f=1MHz$		420		pF
Output Capacitance	Coss	$V_{DS}=20V, f=1MHz$		95		pF
Reverse Transfer Capacitance	Crss	$V_{DS}=20V, f=1MHz$		30		pF
Turn-ON Delay Time	$t_{d(on)}$	See specified Test Circuit.		12		ns
Rise Time	t_r	See specified Test Circuit.		15		ns
Turn-OFF Delay Time	$t_{d(off)}$	See specified Test Circuit.		65		ns
Fall Time	t_f	See specified Test Circuit.		55		ns
Diode Forward Voltage	V_{SD}	$I_S=6A, V_{GS}=0V$		1.0	1.5	V
Diode Reverse Recovery Time	t_{rr}	$I_S=6A, di/dt=100A/\mu s$		100		ns

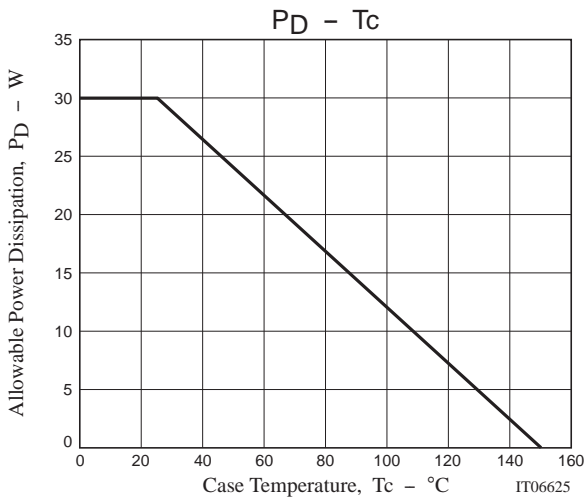
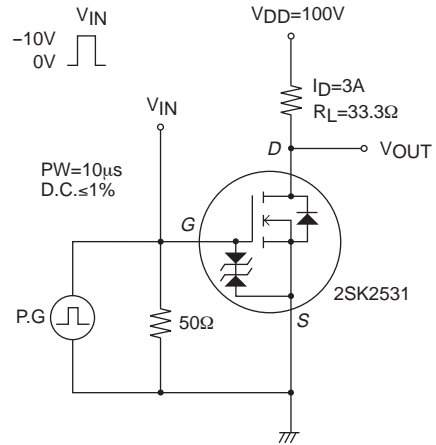
Package Dimensions

unit : mm (typ)

7002-001



Switching Time Test Circuit



Note on usage : Since the 2SK2531 is a MOSFET product, please avoid using this device in the vicinity of highly charged objects.

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