



SANYO Semiconductors

DATA SHEET

2SK3979 — N-Channel Silicon MOSFET

General-Purpose Switching Device Applications

Features

- Low ON-resistance.
- Ultrahigh-speed switching.

Specifications

Absolute Maximum Ratings at Ta=25°C

Parameter	Symbol	Conditions	Ratings	Unit
Drain-to-Source Voltage	V _{DSS}		200	V
Gate-to-Source Voltage	V _{GSS}		±30	V
Drain Current (DC)	I _D		6	A
Drain Current (Pulse)	I _{DP}	PW≤10μs, duty cycle≤1%	24	A
Allowable Power Dissipation	P _D		1	W
		Tc=25°C	20	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	200			V
Zero-Gate Voltage Drain Current	I _{DSS}	V _{DS} =200V, V _{GS} =0V			1	μA
Gate-to-Source Leakage Current	I _{GSS}	V _{GS} =±24V, V _{DS} =0V			±1	μA
Cutoff Voltage	V _{GS(off)}	V _{DS} =10V, I _D =1mA	2.0		3.2	V
Forward Transfer Admittance	y _{fs}	V _{DS} =10V, I _D =3A	2.1	3.5		S
Static Drain-to-Source On-State Resistance	R _{DS(on)}	I _D =3A, V _{GS} =10V		320	450	mΩ
Input Capacitance	C _{iss}	V _{DS} =20V, f=1MHz		1090		pF
Output Capacitance	C _{oss}	V _{DS} =20V, f=1MHz		85		pF
Reverse Transfer Capacitance	C _{rss}	V _{DS} =20V, f=1MHz		35		pF

Marking : K3979

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2SK3979

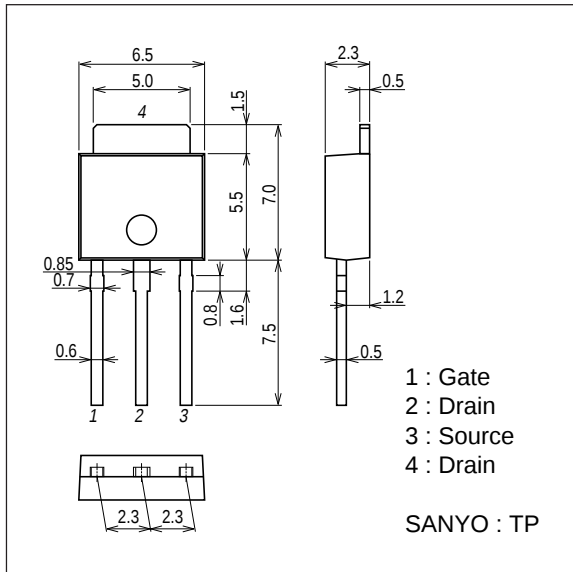
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Parameter	Symbol	Conditions	Ratings			Unit
			min	typ	max	
Turn-ON Delay Time	$t_{d(on)}$	See specified Test Circuit.		17.5		ns
Rise Time	t_r	See specified Test Circuit.		26		ns
Turn-OFF Delay Time	$t_{d(off)}$	See specified Test Circuit.		50		ns
Fall Time	t_f	See specified Test Circuit.		42		ns
Total Gate Charge	Q_g	$V_{DS}=100V, V_{GS}=10V, I_D=6A$		18.2		nC
Gate-to-Source Charge	Q_{gs}	$V_{DS}=100V, V_{GS}=10V, I_D=6A$		8.0		nC
Gate-to-Drain "Miller" Charge	Q_{gd}	$V_{DS}=100V, V_{GS}=10V, I_D=6A$		7.0		nC
Diode Forward Voltage	V_{SD}	$I_S=6A, V_{GS}=0V$		0.86	1.2	V

Package Dimensions

unit : mm (typ)

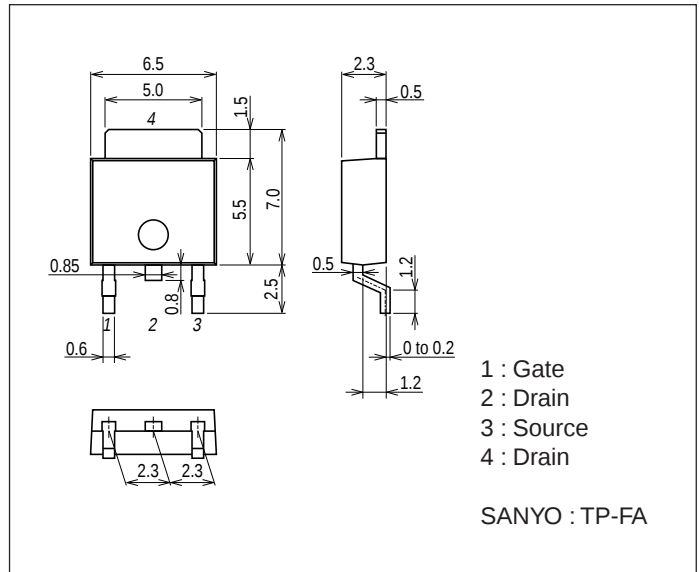
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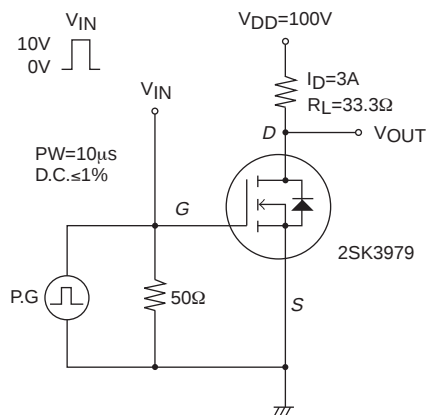
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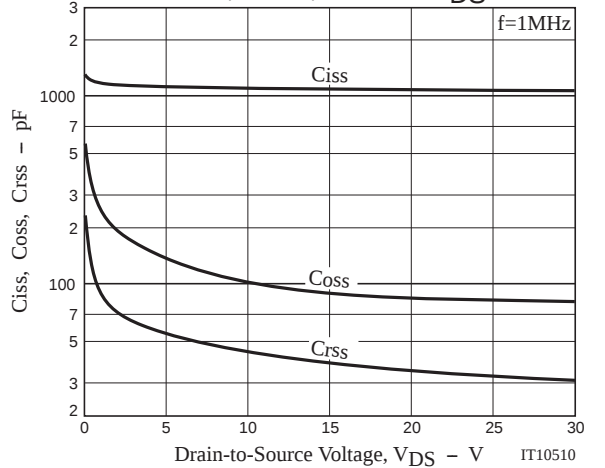
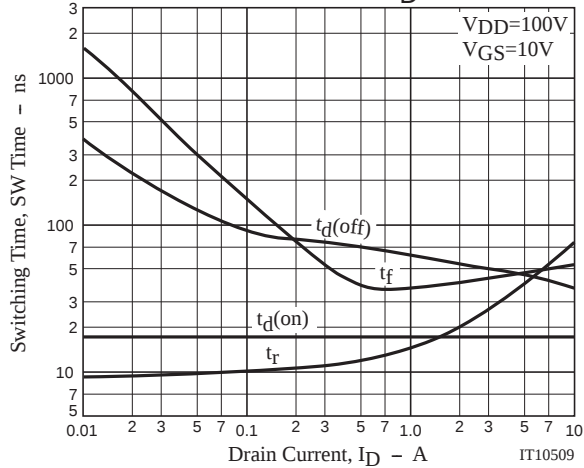
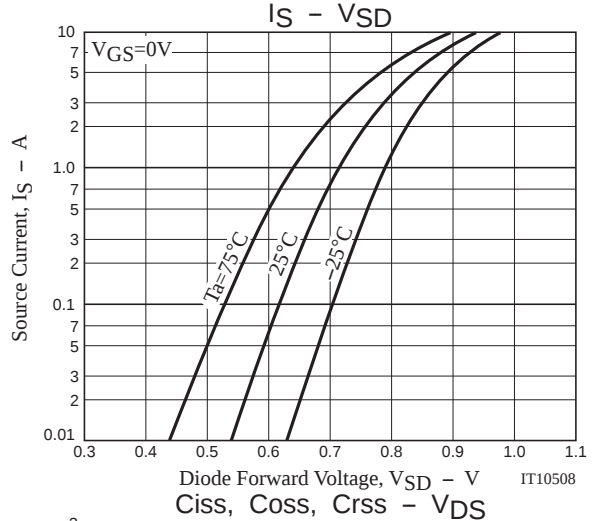
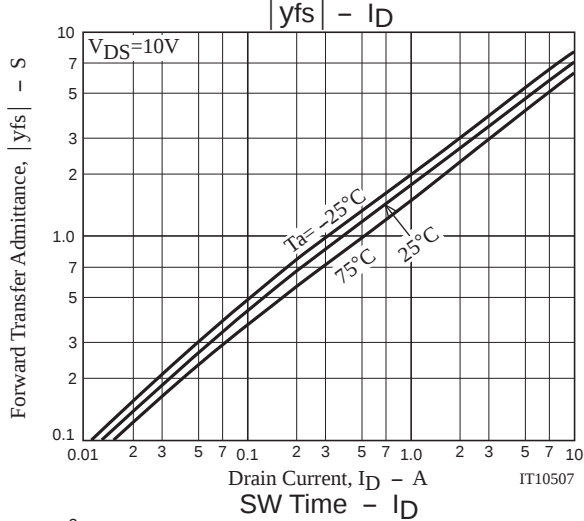
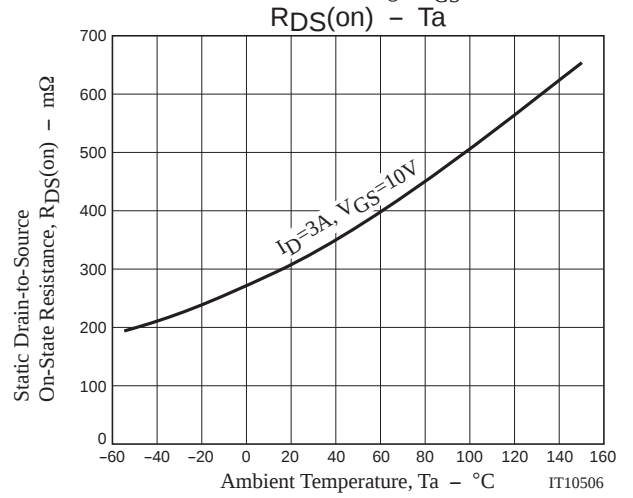
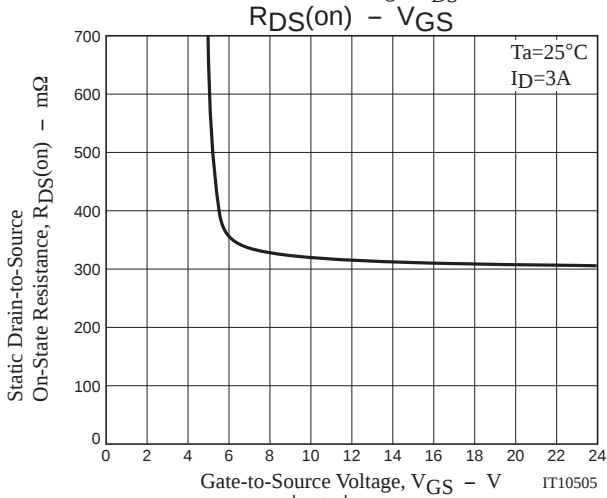
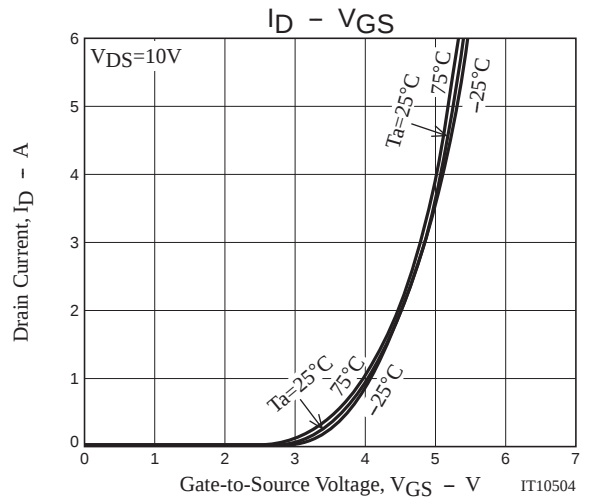
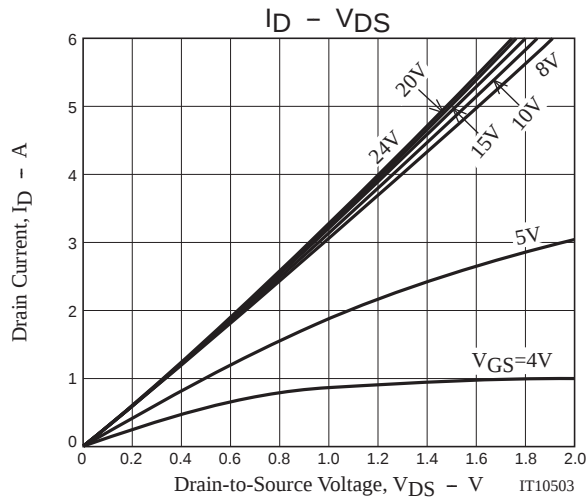
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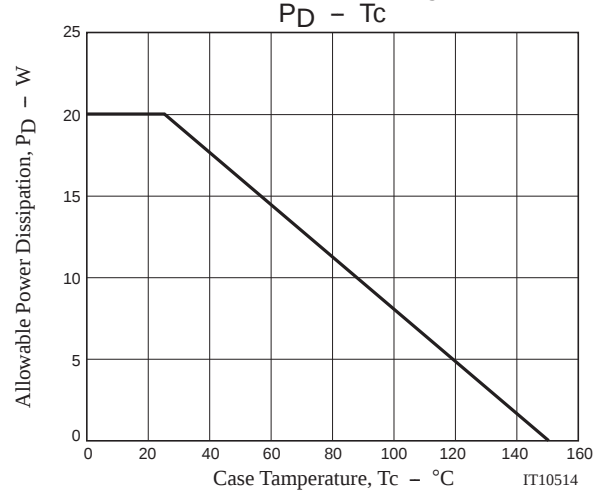
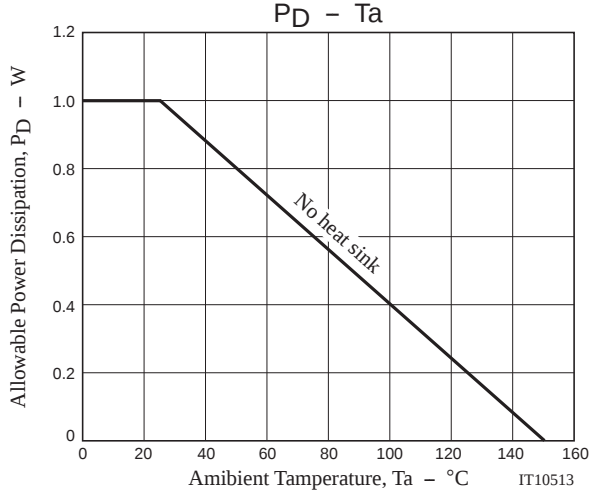
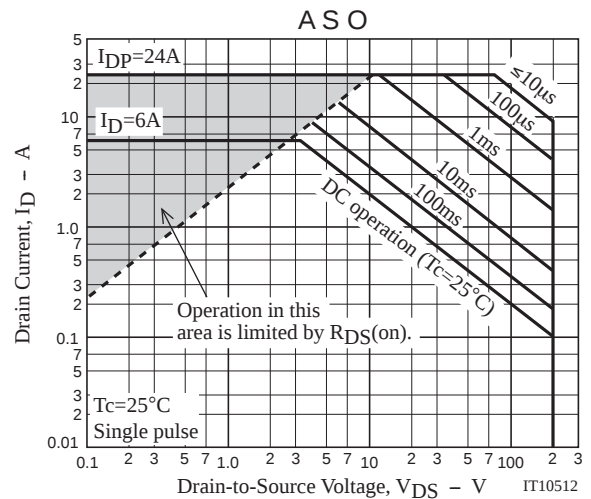
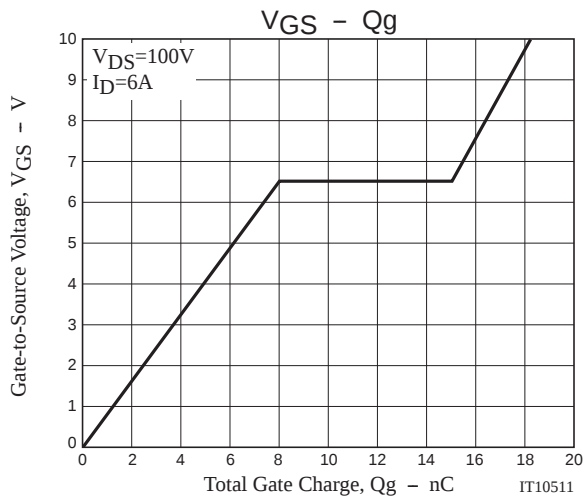
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Switching Time Test Circuit







Note on usage : Since the 2SK3979 is a MOSFET product, please avoid using this device in the vicinity of highly charged objects.

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