N-Channel/SiliconSMOSFETm



2SK1470

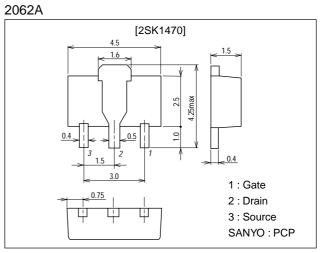
Ultrahigh-Speed Switching Applications

Features

- · Low ON resistance.
- · Ultrahigh-speed switching.
- · Low-voltage drive.

Package Dimensions

unit:mm



Specifications

Absolute Maximum Ratings at Ta = 25°C

Parameter	Symbol	Conditions	Ratings	Unit
Drain-to-Source Voltage	V _{DSS}		60	V
Gate-to-Source Voltage	V _{GSS}		±15	V
Drain Current (DC)	۱ _D		2	A
Drain Current (pulse)	I _{DP}	PW≤10µs, duty cycle≤1%	8	A
Allowable Power Dissipation	D-	Tc=25°C	3.5	W
	PD	Mounted on a ceramic board (250mm ² ×0.8mm)	1.5	W
Channel Temperature	Tch		150	°C
Storage Temperature	Tstg		-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} =0	60			V
Zero-Gate Votlage Drain Current	IDSS	V _{DS} =60V, V _{GS} =0			100	μA
Gate-to-Source Leakage Current	IGSS	$V_{GS}=\pm 12V, V_{DS}=0$			±10	μΑ
Cutoff Voltage	VGS(off)	V _{DS} =10V, I _D =1mA	1.0		2.0	V
Forward Transfer Admittance	yfs	V _{DS} =10V, I _D =1A	1.2	2.0		S
Static Drain-to-Source On-State Resistance	R _{DS(on)} 1	I _D =1A, V _{GS} =10V		0.35	0.45	Ω
	R _{DS(on)} 2	I _D =1A, V _{GS} =4V		0.45	0.6	Ω

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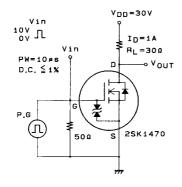
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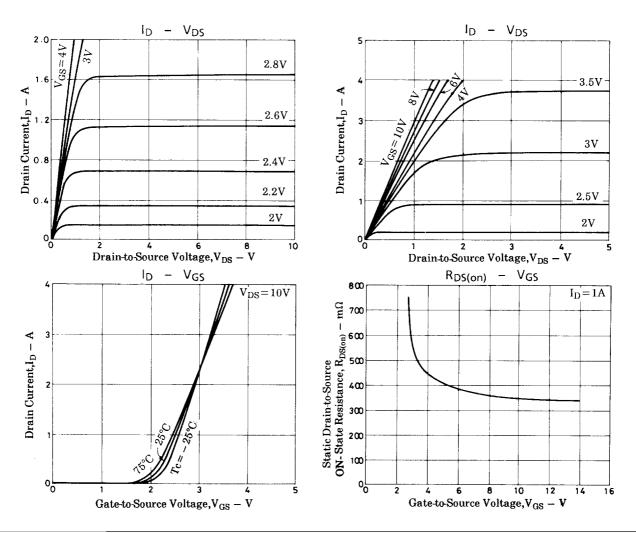
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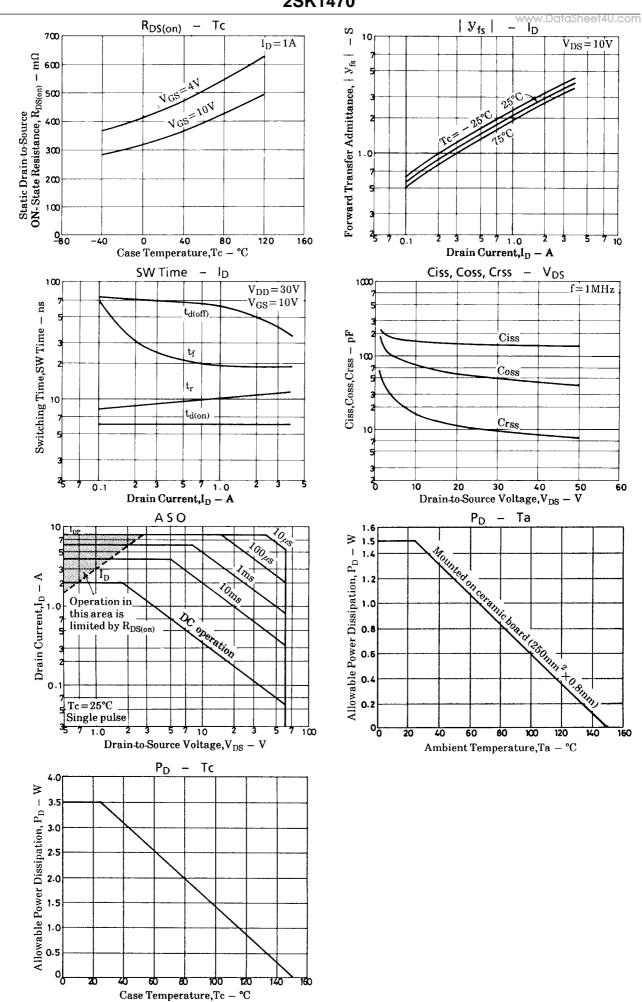
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Parameter	Symbol	Conditions	Ratings	Unit
Input Capacitance	Ciss	V _{DS} =20V, f=1MHz	150	pF
Output Capacitance	Coss	V _{DS} =20V, f=1MHz	60	pF
Reverse Transfer Capacitance	Crss	V _{DS} =20V, f=1MHz	12	pF
Turn-ON Delay Time	t _{d(on)}	See specified Test Circuit	6	ns
Rise Time	tr	See specified Test Circuit	10	ns
Turn-OFF Delay Time	td(off)	See specified Test Circuit	60	ns
Fall Time	tf	See specified Test Circuit	20	ns
Diode Forward Voltage	V _{SD}	I _S =2A, V _{GS} =0	1.0	V

Switching Time Test Circuit







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