

No.3819

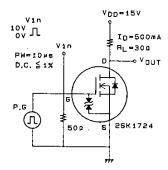
2SK1724 · N-Channel MOS Silicon FET Very High-Speed Switching Applications

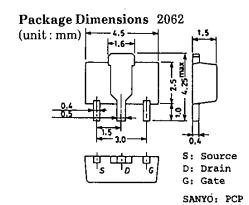
Features

- · Low ON resistance.
- · Very high-speed switching.
- · Low-voltage drive.

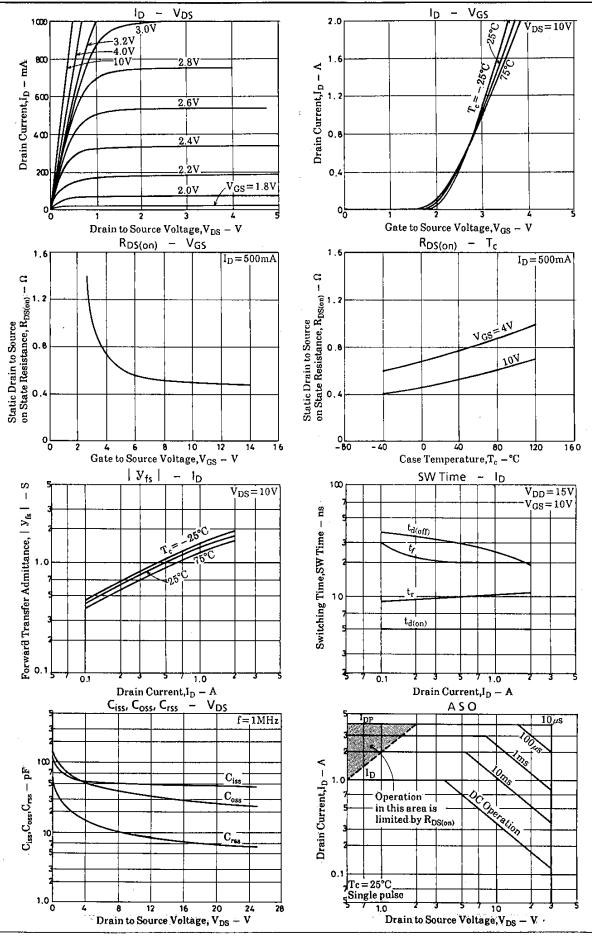
Absolute Maximum Ratings at Ta = 25°C				unit			
Drain to Source Voltage	v_{DSS}			30	V		
Gate to Source Voltage	V_{GSS}		±15		V		
Drain Current(DC)	$I_{\mathbf{D}}$			1	Α		
Drain Current(Pulse)	I_{DP}	PW≦10μs, duty cycle≦1%	4		Α		
Allowable Power Dissipation	P_{D}	$T_c = 25^{\circ}C$	3.5		W		
	~	Mounted on ceramic board	1.3 V		W		
		$(250 \text{mm}^2 \times 0.8 \text{mm})$					
Channel Temperature	Tch		150		$^{\circ}\mathrm{C}$		
Storage Temperature	Tstg		-55 to +150 °C		$^{\circ}\mathrm{C}$		
Electrical Characteristics at Ta=	25°C		min	typ	max	unit	
D-S Breakdown Voltage	V _{(BR)DSS}	$I_D = 1 \text{mA}, V_{GS} = 0$	30			V	
Zero Gate Voltage	I_{DSS}	$V_{DS} = 30V, V_{GS} = 0$			10	μ A	
Drain Current						•	
Gate to Source Leakage Current	I_{GSS}	$V_{GS} = \pm 12V, V_{DS} = 0$			± 10	μA	
Cutoff Voltage	$V_{GS(off)}$	$V_{DS} = 10V, I_D = 1mA$	1.0		2.0	V	
Forward Transfer Admittance	y _{fs}	$V_{DS} = 10V, I_D = 500mA$	0.6	1.0		S	
Static Drain to Source	$R_{DS(on)}$	$I_D = 500 \text{mA}, V_{GS} = 10 \text{V}$		0.5	0.75	Ω	
on State Resistance	$R_{DS(on)}$	$I_D = 500 \text{mA}, V_{GS} = 4 \text{V}$		0.75	1.1	Ω	
Input Capacitance	C_{iss}	$V_{DS} = 10V, f = 1MHz$		50		рF	
Output Capacitance	C_{oss}	$V_{DS} = 10V, f = 1MHz$		35		pF	
Reverse Transfer Capacitance	C_{rss}	$V_{DS} = 10V, f = 1MHz$		10		pF	
Turn-ON Delay Time	$t_{d(on)}$	See specified Test Circuit.		5		ns	
Rise Time	$\mathbf{t_r}$	"		10		ns	
Turn-OFF Delay Time	${ m t_{d(off)}}$	"		30		ns	
Fall Time	t_f	"		20		ns	
Diode Forward Voltage	V_{SD}	$I_S = 1A, V_{GS} = 0$		1.0		V	

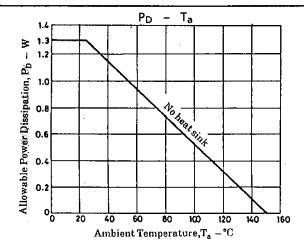
Switching Time Test Circuit

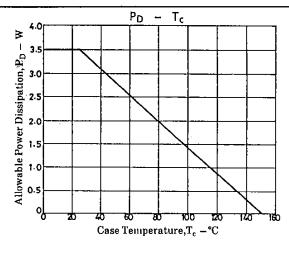




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