

No.3822

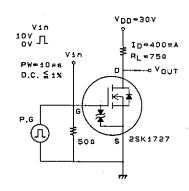
N-Channel MOS Silicon FET Very High-Speed Switching Applications

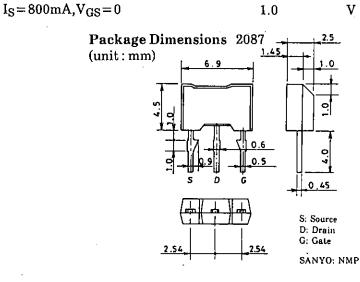
Features

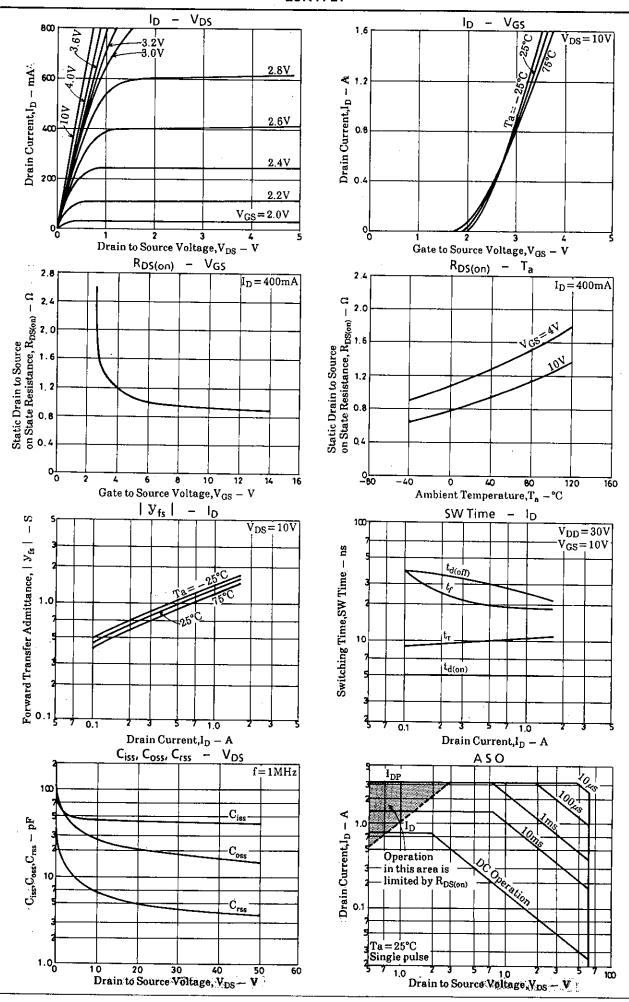
- · Low ON resistance.
- · Very high-speed switching.
- · Low-voltage drive.
- · Meets radial taping.

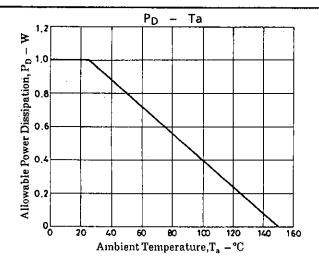
Absolute Maximum Ratings at Ta = 25°C				unit			
Drain to Source Voltage	V_{DSS}			60	V		
Gate to Source Voltage	V_{GSS}		=	£15	V	•	
Drain Current(DC)	I_D			0.8	Α		
Drain Current(Pulse)	I_{DP}	PW≤10μs, duty cycle≤1%		3.2	Α	•	
Allowable Power Dissipation	P_{D}	, ,		1	W		
Channel Temperature	Tch			150	°C		
Storage Temperature	Tstg		-55 to +	150	°C		
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Electrical Characteristics at Ta =		T 4 4 TT 0	min	typ	max	unit	
D-S Breakdown Voltage		$I_D = 1 \text{mA}, V_{GS} = 0$	60			V	
Zero Gate Voltage	I_{DSS}	$V_{\rm DS} = 60 \text{V,} V_{\rm GS} = 0$			10	μ A	
Drain Current							
Gate to Source Leakage Current		$V_{GS} = \pm 12V, V_{DS} = 0$			± 10	μA	
Cutoff Voltage	$V_{GS(off)}$	$V_{DS} = 10V, I_D = 1mA$	1.0		2.0	V	
Forward Transfer Admittance	$\mid \mathbf{y_{fs}} \mid$	$V_{DS} = 10V, I_D = 400 \text{mA}$	0.5	0.9		S	
Static Drain to Source	$R_{DS(on)}$	$I_D = 400 \text{mA}, V_{GS} = 10 \text{V}$		0.9	1.2	Ω	
on State Resistance	$R_{DS(on)}$	$I_D = 400 \text{mA}, V_{GS} = 4 \text{V}$		1.2	1.6	Ω	
Input Capacitance	C_{iss}	$V_{DS} = 20V, f = 1MHz$		45		pF	
Output Capacitance	C_{oss}	$V_{DS} = 20V, f = 1MHz$		22		pF	
Reverse Transfer Capacitance	C_{rss}	$V_{DS} = 20V, f = 1MHz$		5		рF	
Turn-ON Delay Time	$t_{d(on)}$	See specified Test Circuit.		5		ns	
Rise Time	t_r	• "		10		ns	
Turn-OFF Delay Time	$t_{d(off)}$	"		30		ns	
Fall Time	tf	"		20		ns	
Diode Forward Voltage	v_{sd}	$I_S = 800 \text{mA}, V_{GS} = 0$		1.0		V	

Switching Time Test Circuit









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