Ordering number:ENN5094

N-Channel Silicon MOSFET

2SK2440

Ultrahigh-Speed Switching Applications

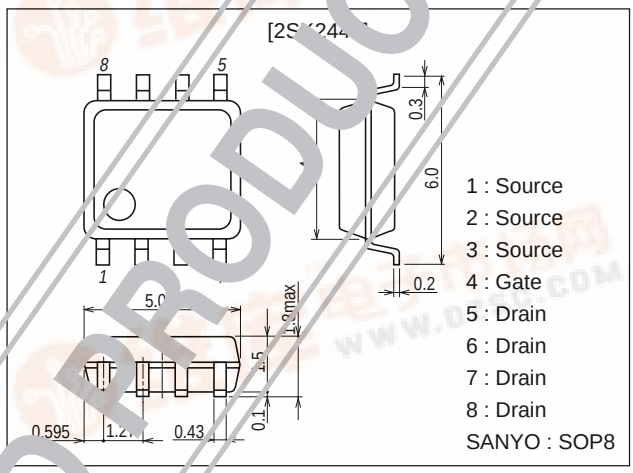
Features

- Low ON resistance.
- Ultrahigh-speed switching.
- 2.5V drive.

Package Dimensions

unit:mm

2116



Specifications

Absolute Maximum Ratings at Ta = 25˚C

Parameter	Symbol	Conditions	Ratings	Unit
Drain-to-Source Voltage	V_{DSS}		20	V
Gate-to-Source Voltage	V_{GSS}		±10	V
Drain Current (DC)	I_D		6	A
Drain Current (Pulse)	I_{DP}	PW≤ , duty cycle≤1%	48	A
Allowable Power Dissipation	P_D	Mounted on ceramic board (1200mm²×0.8mm)	2.0	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	20			V
Zero-Gate Voltage Drain Current	I_{DSS}	V_{DS}=16V, V_{GS}=0			100	μA
Gate-to-Source Leakage Current	I_{GSS}	V_{GS}=±8V, V_{DS}=0			±10	μA
Cutoff Voltage	$V_{GS(off)}$	V_{DS}=10V, I_D=1mA	0.4		1.4	V
Forward Transfer Admittance	$\|yfs\|$	V_{DS}=10V, I_D=6A	10	14		S
Static Drain-to-Source ON-State Resistance	$R_{DS(on)}1$	I_D=6A, V_{GS}=4V		30	38	mΩ
	$R_{DS(on)}2$	I_D=2A, V_{GS}=2.5V		40	58	mΩ

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Parameter	Symbol	Conditions	Ratings			Unit
			min	typ	max	
Input Capacitance	Ciss	V_{DS}=10V, f=1MHz		1000		pF
Output Capacitance	Coss	V_{DS}=10V, f=1MHz		750		pF
Reverse Transfer Capacitance	Crss	V_{DS}=10V, f=1MHz		400		pF
Turn-ON Delay Time	$t_{d(on)}$	See specified Test Circuit		25		ns
Rise Time	t_r	See specified Test Circuit		135		ns
Turn-OFF Delay Time	$t_{d(off)}$	See specified Test Circuit		135		ns
Fall Time	t_f	See specified Test Circuit		150		ns
Diode Forward Voltage	V_{SD}	I_S=6A, V_{GS}=0		1.0	1.2	V

Switching Time Test Circuit