

SANYO Semiconductors DATA SHEET

N-Channel Silicon MOSFET

EC4406C — General-Purpose Switching Device **Applications**

Features

- · 1.5V drive.
- · Halogen Free compliance (UL94 HB).

Specifications

Absolute Maximum Ratings at Ta=25°C

Parameter	Symbol	Conditions	Ratings	Unit
Drain-to-Source Voltage	VDSS		60	V
Gate-to-Source Voltage	VGSS		±10	V
Drain Current (DC)	ID		200	mA
Drain Current (Pulse)	I _{DP}	PW≤10μs, duty cycle≤1%	800	mA
Allowable Power Dissipation	PD	When mounted on glass epoxy substrate (145mm×80mm×1.6mm)	0.15	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	Unit
Drain-to-Source Breakdown Voltage	V(BR)DSS	I _D =1mA, V _G S=0V	60			V
Zero-Gate Voltage Drain Current	IDSS	V _{DS} =60V, V _{GS} =0V			1	μΑ
Gate-to-Source Leakage Current	IGSS	VGS=±8V, VDS=0V			±10	μΑ
Cutoff Voltage	VGS(off)	V _{DS} =10V, I _D =100μA	0.4		1.3	V
Forward Transfer Admittance	yfs	V _{DS} =10V, I _D =100mA	280	480		mS
Static Drain-to-Source On-State Resistance	RDS(on)1	ID=100mA, VGS=4V		2.2	2.9	Ω
	R _{DS} (on)2	ID=50mA, VGS=2.5V		2.4	3.4	Ω
	R _{DS} (on)3	I _D =10mA, V _G S=1.5V		3.5	7.0	Ω
Input Capacitance	Ciss	VDS=20V, f=1MHz		26		pF
Output Capacitance	Coss	V _{DS} =20V, f=1MHz		5.9		pF
Reverse Transfer Capacitance	Crss	V _{DS} =20V, f=1MHz		3.2		pF

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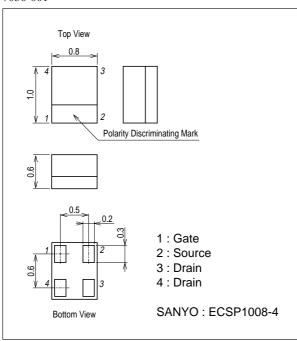
EC4406C

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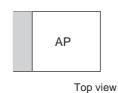
Parameter	Symbol	Conditions	Ratings			Unit
			min	typ	max	O'III
Turn-ON Delay Time	t _d (on)	See specified Test Circuit.		18.5		ns
Rise Time	t _r	See specified Test Circuit.		26		ns
Turn-OFF Delay Time	t _d (off)	See specified Test Circuit.		146		ns
Fall Time	tf	See specified Test Circuit.		69		ns
Total Gate Charge	Qg	V _{DS} =30V, V _{GS} =4V, I _D =200mA		1.0		nC
Gate-to-Source Charge	Qgs	V _{DS} =30V, V _{GS} =4V, I _D =200mA		0.2		nC
Gate-to-Drain "Miller" Charge	Qgd	V _{DS} =30V, V _{GS} =4V, I _D =200mA		0.2		nC
Diode Forward Voltage	V _{SD}	I _S =200mA, V _{GS} =0V		0.83	1.2	V

Package Dimensions

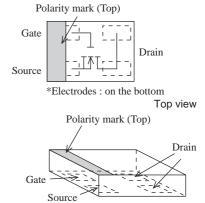
unit : mm (typ) 7036-001



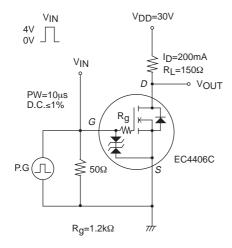
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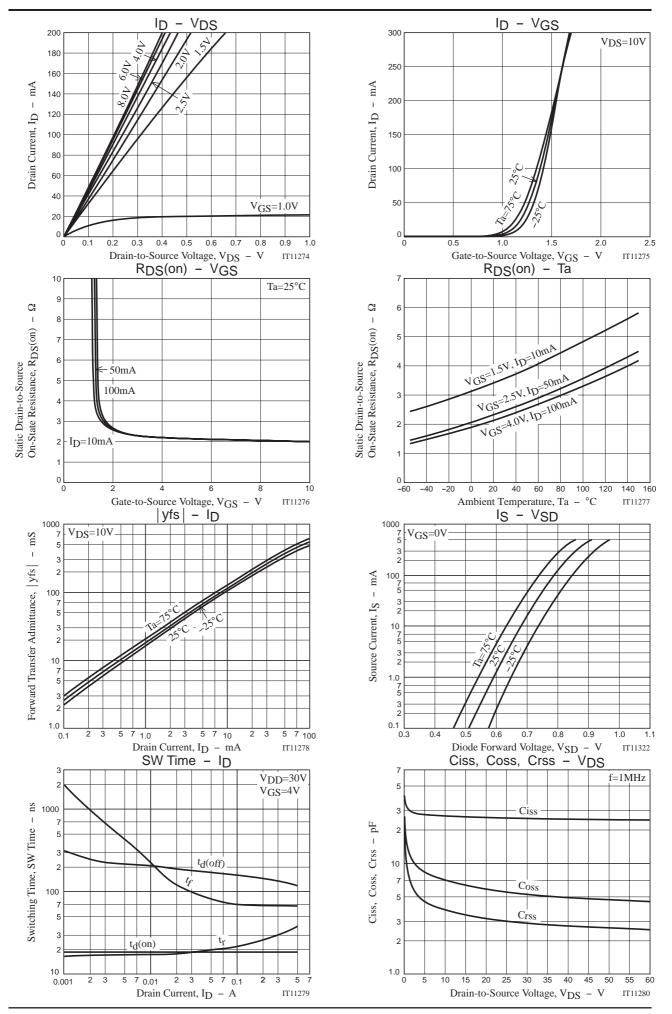


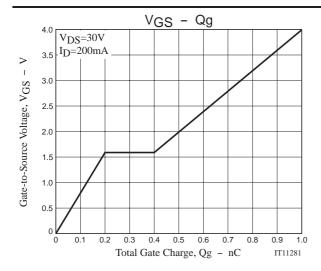
Electrical Connection

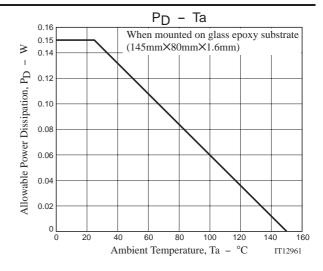


Switching Time Test Circuit









Note on usage: Since the EC4406C is a MOSFET product, please avoid using this device in the vicinity of highly charged objects.

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