



SANYO Semiconductors

DATA SHEET

EC4407KF — N-Channel Silicon MOSFET

General-Purpose Switching Device Applications

Features

- Low ON-resistance.
- 1.8V drive.
- mounting height : 0.4mm.

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		1.3	A
Drain Current (Pulse)	I _{DP}	PW≤10μs, duty cycle≤1%	4.8	A
Allowable Power Dissipation	P _D	Mounted on a glass epoxy board	0.4	W
Channel Temperature	T _{ch}		150	°C
Storage Temperature	T _{stg}		-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} =0V	20			V
Zero-Gate Voltage Drain Current	I _{DSS}	V _D =20V, V _{GS} =0V			10	μA
Gate-to-Source Leakage Current	I _{GSS}	V _{GS} =±8V, V _D =0V			±10	μA
Cutoff Voltage	V _{GS(off)}	V _D =10V, I _D =1mA	0.4		1.3	V
Forward Transfer Admittance	y _{fs}	V _D =10V, I _D =0.6A	0.96	1.6		S
Static Drain-to-Source On-State Resistance	R _{DS(on)1}	I _D =0.6A, V _{GS} =4V		170	224	mΩ
	R _{DS(on)2}	I _D =0.3A, V _{GS} =2.5V		240	333	mΩ
	R _{DS(on)3}	I _D =0.1A, V _{GS} =1.8V		335	475	mΩ
Input Capacitance	C _{iss}	V _D =10V, f=1MHz		100		pF
Output Capacitance	C _{oss}	V _D =10V, f=1MHz		22		pF
Reverse Transfer Capacitance	C _{rss}	V _D =10V, f=1MHz		15		pF
Turn-ON Delay Time	t _{d(on)}	See specified Test Circuit.		5.5		ns
Rise Time	t _r	See specified Test Circuit.		9		ns
Turn-OFF Delay Time	t _{d(off)}	See specified Test Circuit.		19		ns
Fall Time	t _f	See specified Test Circuit.		7.5		ns

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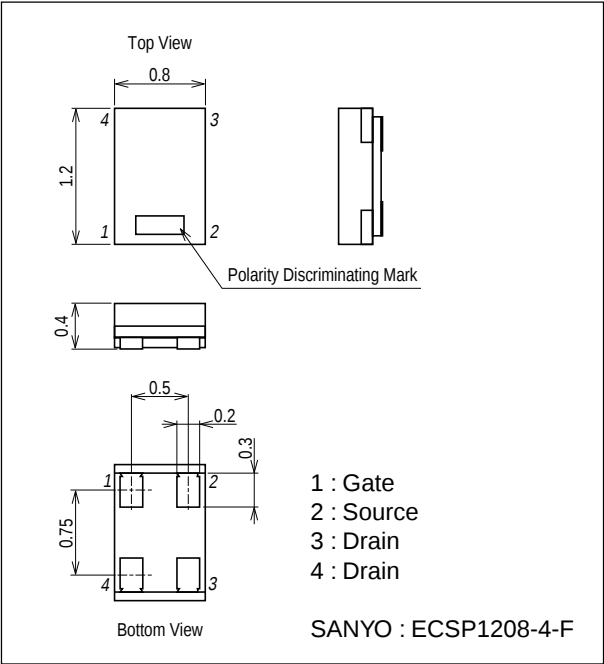
EC4407KF

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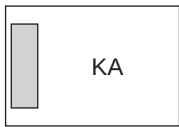
Parameter	Symbol	Conditions	Ratings			Unit
			min	typ	max	
Total Gate Charge	Qg	V _{DS} =10V, V _{GS} =10V, I _D =1.3A		4.5		nC
Gate-to-Source Charge	Qgs	V _{DS} =10V, V _{GS} =10V, I _D =1.3A		0.4		nC
Gate-to-Drain "Miller" Charge	Qgd	V _{DS} =10V, V _{GS} =10V, I _D =1.3A		0.4		nC
Diode Forward Voltage	V _{SD}	I _S =1.3A, V _{GS} =0V		0.89	1.2	V

Package Dimensions

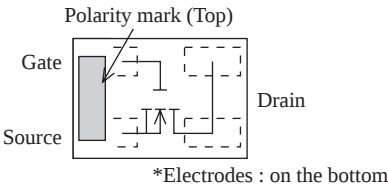
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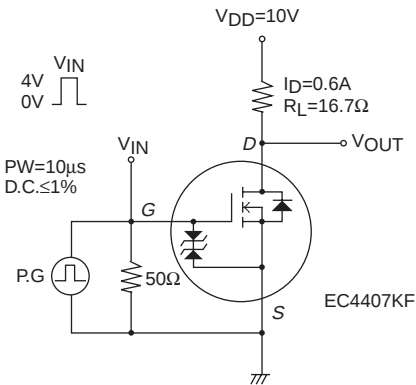
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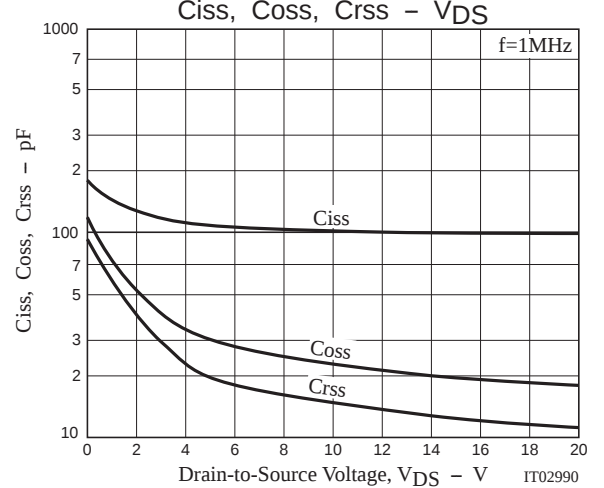
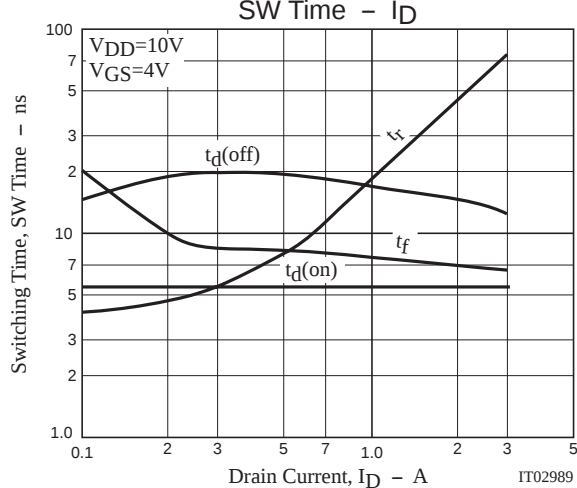
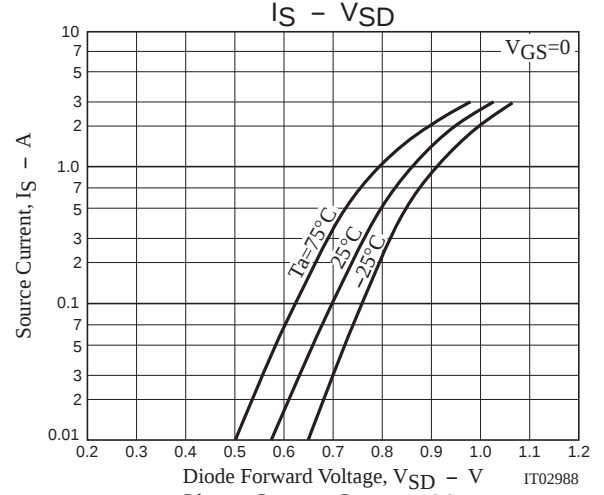
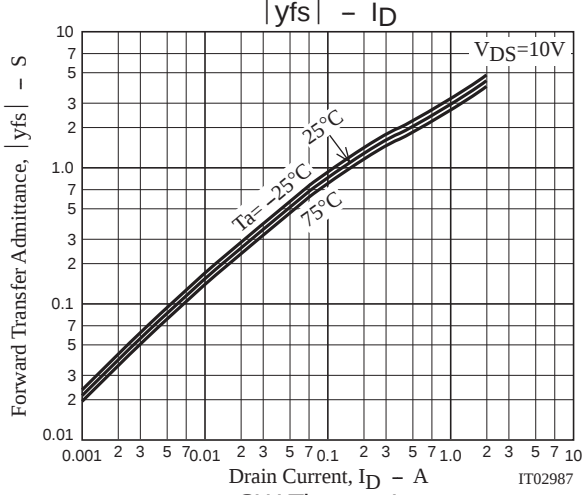
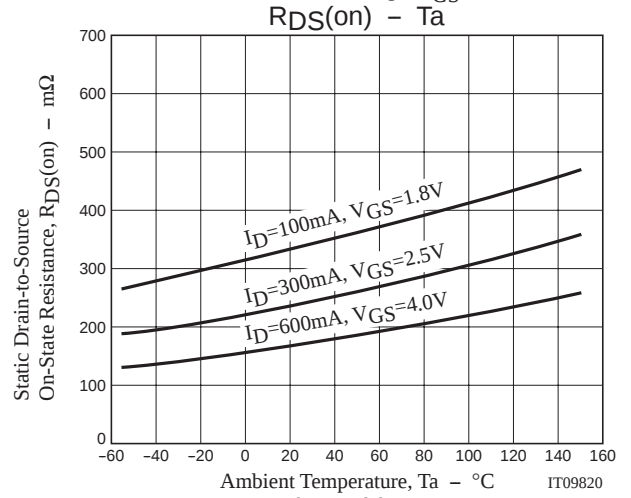
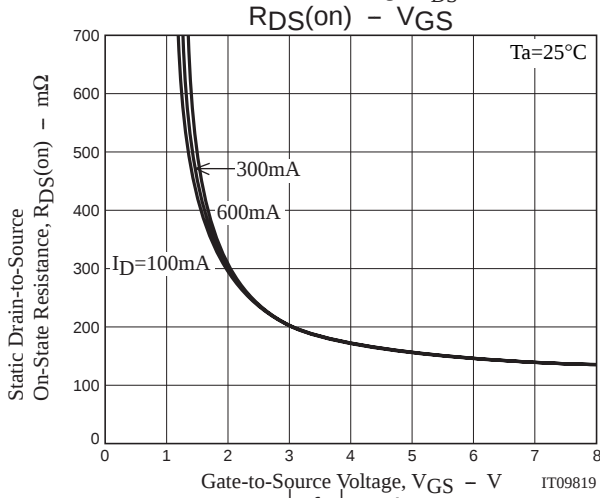
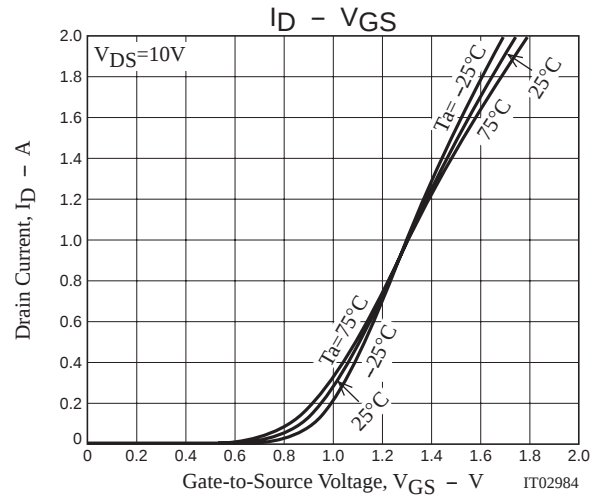
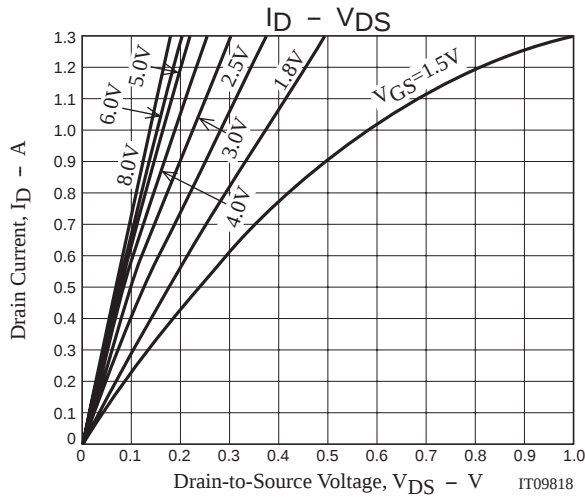


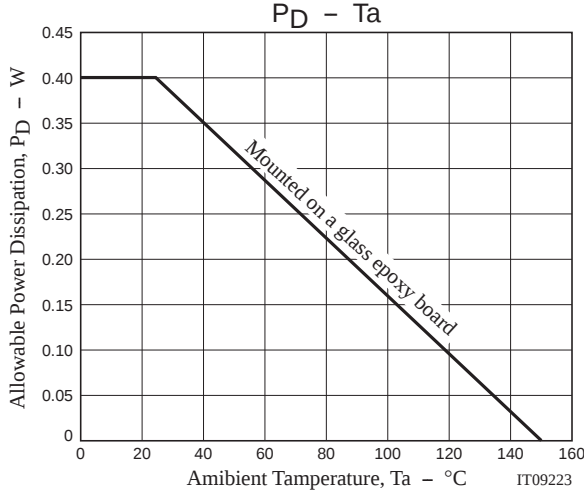
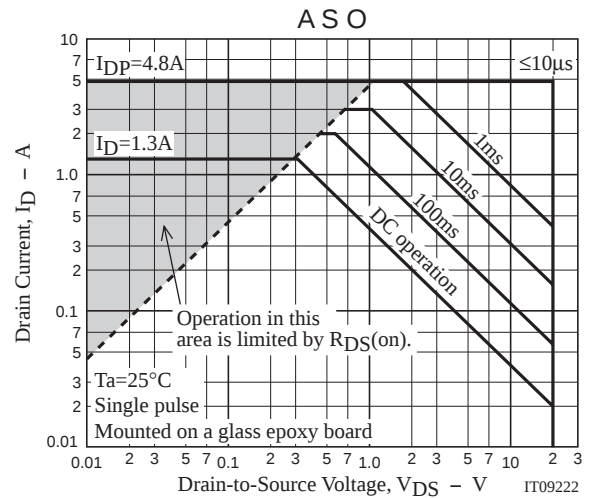
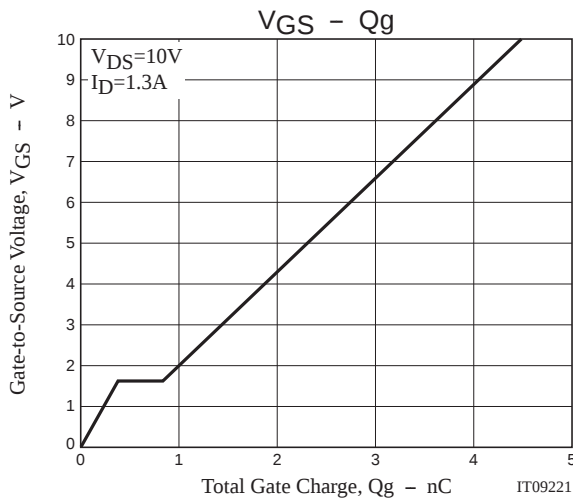
Electrical Connection(Top view)



Switching Time Test Circuit







Note on usage : Since the EC4407KF is a MOSFET product, please avoid using this device in the vicinity of highly charged objects.

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