


SANYO Semiconductors

DATA SHEET

P-Channel Silicon MOSFET

ECH8617 — General-Purpose Switching Device Applications

Features

- Ultrahigh-speed switching.
- 4V drive.
- Composite type, facilitating high-density mounting.

Specifications

Absolute Maximum Ratings at Ta=25°C

Parameter	Symbol	Conditions	Ratings	Unit
Drain-to-Source Voltage	V _{DSS}		-100	V
Gate-to-Source Voltage	V _{GSS}		±20	V
Drain Current (DC)	I _D		-1.5	A
Drain Current (Pulse)	I _{DP}	PW≤10μs, duty cycle≤1%	-12	A
Allowable Power Dissipation	P _D	Mounted on a ceramic board (900mm²×0.8mm) 1unit	1.3	W
Total Power Dissipation	P _T	Mounted on a ceramic board (900mm²×0.8mm)	1.5	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	-100			V
Zero-Gate Voltage Drain Current	I _{DSS}	V _{DS} =-100V, V _{GS} =0V			-1	μA
Gate-to-Source Leakage Current	I _{GSS}	V _{GS} =±16V, V _{DS} =0V			±10	μA
Cutoff Voltage	V _{GS(off)}	V _{DS} =-10V, I _D =-1mA	-1.2		-2.6	V
Forward Transfer Admittance	y _{fs}	V _{DS} =-10V, I _D =-1A	1.8	3.1		S
Static Drain-to-Source On-State Resistance	R _{DS(on)1}	I _D =-1A, V _{GS} =-10V		400	520	mΩ
	R _{DS(on)2}	I _D =-0.5A, V _{GS} =-4V		460	645	mΩ
Input Capacitance	C _{iss}	V _{DS} =-20V, f=1MHz		630		pF
Output Capacitance	C _{oss}	V _{DS} =-20V, f=1MHz		41		pF
Reverse Transfer Capacitance	C _{rss}	V _{DS} =-20V, f=1MHz		38		pF
Turn-ON Delay Time	t _{d(on)}	See specified Test Circuit.		10.0		ns
Rise Time	t _r	See specified Test Circuit.		5.5		ns
Turn-OFF Delay Time	t _{d(off)}	See specified Test Circuit.		91		ns
Fall Time	t _f	See specified Test Circuit.		27		ns

Marking : FK

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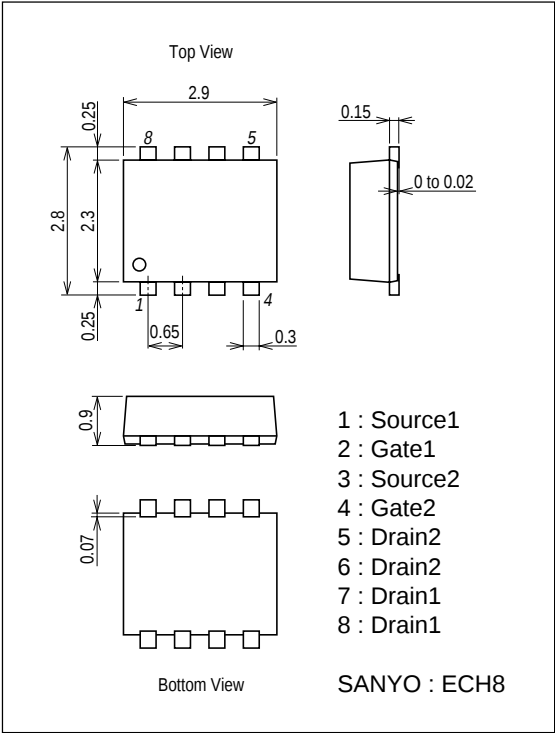
ECH8617

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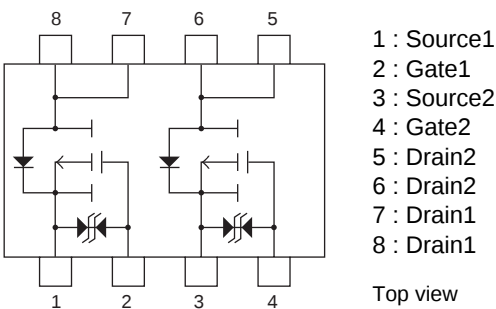
Parameter	Symbol	Conditions	Ratings			Unit
			min	typ	max	
Total Gate Charge	Qg	$V_{DS}=-50V, V_{GS}=-10V, I_D=-1.5A$		14.7		nC
Gate-to-Source Charge	Qgs	$V_{DS}=-50V, V_{GS}=-10V, I_D=-1.5A$		1.6		nC
Gate-to-Drain "Miller" Charge	Qgd	$V_{DS}=-50V, V_{GS}=-10V, I_D=-1.5A$		2.8		nC
Diode Forward Voltage	V_{SD}	$I_S=-1.5A, V_{GS}=0V$		-0.80	-1.2	V

Package Dimensions

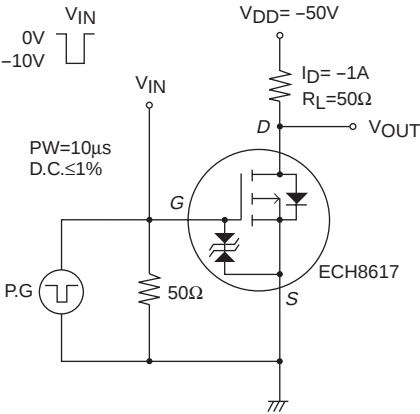
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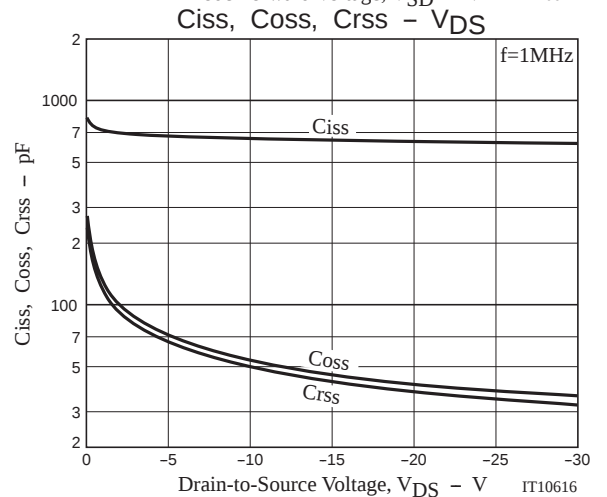
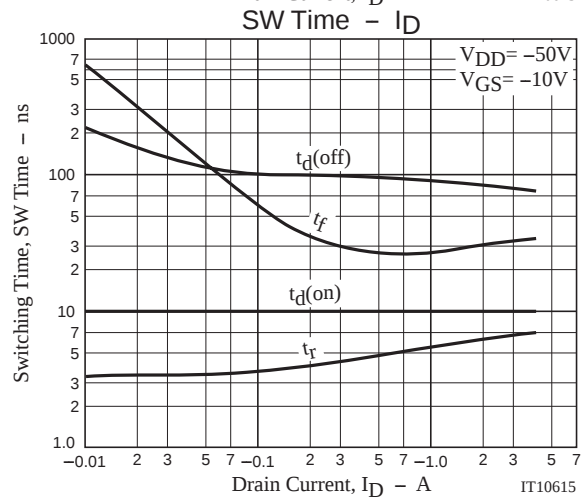
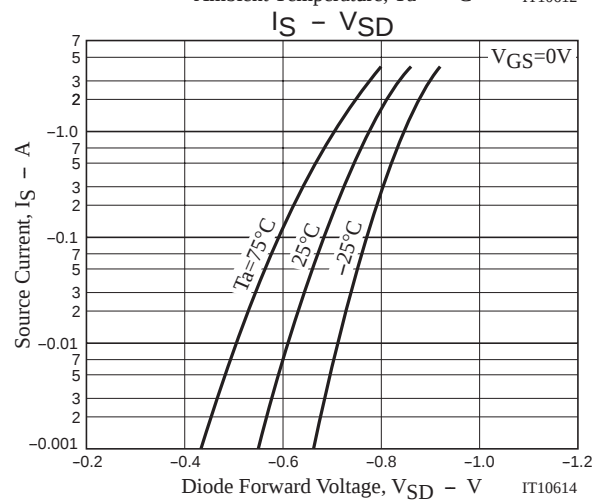
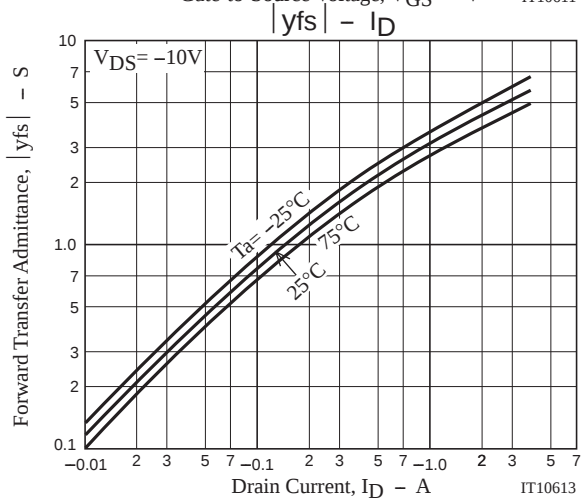
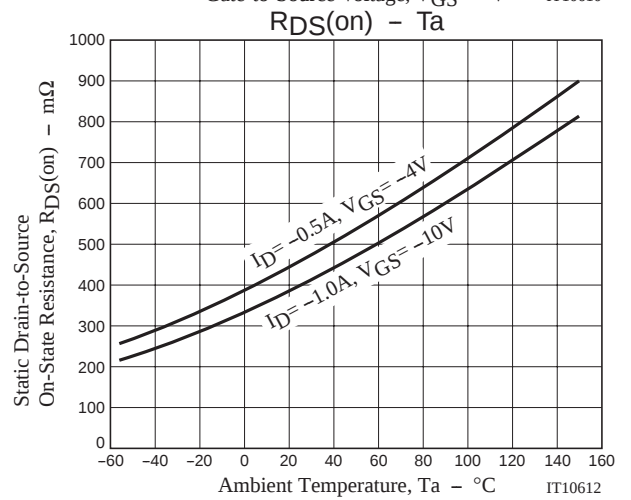
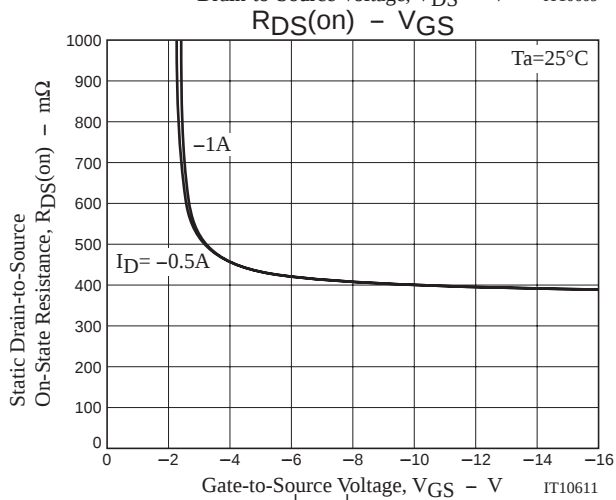
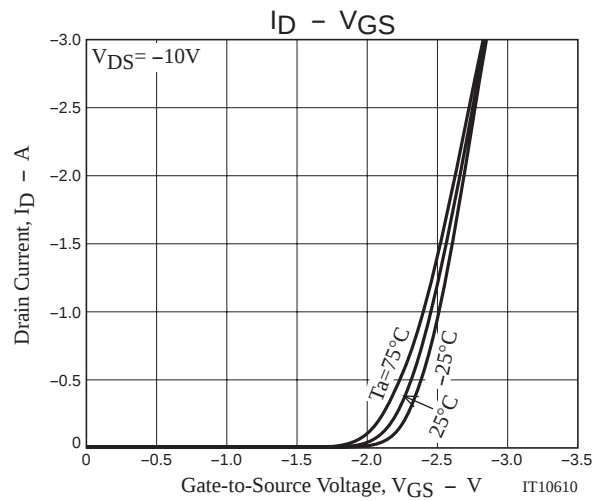
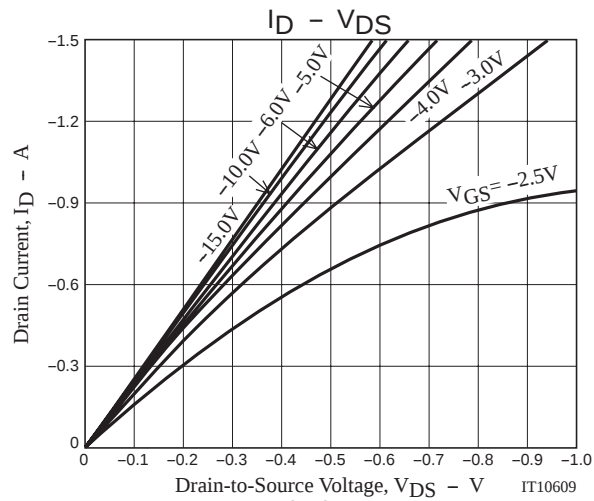


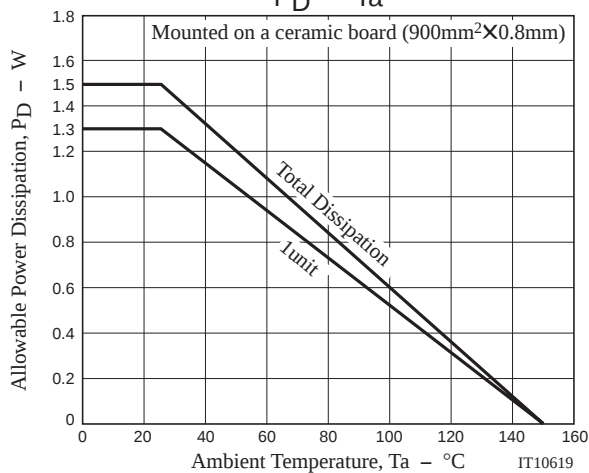
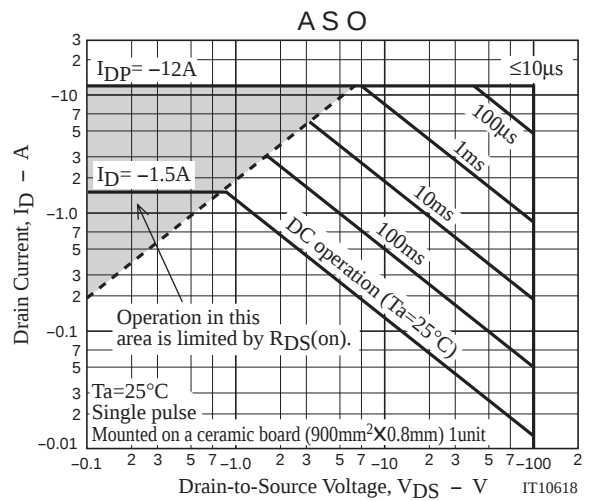
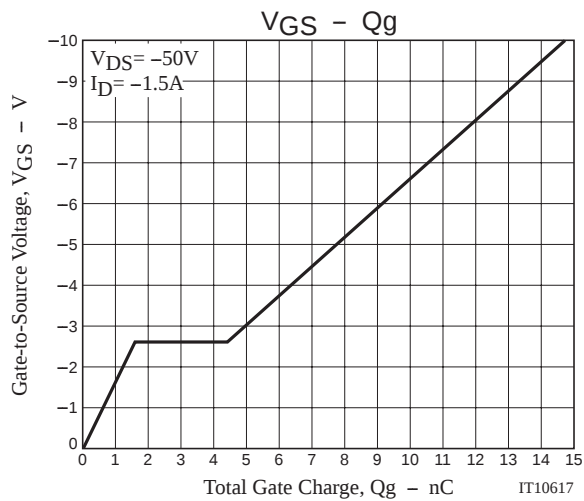
Electrical Connection



Switching Time Test Circuit







Note on usage : Since the ECH8617 is a MOSFET product, please avoid using this device in the vicinity of highly charged objects.

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