

Ordering number : ENN7406

N-Channel Silicon MOSFET

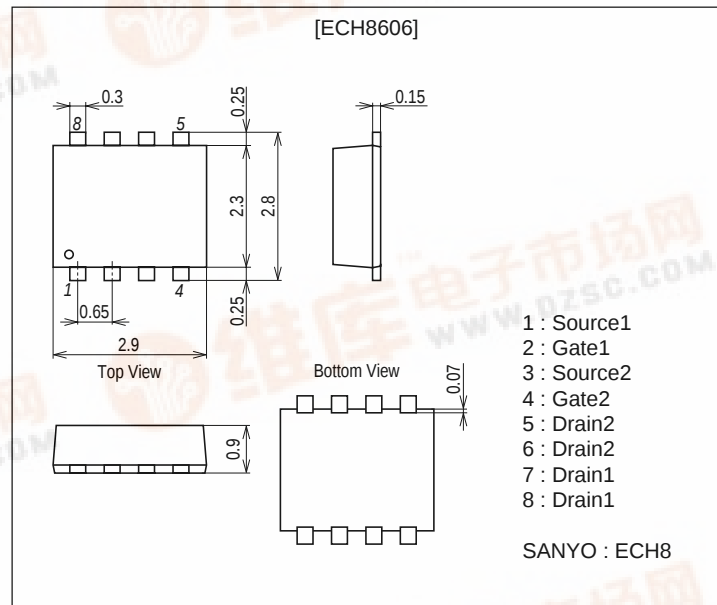
SANYO**ECH8606****Ultrahigh-Speed Switching Applications****Features**

- Low ON-resistance.
- Ultrahigh-speed switching.
- 4V drive.

Package Dimensions

unit : mm

2206A

**Specifications****Absolute Maximum Ratings** at $T_a=25^{\circ}\text{C}$

Parameter	Symbol	Conditions	Ratings	Unit
Drain-to-Source Voltage	V_{DS}		30	V
Gate-to-Source Voltage	V_{GS}		± 20	V
Drain Current (DC)	I_D		6	A
Drain Current (Pulse)	I_{DP}	$PW \leq 10\mu s$, duty cycle $\leq 1\%$	40	A
Allowable Power Dissipation	P_D	Mounted on a ceramic board (900mm $\times$ 0.8mm)1unit	1.3	W
Total Dissipation	P_T	Mounted on a ceramic board (900mm $\times$ 0.8mm)	1.5	W
Channel Temperature	T_{ch}		150	$^{\circ}\text{C}$
Storage Temperature	T_{stg}		-55 to +150	$^{\circ}\text{C}$

Electrical Characteristics at $T_a=25^{\circ}\text{C}$

Parameter	Symbol	Conditions	Ratings			Unit
			min	typ	max	
Drain-to-Source Breakdown Voltage	$V_{(BR)DS}$	$I_D=1\text{mA}$, $V_{GS}=0$	30			V
Zero-Gate Voltage Drain Current	I_{DSS}	$V_{DS}=30\text{V}$, $V_{GS}=0$			1	μA
Gate-to-Source Leakage Current	I_{GSS}	$V_{GS}=\pm 16\text{V}$, $V_{DS}=0$			± 10	μA
Cutoff Voltage	$V_{GS(off)}$	$V_{DS}=10\text{V}$, $I_D=1\text{mA}$	1.0		2.4	V

Marking : KF

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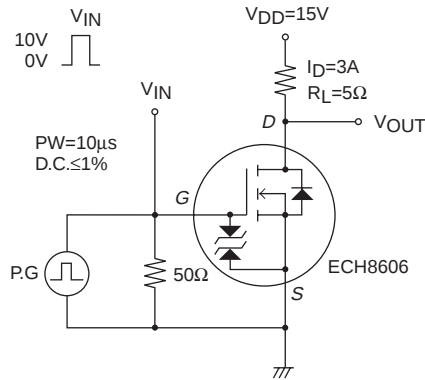
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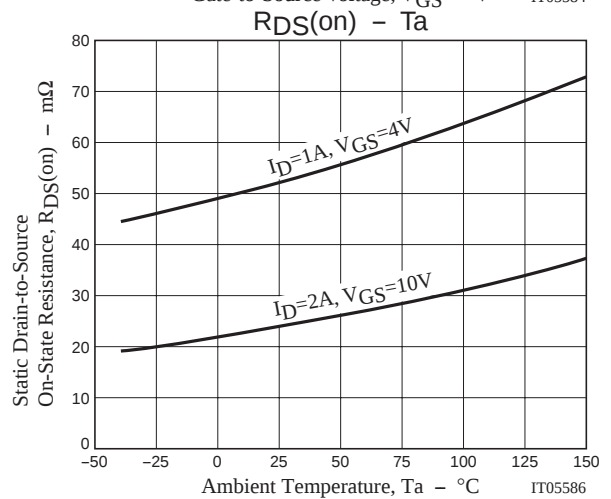
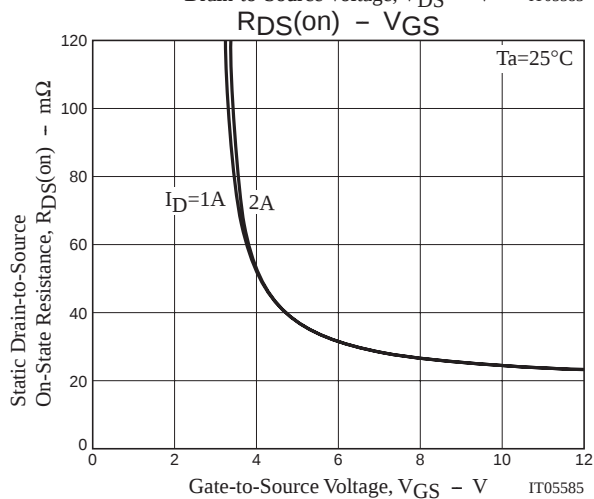
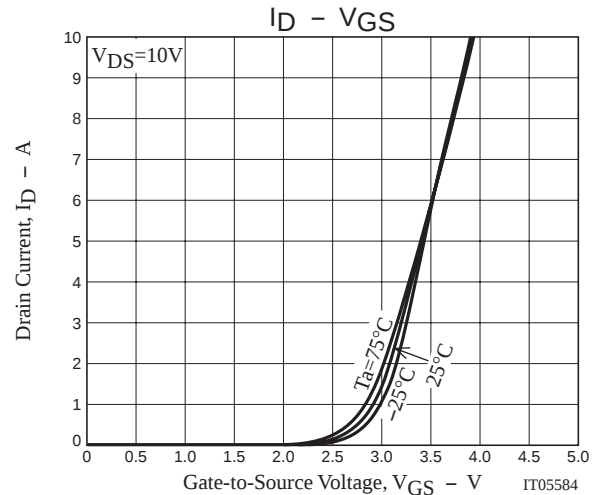
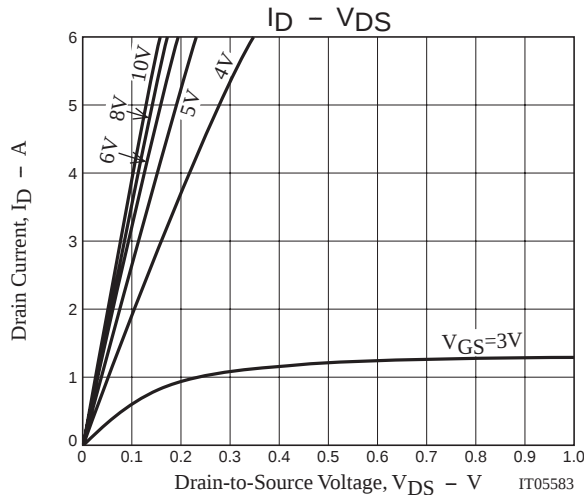
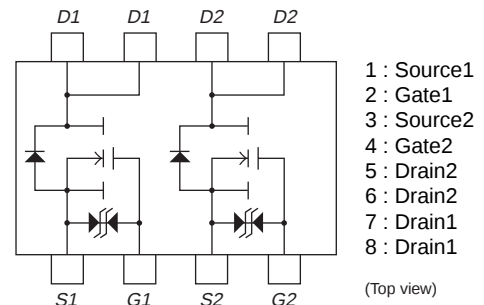
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Parameter	Symbol	Conditions	Ratings			Unit
			min	typ	max	
Forward Transfer Admittance	$ y_{fs} $	$V_{DS}=10V, I_D=3A$	3.3	5		S
Static Drain-to-Source On-State Resistance	$R_{DS(on)1}$	$I_D=2A, V_{GS}=10V$		25	34	$m\Omega$
	$R_{DS(on)2}$	$I_D=1A, V_{GS}=4V$		52	75	$m\Omega$
Input Capacitance	C_{iss}	$V_{DS}=10V, f=1MHz$		510		pF
Output Capacitance	C_{oss}	$V_{DS}=10V, f=1MHz$		105		pF
Reverse Transfer Capacitance	C_{rss}	$V_{DS}=10V, f=1MHz$		70		pF
Turn-ON Delay Time	$t_d(on)$	See specified Test Circuit.		15		ns
Rise Time	t_r	See specified Test Circuit.		74		ns
Turn-OFF Delay Time	$t_d(off)$	See specified Test Circuit.		43		ns
Fall Time	t_f	See specified Test Circuit.		37		ns
Total Gate Charge	Q_g	$V_{DS}=10V, V_{GS}=10V, I_D=6A$		11		nC
Gate-to-Source Charge	Q_{gs}	$V_{DS}=10V, V_{GS}=10V, I_D=6A$		1.9		nC
Gate-to-Drain "Miller" Charge	Q_{gd}	$V_{DS}=10V, V_{GS}=10V, I_D=6A$		2.9		nC
Diode Forward Voltage	V_{SD}	$I_S=6A, V_{GS}=0$		0.85	1.2	V

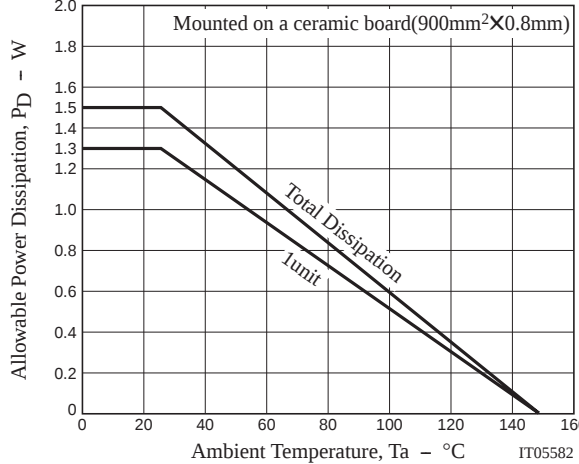
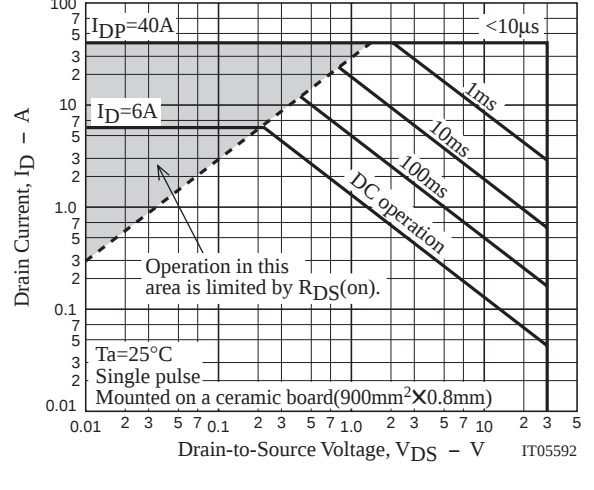
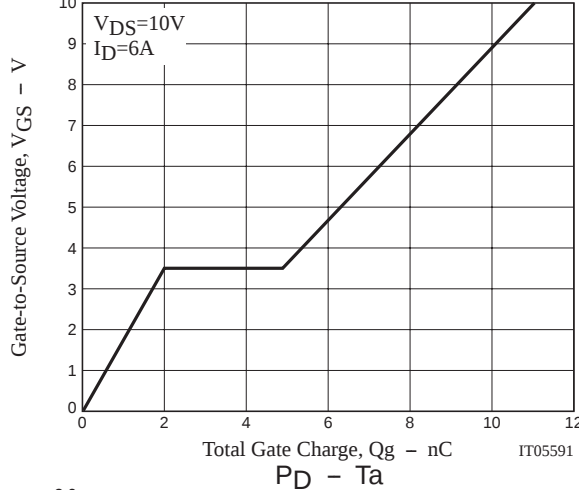
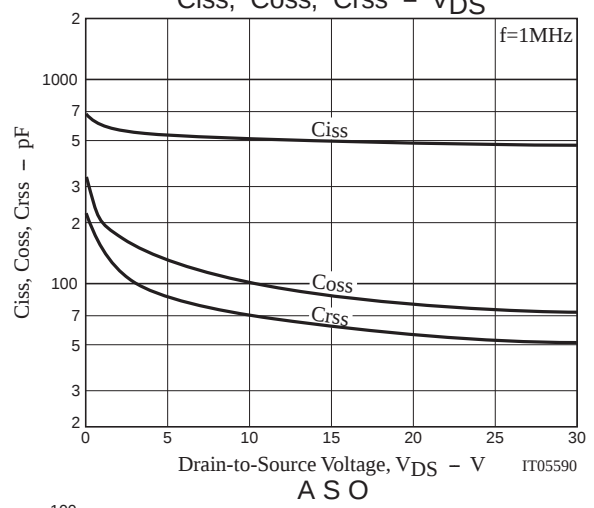
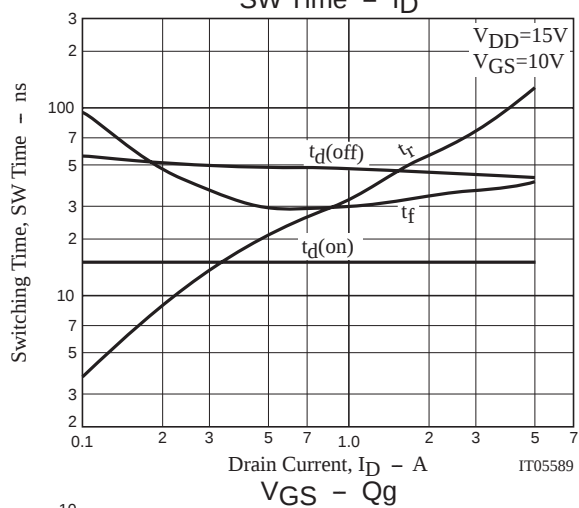
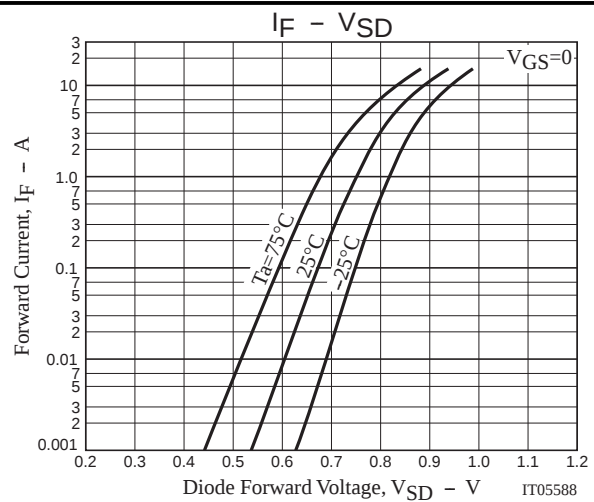
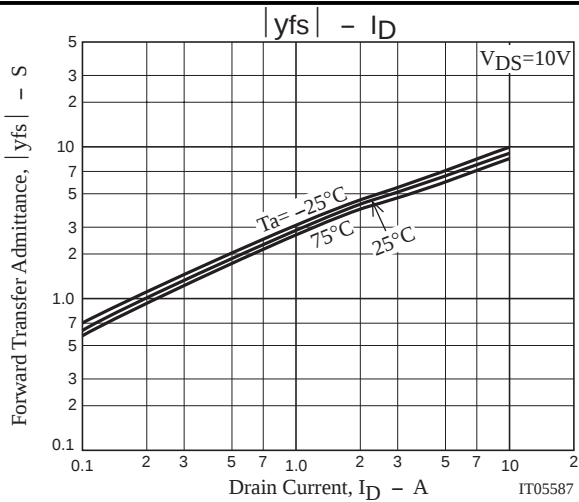
Switching Time Test Circuit



Electrical Connection



ECH8606



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