

**EC4403C**

## Small Signal Switch, Interface Applications

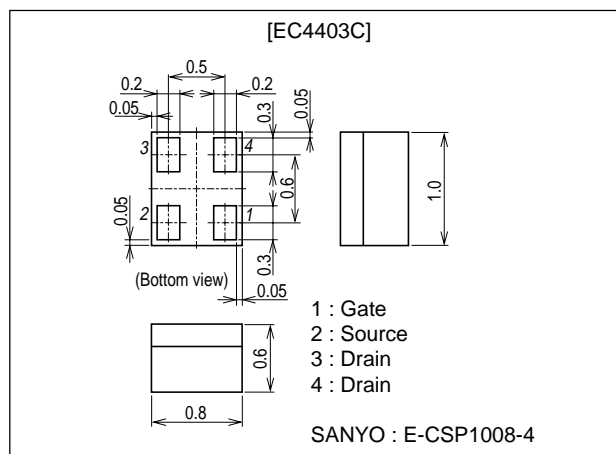
### Features

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

### Package Dimensions

unit : mm

2197



### Specifications

#### Absolute Maximum Ratings at Ta=25°C

Parameter	Symbol	Conditions	Ratings	Unit
Drain-to-Source Voltage	$V_{DS}$		50	V
Gate-to-Source Voltage	$V_{GS}$		$\pm 20$	V
Drain Current (DC)	$I_D$		0.1	A
Drain Current (Pulse)	$I_{DP}$	$PW \leq 10\mu s$ , duty cycle $\leq 1\%$	0.4	A
Allowable Power Dissipation	$P_D$		0.15	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	$V_{(BR)DS}$	$I_D = 1mA$ , $V_{GS} = 0$	50			V
Zero-Gate Voltage Drain Current	$I_{DSS}$	$V_{DS} = 50V$ , $V_{GS} = 0$			10	$\mu A$
Gate-to-Source Leakage Current	$I_{GSS}$	$V_{GS} = \pm 16V$ , $V_{DS} = 0$			$\pm 10$	$\mu A$
Cutoff Voltage	$V_{GS(off)}$	$V_{DS} = 10V$ , $I_D = 100\mu A$	1		2.4	V
Forward Transfer Admittance	$ y_{fs} $	$V_{DS} = 10V$ , $I_D = 50mA$	85	120		mS
Static Drain-to-Source On-State Resistance	$R_{DS(on)1}$	$I_D = 50mA$ , $V_{GS} = 10V$		5.8	7.5	$\Omega$
	$R_{DS(on)2}$	$I_D = 30mA$ , $V_{GS} = 4V$		7.5	10.5	$\Omega$

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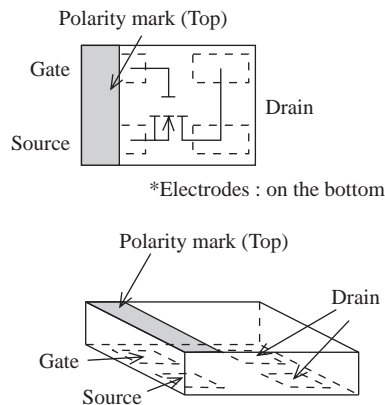
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Parameter	Symbol	Conditions	Ratings			Unit
			min	typ	max	
Input Capacitance	Ciss	$V_{DS}=10V, f=1MHz$		6.2		pF
Output Capacitance	Coss	$V_{DS}=10V, f=1MHz$		4.4		pF
Reverse Transfer Capacitance	Crss	$V_{DS}=10V, f=1MHz$		1.5		pF
Turn-ON Delay Time	$t_d(on)$	See specified Test Circuit.		10		ns
Rise Time	$t_r$	See specified Test Circuit.		11		ns
Turn-OFF Delay Time	$t_d(off)$	See specified Test Circuit.		105		ns
Fall Time	$t_f$	See specified Test Circuit.		75		ns
Total Gate Charge	Qg	$V_{DS}=10V, V_{GS}=10V, I_D=100mA$		1.40		nC
Gate-to-Source Charge	Qgs	$V_{DS}=10V, V_{GS}=10V, I_D=100mA$		0.21		nC
Gate-to-Drain "Miller" Charge	Qgd	$V_{DS}=10V, V_{GS}=10V, I_D=100mA$		0.34		nC
Diode Forward Voltage	$V_{SD}$	$I_S=100mA, V_{GS}=0$		0.9	1.2	V

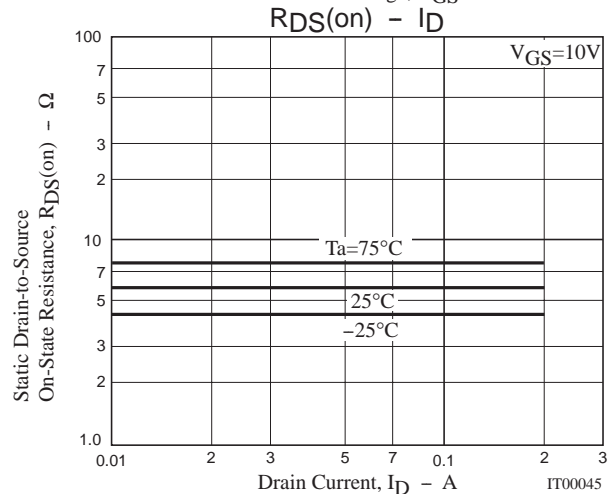
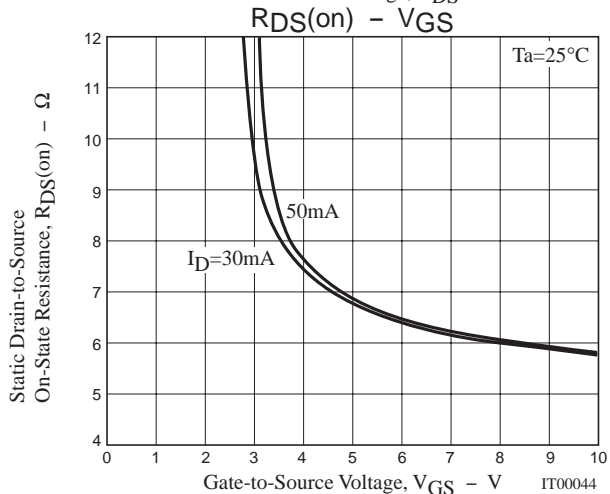
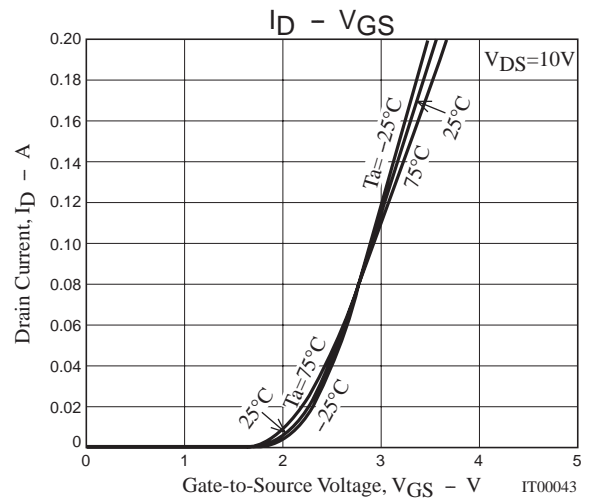
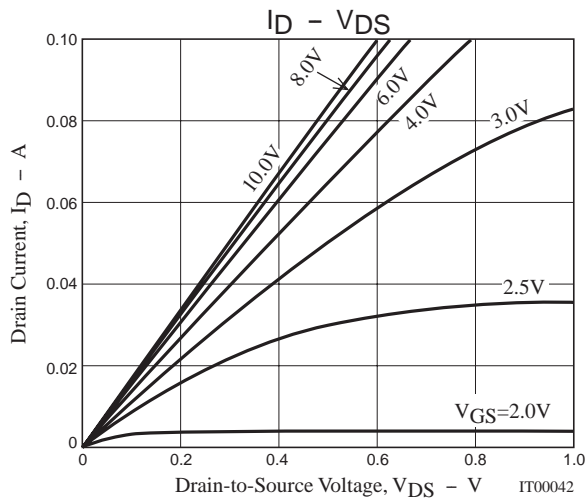
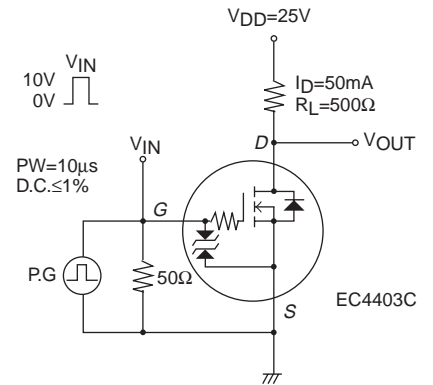
## Type No. Indication(Top view)

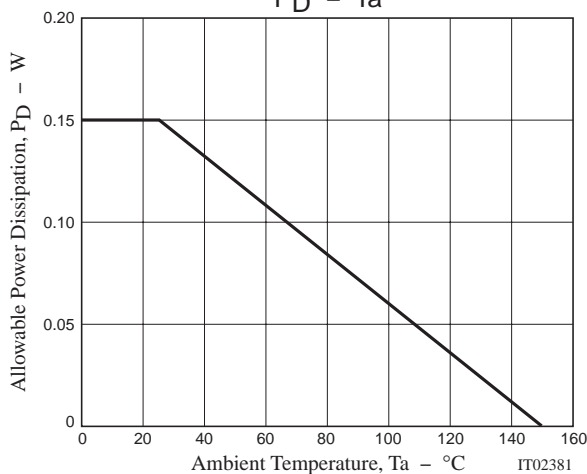
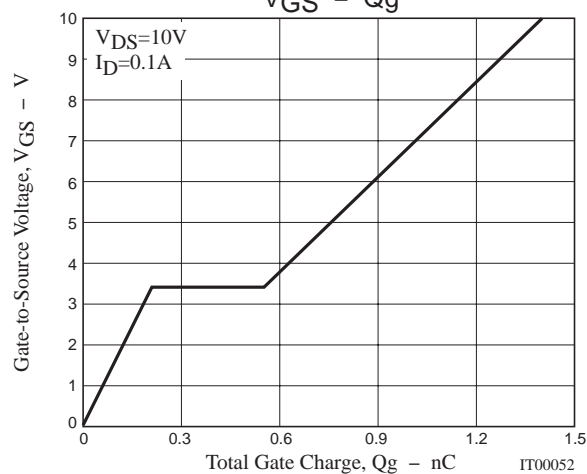
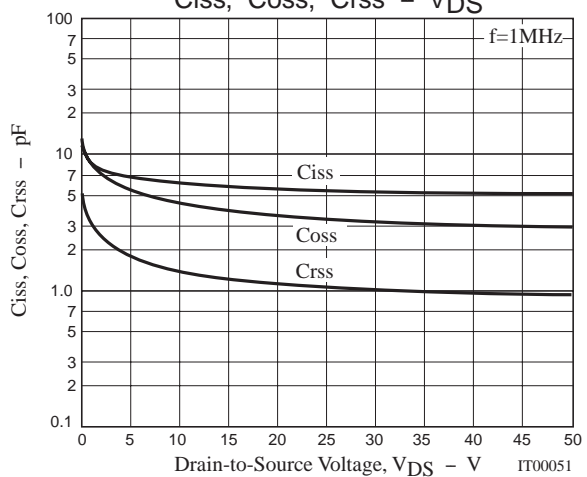
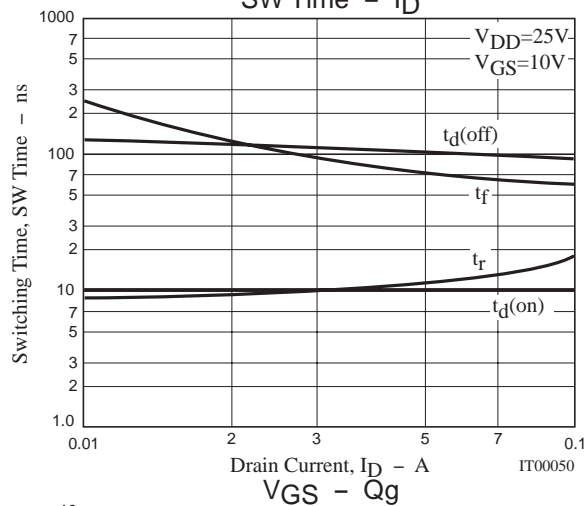
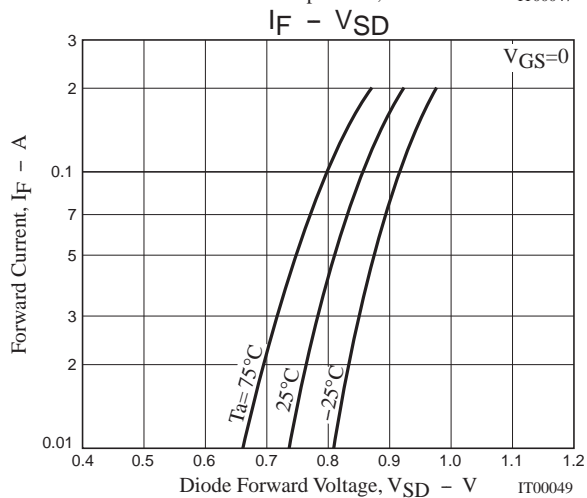
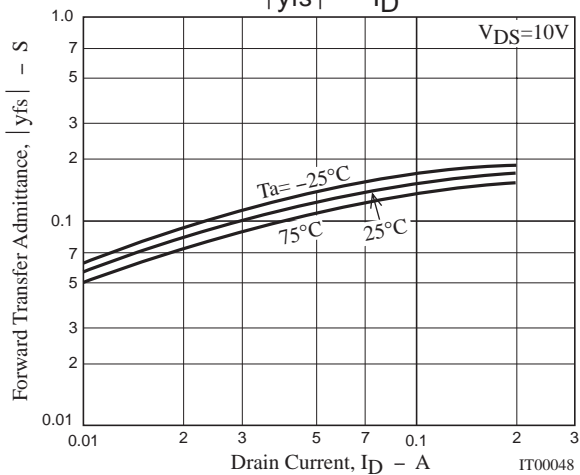
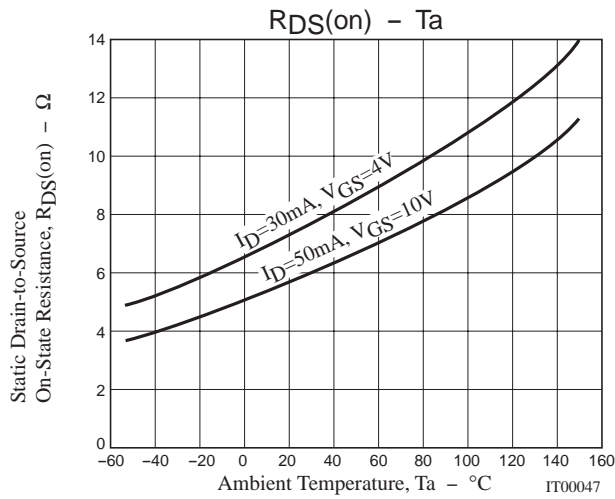
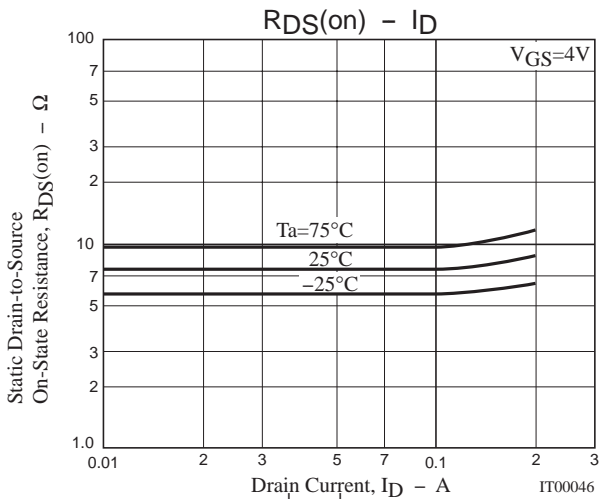


## Electrical Connection(Top view)



## Switching Time Test Circuit





Note on usage : Since the EC4403C is designed for high-speed switching applications, please avoid using this device in the vicinity of highly charged objects.

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