



P-Channel Silicon MOSFET
EC4305C — General-Purpose Switching Device
Applications

Features

- 4V drive.
- Halogen free compliance (UL94 HB).

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		-200	mA
Drain Current (Pulse)	I_{DP}	$PW \leq 10\mu\text{s}$, duty cycle $\leq 1\%$	-800	mA
Allowable Power Dissipation	P_D	Mounted on a glass-epoxy printed circuit board (145X80X1.6mm)	0.15	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	$V_{(BR)DSS}$	$I_D = -1\text{mA}$, $V_{GS} = 0\text{V}$	-30			V
Zero-Gate Voltage Drain Current	I_{DSS}	$V_{DS} = -30\text{V}$, $V_{GS} = 0\text{V}$			-1	μA
Gate-to-Source Leakage Current	I_{GSS}	$V_{GS} = \pm 16\text{V}$, $V_{DS} = 0\text{V}$			± 10	μA
Cutoff Voltage	$V_{GS(off)}$	$V_{DS} = -10\text{V}$, $I_D = -100\mu\text{A}$	-1.2		-2.6	V
Forward Transfer Admittance	$ y_{fs} $	$V_{DS} = -10\text{V}$, $I_D = -100\text{mA}$	150	250		mS
Static Drain-to-Source On-State Resistance	$R_{DS(on)1}$	$I_D = -100\text{mA}$, $V_{GS} = -10\text{V}$		1.4	1.9	Ω
	$R_{DS(on)2}$	$I_D = -50\text{mA}$, $V_{GS} = -4\text{V}$		2.8	4.0	Ω
Input Capacitance	C_{iss}	$V_{DS} = -10\text{V}$, $f = 1\text{MHz}$		22		pF
Output Capacitance	C_{oss}	$V_{DS} = -10\text{V}$, $f = 1\text{MHz}$		6.0		pF
Reverse Transfer Capacitance	C_{rss}	$V_{DS} = -10\text{V}$, $f = 1\text{MHz}$		3.5		pF

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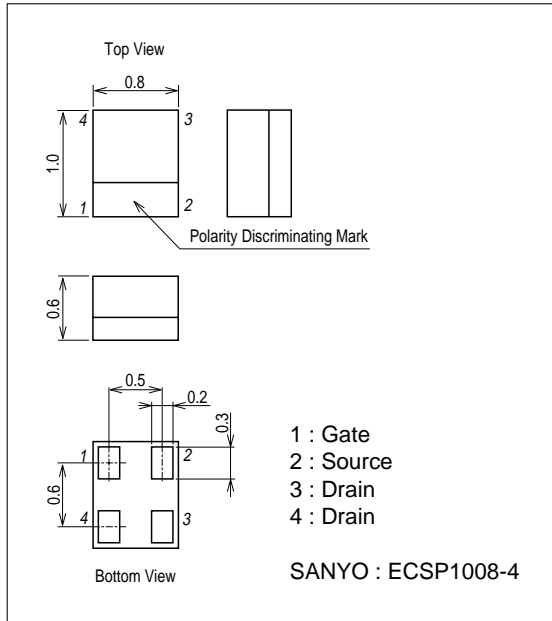
EC4305C

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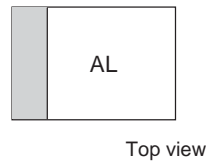
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			min	typ	max	
Turn-ON Delay Time	$t_{d(on)}$	See specified Test Circuit.		34		ns
Rise Time	t_r	See specified Test Circuit.		59		ns
Turn-OFF Delay Time	$t_{d(off)}$	See specified Test Circuit.		435		ns
Fall Time	t_f	See specified Test Circuit.		250		ns
Total Gate Charge	Qg	$V_{DS}=-10V, V_{GS}=-10V, I_D=-200mA$		1.6		nC
Gate-to-Source Charge	Qgs	$V_{DS}=-10V, V_{GS}=-10V, I_D=-200mA$		0.5		nC
Gate-to-Drain "Miller" Charge	Qgd	$V_{DS}=-10V, V_{GS}=-10V, I_D=-200mA$		0.1		nC
Diode Forward Voltage	V_{SD}	$I_S=-200mA, V_{GS}=0V$		-0.86	-1.2	V

Package Dimensions

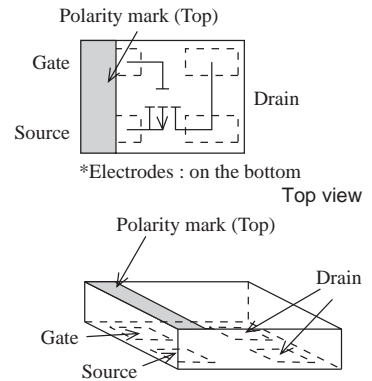
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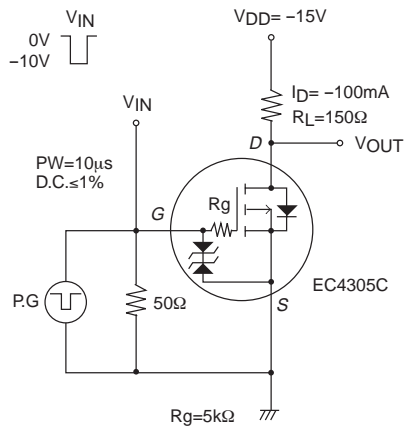
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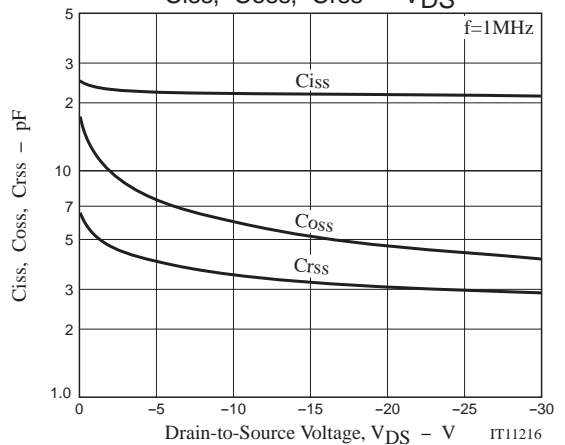
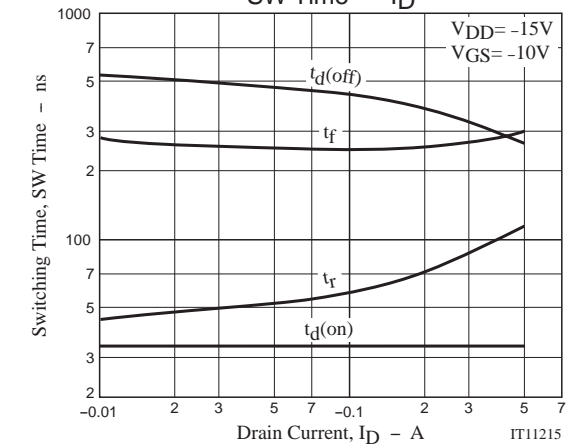
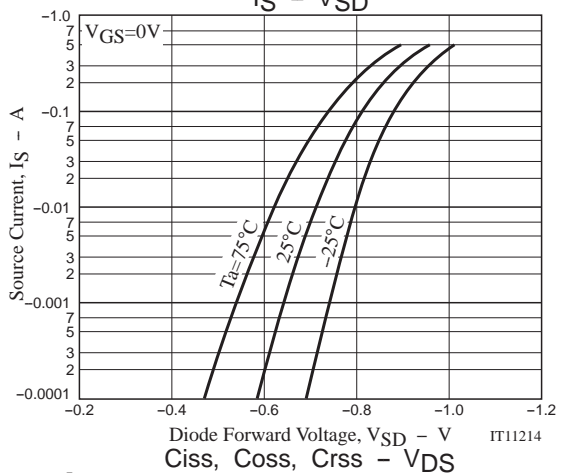
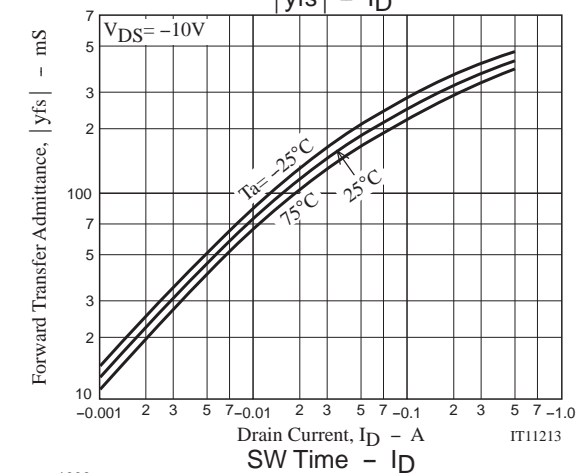
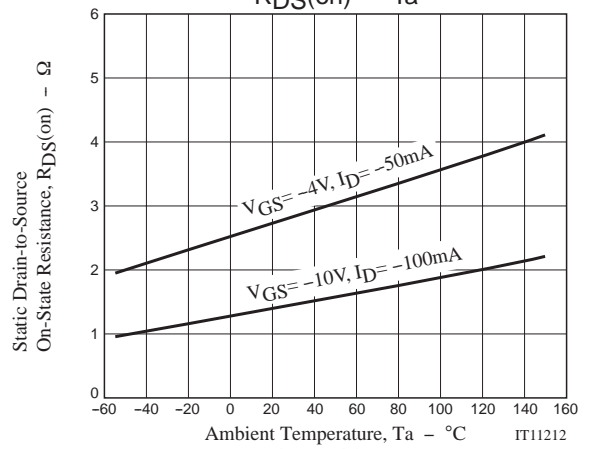
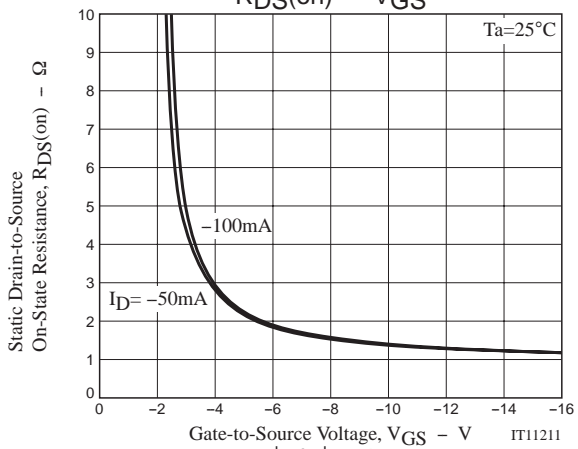
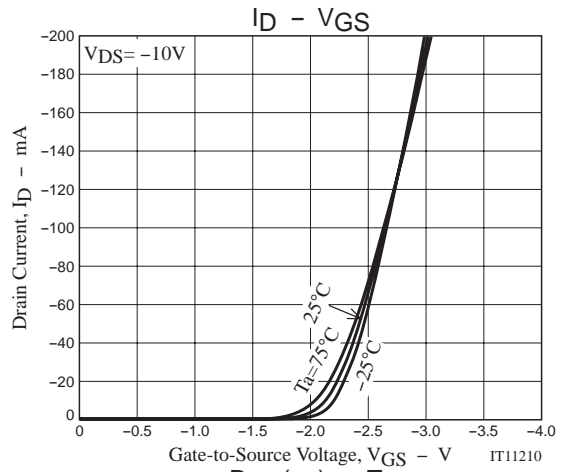
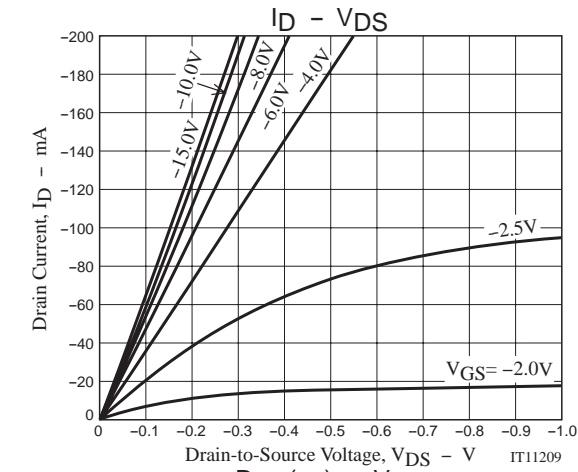


Electrical Connection

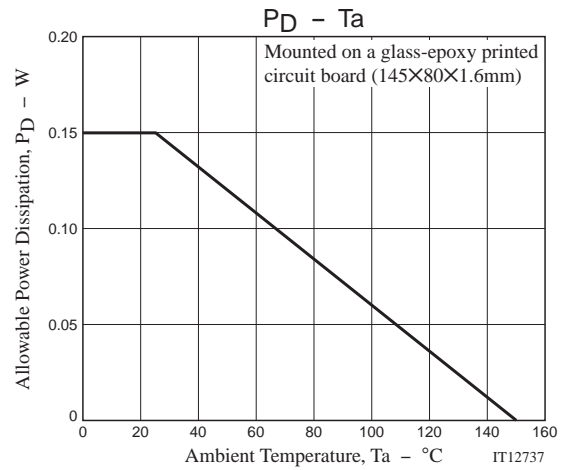
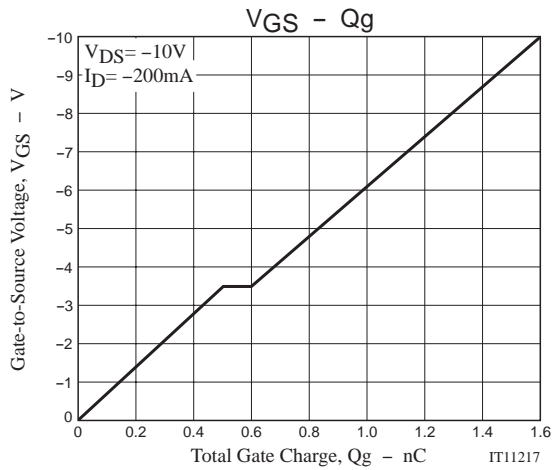


Switching Time Test Circuit





EC4305C



Note on usage : Since the EC4305C is a MOSFET product, please avoid using this device in the vicinity of highly charged objects.

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