

Ordering number : ENN7718



SANYO Semiconductors

DATA SHEET

VEC2305 — P-Channel Silicon MOSFET

General-Purpose Switching Device Applications

Features

- For load switches, DC / DC converters.
- 1.8V drive.
- Composite type with 2 P-Channel MOSFETs (MCH3319) contained in a singlepackage, facilitating high-density mounting.

Specifications

Absolute Maximum Ratings at Ta=25°C

Parameter	Symbol	Conditions	Ratings	Unit
Drain-to-Source Voltage	V _{DSS}		-12	V
Gate-to-Source Voltage	V _{GSS}		±8	V
Drain Current (DC)	I _D		-2.5	A
Drain Current (Pulse)	I _{DP}	PW≤10μs, duty cycle≤1%	-10	A
Allowable Power Dissipation	P _D	Mounted on a ceramic board (900mm ² ×0.8mm)1unit	0.9	W
Total Dissipation	P _T	Mounted on a ceramic board (900mm ² ×0.8mm)	1.0	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} =0	-12			V
Zero-Gate Voltage Drain Current	I _{DSS}	V _{DS} =-12V, V _{GS} =0			-10	μA
Gate-to-Source Leakage Current	I _{GSS}	V _{GS} =±6.4V, V _{DS} =0			±10	μA
Cutoff Voltage	V _{GS(off)}	V _{DS} =-6V, I _D =-1mA	-0.3		-1.0	V
Forward Transfer Admittance	y _{fs}	V _{DS} =-6V, I _D =-1.5A	2.7	4.5		S
Static Drain-to-Source On-State Resistance	R _{DS(on)1}	I _D =-1.5A, V _{GS} =-4.5V		87	115	mΩ
	R _{DS(on)2}	I _D =-0.8A, V _{GS} =-2.5V		122	172	mΩ
	R _{DS(on)3}	I _D =-0.4A, V _{GS} =-1.8V		162	275	mΩ
Input Capacitance	C _{iss}	V _{DS} =-6V, f=1MHz		450		pF
Output Capacitance	C _{oss}	V _{DS} =-6V, f=1MHz		100		pF
Reverse Transfer Capacitance	C _{rss}	V _{DS} =-6V, f=1MHz		85		pF

Marking : BW

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SANYO Electric Co.,Ltd. Semiconductor Company

TOKYO OFFICE Tokyo Bldg., 1-10, 1 Chome, Ueno, Taito-ku, TOKYO, 110-8534 JAPAN

VEC2305

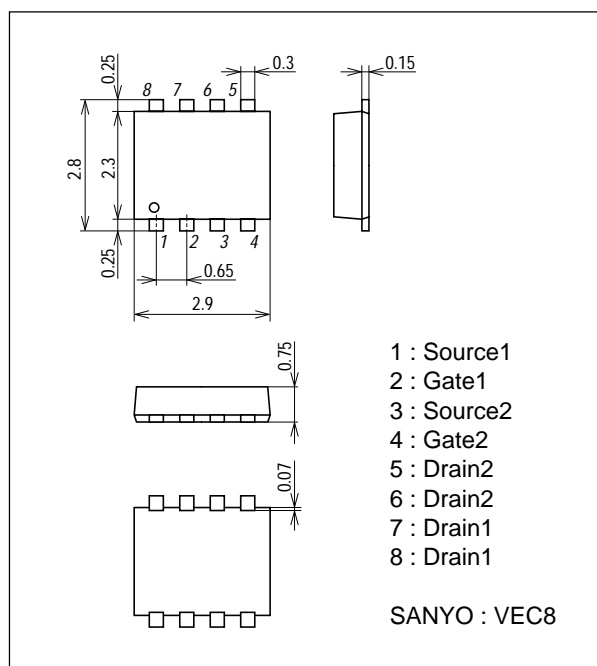
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Parameter	Symbol	Conditions	Ratings			Unit
			min	typ	max	
Turn-ON Delay Time	$t_d(\text{on})$	See specified Test Circuit		15		ns
Rise Time	t_r	See specified Test Circuit		75		ns
Turn-OFF Delay Time	$t_d(\text{off})$	See specified Test Circuit		64		ns
Fall Time	t_f	See specified Test Circuit		50		ns
Total Gate Charge	Q_g	$V_{DS}=-6V, V_{GS}=-4.5V, I_D=-2.5A$		6.5		nC
Gate-to-Source Charge	Q_{gs}	$V_{DS}=-6V, V_{GS}=-4.5V, I_D=-2.5A$		0.8		nC
Gate-to-Drain "Miller" Charge	Q_{gd}	$V_{DS}=-6V, V_{GS}=-4.5V, I_D=-2.5A$		2.0		nC
Diode Forward Voltage	V_{SD}	$I_S=-2.5A, V_{GS}=0$		-0.85	-1.5	V

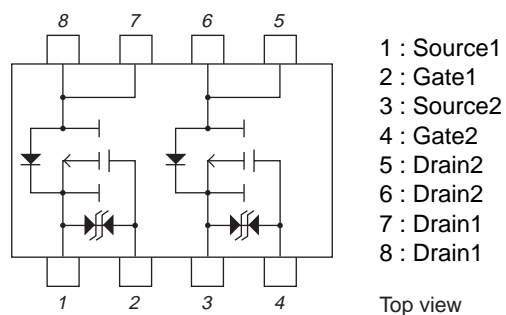
Package Dimensions

unit : mm

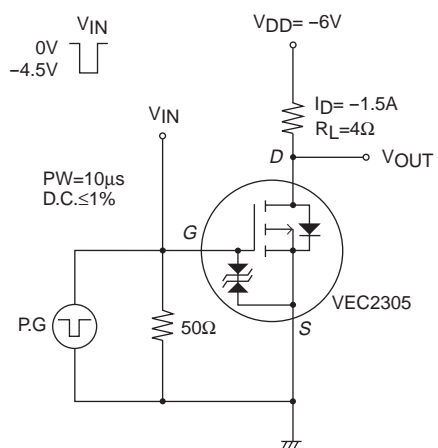
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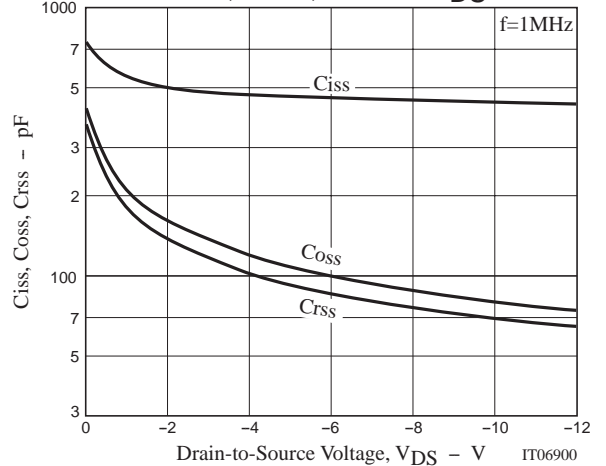
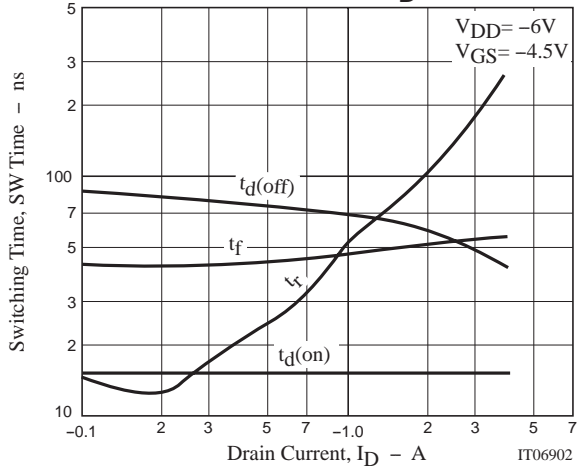
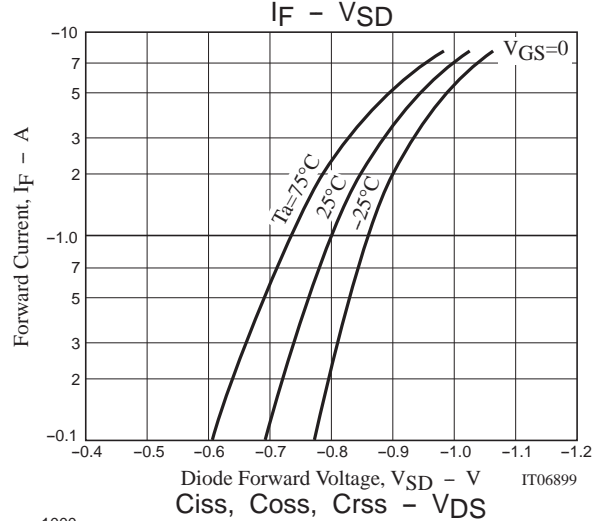
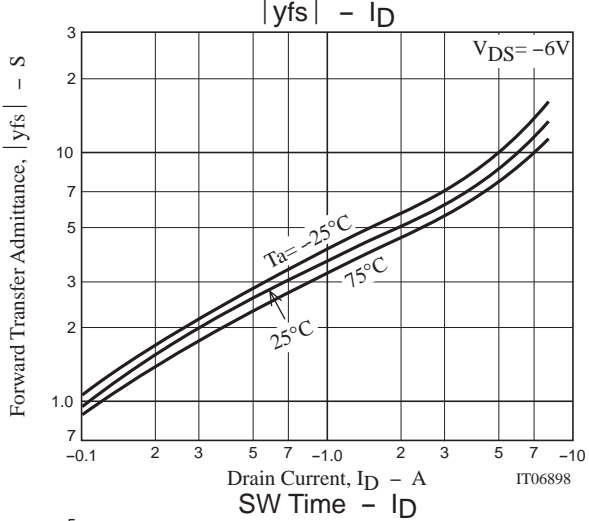
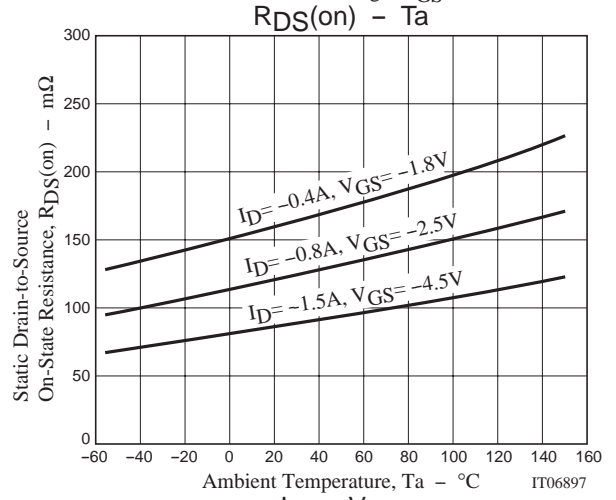
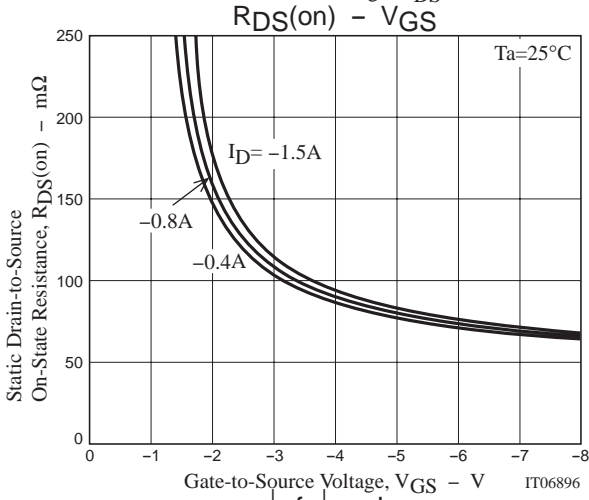
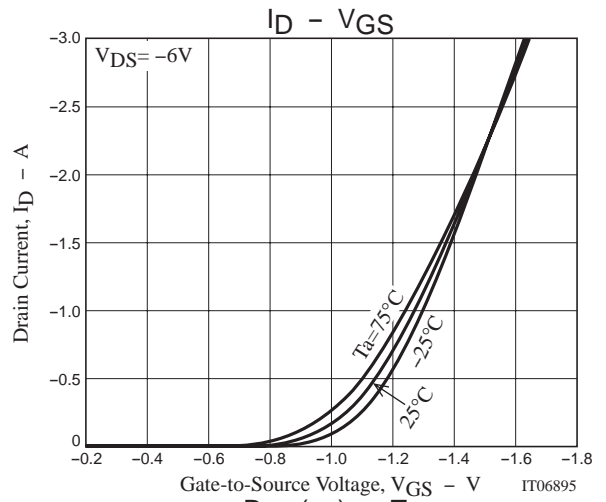
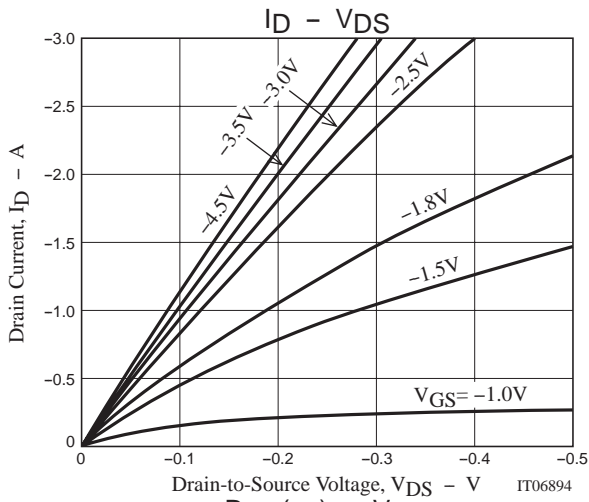
Electrical Connection



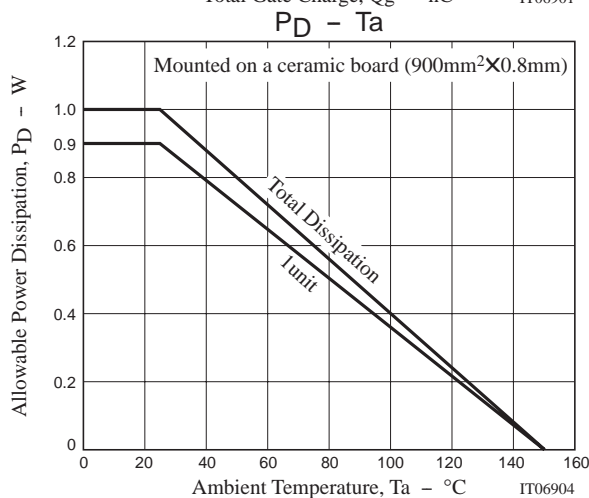
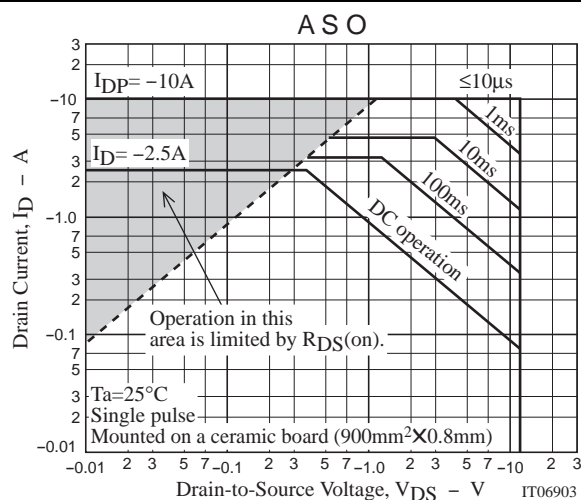
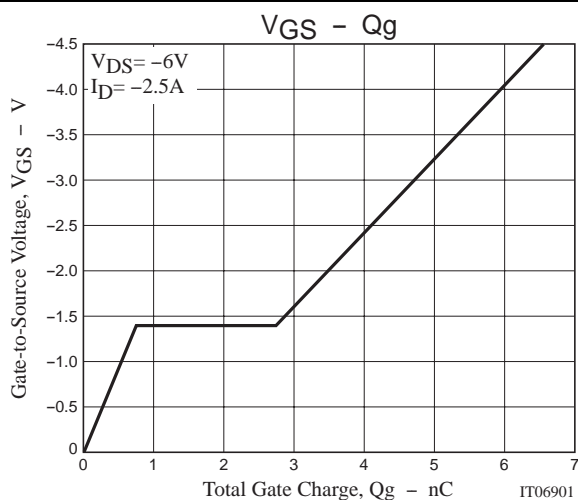
Switching Time Test Circuit



VEC2305



VEC2305



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