



SANYO Semiconductors

DATA SHEET

VEC2303 — P-Channel Silicon MOSFET

General-Purpose Switching Device Applications

Features

- Best suited for load switches.
- 1.8V drive.
- Composite type, facilitating high-density mounting.
- Mounting height 0.75mm.

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		-4	A
Drain Current (Pulse)	I _{DP}	PW≤10μs, duty cycle≤1%	-16	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 _D =-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 =-2A	4.5	7.6		S
Static Drain-to-Source On-State Resistance	R _{DS(on)1}	I _D =-2A, V _{GS} =-4.5V		37	49	mΩ
	R _{DS(on)2}	I _D =-1A, V _{GS} =-2.5V		54	75	mΩ
	R _{DS(on)3}	I _D =-0.3A, V _{GS} =-1.8V		76	107	mΩ
Input Capacitance	C _{iss}	V _{DS} =-6V, f=1MHz		940		pF
Output Capacitance	C _{oss}	V _{DS} =-6V, f=1MHz		230		pF
Reverse Transfer Capacitance	C _{rss}	V _{DS} =-6V, f=1MHz		180		pF

Marking : BC

Continued on next page.

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VEC2303

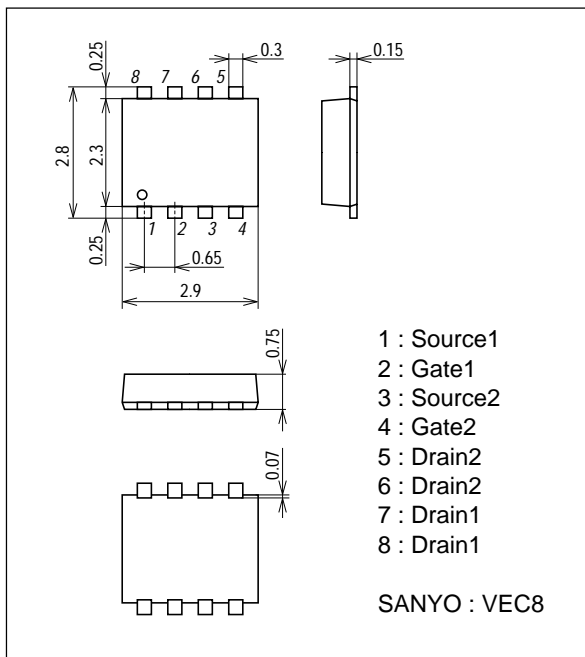
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Parameter	Symbol	Conditions	Ratings			Unit
			min	typ	max	
Turn-ON Delay Time	$t_{d(on)}$	See specified Test Circuit.		14		ns
Rise Time	t_r	See specified Test Circuit.		120		ns
Turn-OFF Delay Time	$t_{d(off)}$	See specified Test Circuit.		97		ns
Fall Time	t_f	See specified Test Circuit.		110		ns
Total Gate Charge	Q_g	$V_{DS}=-6V, V_{GS}=-4.5V, I_D=-4A$		11		nC
Gate-to-Source Charge	Q_{gs}	$V_{DS}=-6V, V_{GS}=-4.5V, I_D=-4A$		1.6		nC
Gate-to-Drain "Miller" Charge	Q_{gd}	$V_{DS}=-6V, V_{GS}=-4.5V, I_D=-4A$		2.8		nC
Diode Forward Voltage	V_{SD}	$I_S=-4A, V_{GS}=0$		-0.85	-1.5	V

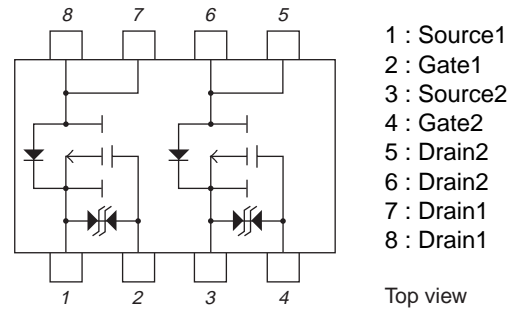
Package Dimensions

unit : mm

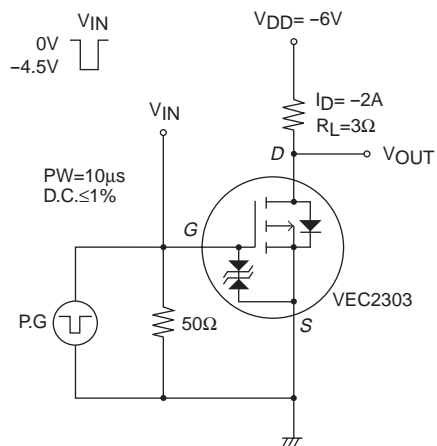
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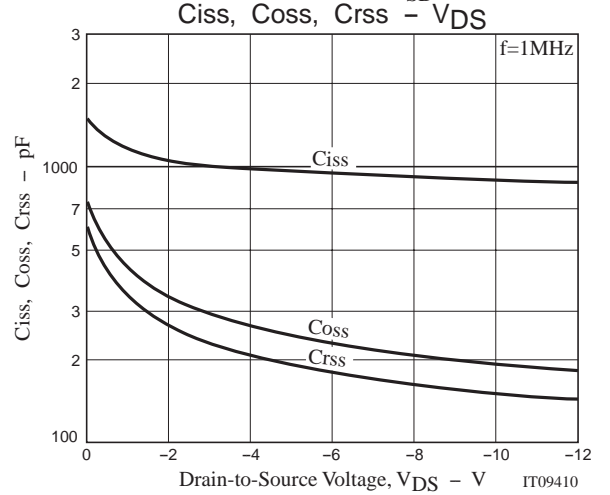
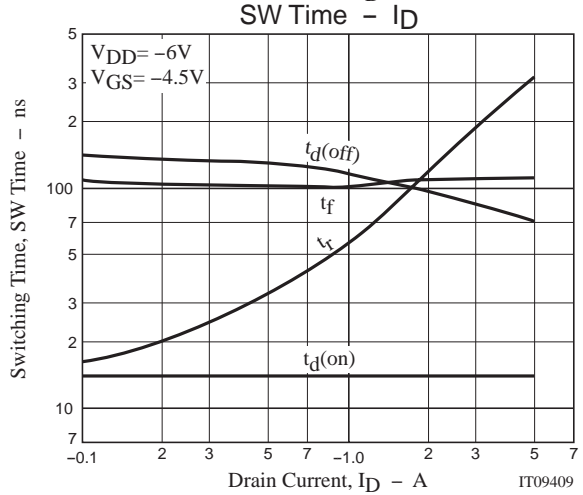
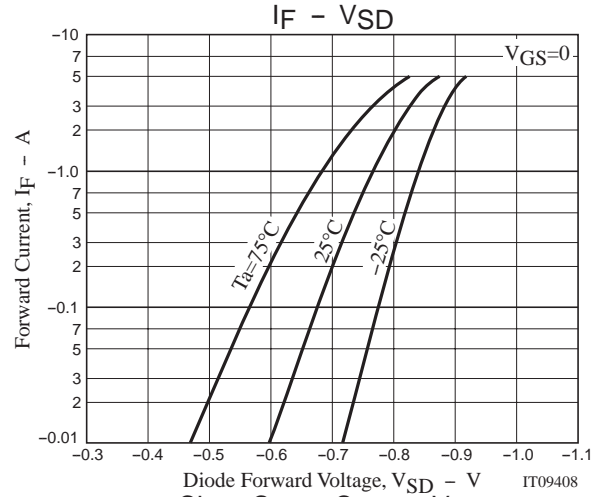
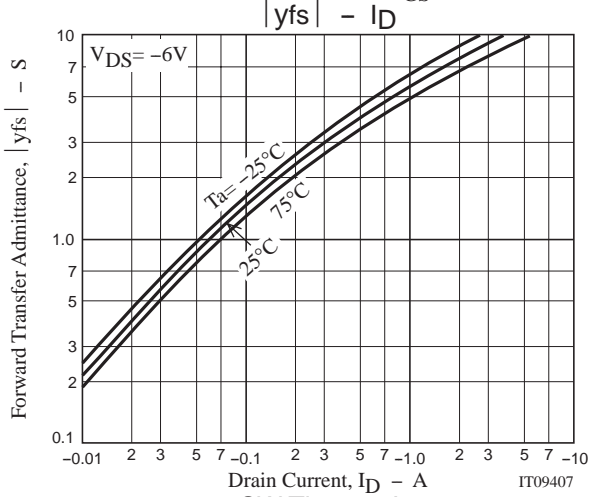
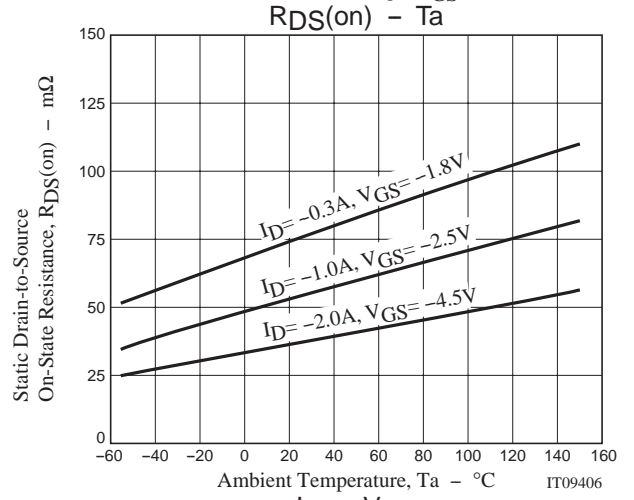
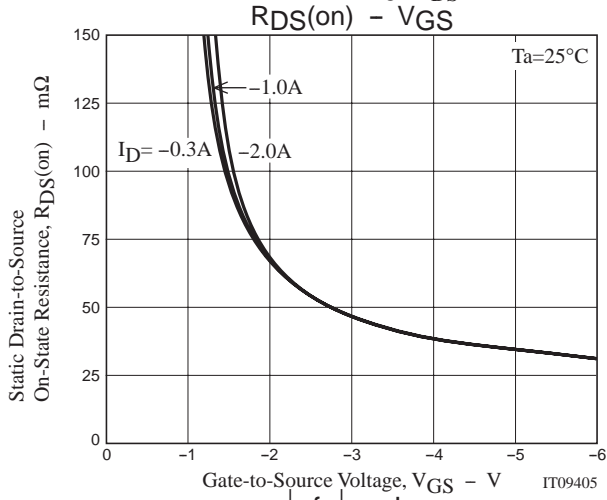
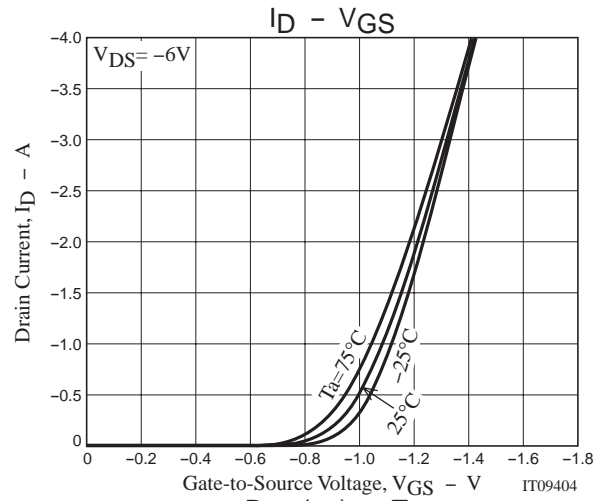
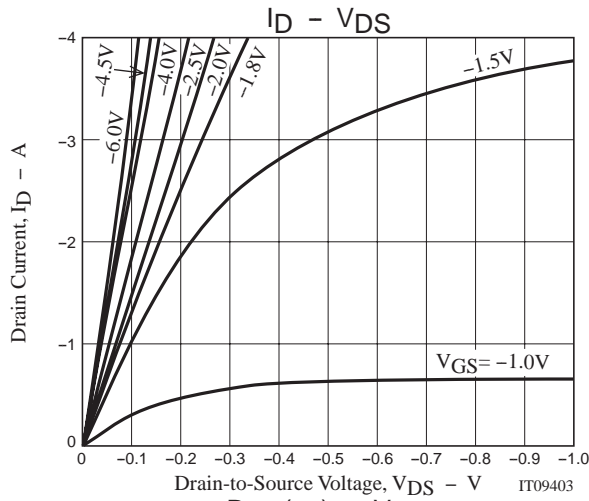


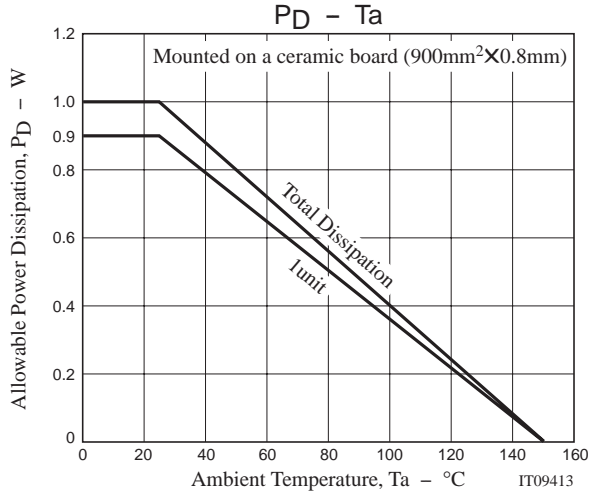
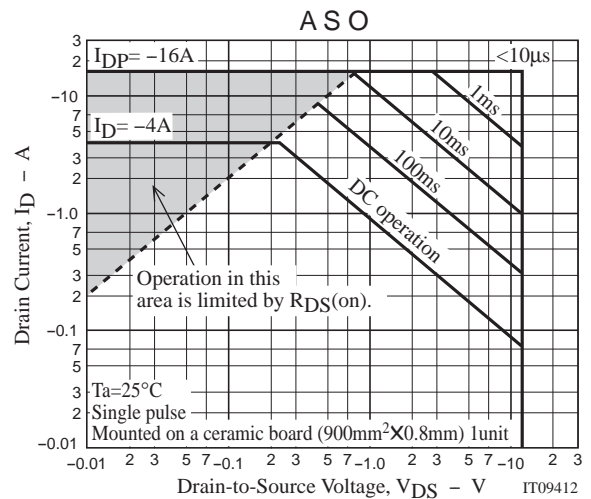
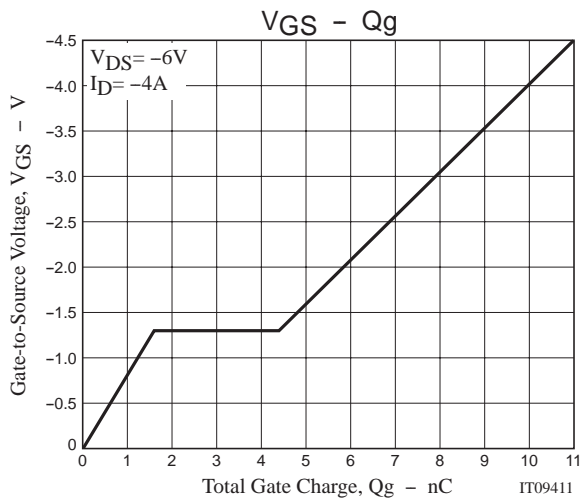
Electrical Connection



Switching Time Test Circuit







Note on usage : Since the VEC2303 is a MOSFET product, please avoid using this device in the vicinity of highly charged objects.

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