



VEC2302 — P-Channel Silicon MOSFET General-Purpose Switching Device Applications

Features

- The best suited for inverter applications.
- Low ON-resistance.
- Composite type facilitating high-density mounting.
- 4V drive.
- Mounting high 0.75mm.

Specifications

Absolute Maximum Ratings at Ta=25°C

Parameter	Symbol	Conditions	Ratings	Unit
Drain-to-Source Voltage	V _{DSS}		-30	V
Gate-to-Source Voltage	V _{GSS}		±20	V
Drain Current (DC)	I _D		-3	A
Drain Current (Pulse)	I _{DP}	PW≤10μs, duty cycle≤1%	-12	A
Allowable Power Dissipation	P _D	Mounted on a ceramic board (900mm ² ×0.8mm)1 unit	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	-30			V
Zero-Gate Voltage Drain Current	I _{DSS}	V _{DS} =-30V, V _{GS} =0			-1	μA
Gate-to-Source Leakage Current	I _{GSS}	V _{GS} =±16V, V _{DS} =0			±10	μA
Cutoff Voltage	V _{GSS(off)}	V _{DS} =-10V, I _D =-1mA	-1.0		-2.4	V
Forward Transfer Admittance	y _{fs}	V _{DS} =-10V, I _D =-1.5A	2.0	3.4		S
Static Drain-to-Source On-State Resistance	R _{DS(on)1}	I _D =-1.5A, V _{GS} =-10V		65	86	mΩ
	R _{DS(on)2}	I _D =-0.7A, V _{GS} =-4V		117	168	mΩ
Input Capacitance	C _{iss}	V _{DS} =-10V, f=1MHz		510		pF
Output Capacitance	C _{oss}	V _{DS} =-10V, f=1MHz		115		pF
Reverse Transfer Capacitance	C _{rss}	V _{DS} =-10V, f=1MHz		78		pF

Marking : BB

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VEC2302

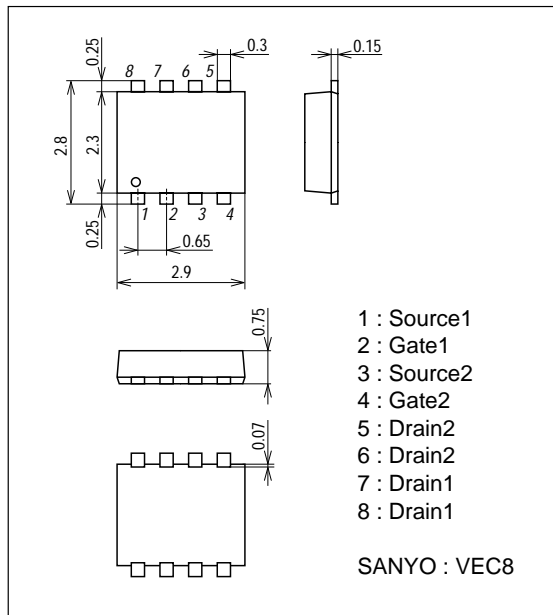
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Parameter	Symbol	Conditions	Ratings			Unit
			min	typ	max	
Turn-ON Delay Time	$t_{d(on)}$	See specified Test Circuit		11		ns
Rise Time	t_r	See specified Test Circuit		17		ns
Turn-OFF Delay Time	$t_{d(off)}$	See specified Test Circuit		53		ns
Fall Time	t_f	See specified Test Circuit		35		ns
Total Gate Charge	Qg	$V_{DS}=-10V, V_{GS}=-10V, I_D=-3A$		11		nC
Gate-to-Source Charge	Qgs	$V_{DS}=-10V, V_{GS}=-10V, I_D=-3A$		2.4		nC
Gate-to-Drain "Miller" Charge	Qgd	$V_{DS}=-10V, V_{GS}=-10V, I_D=-3A$		1.7		nC
Diode Forward Voltage	VSD	$I_S=-3A, V_{GS}=0$		-0.87	-1.5	V

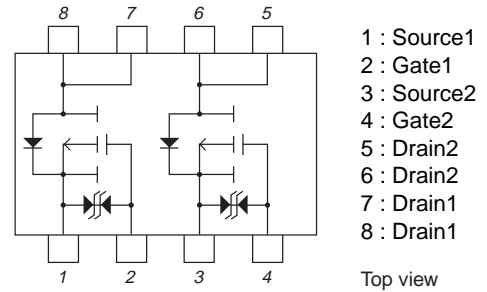
Package Dimensions

unit : mm

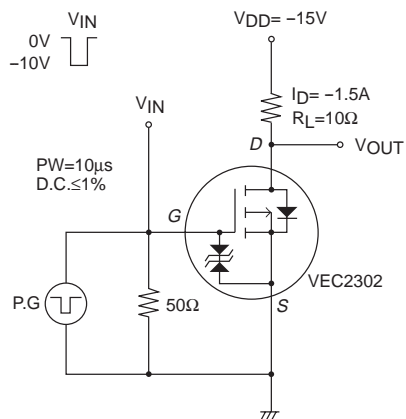
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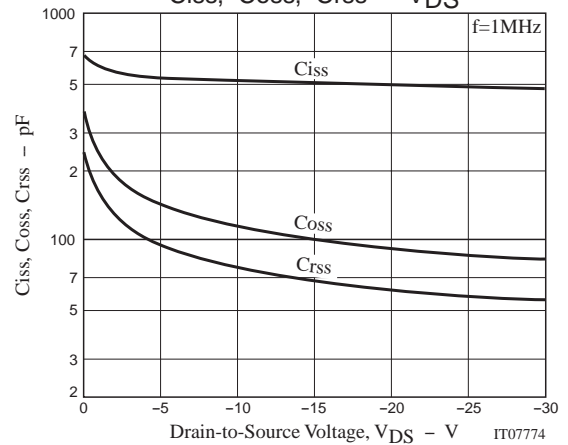
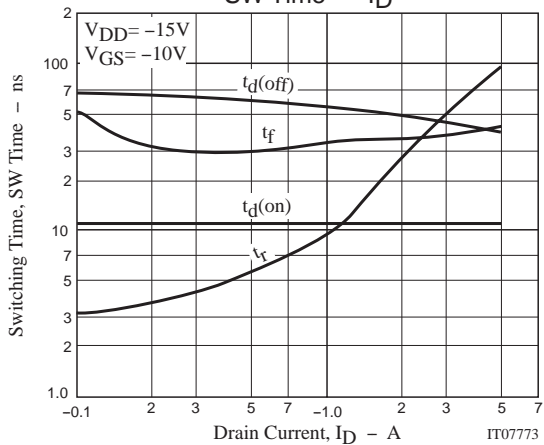
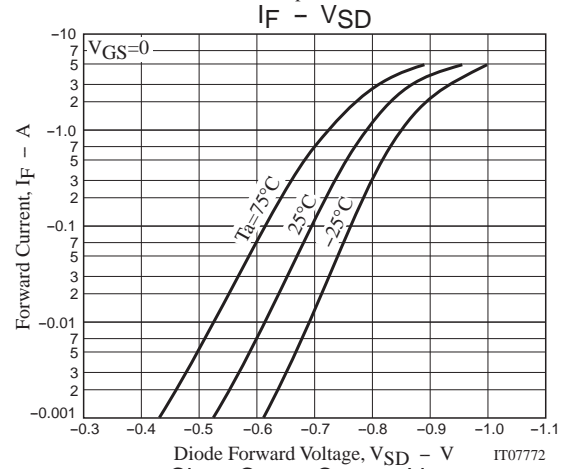
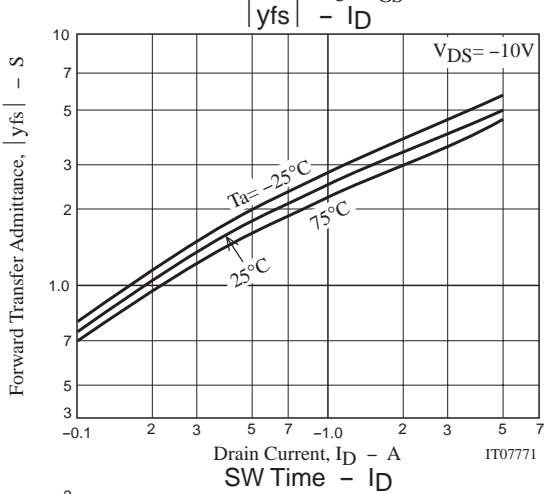
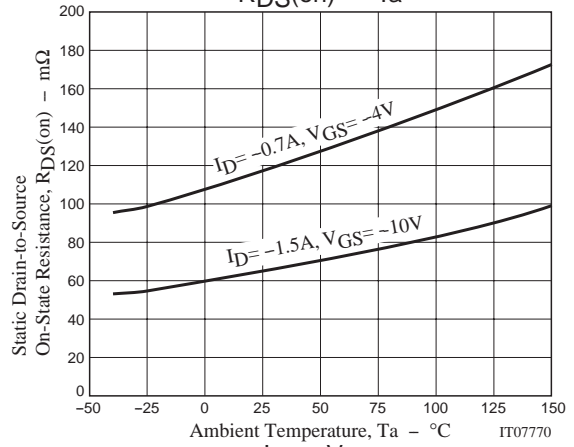
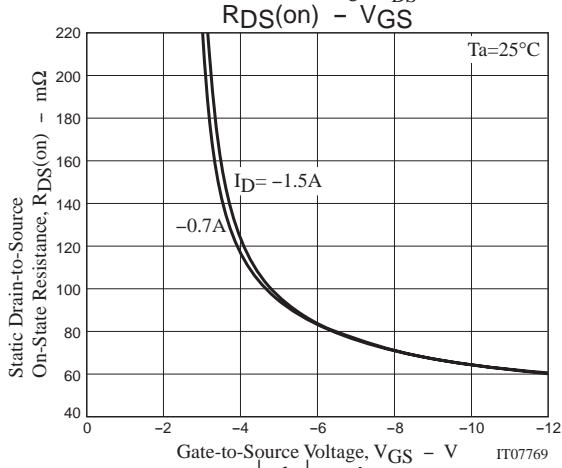
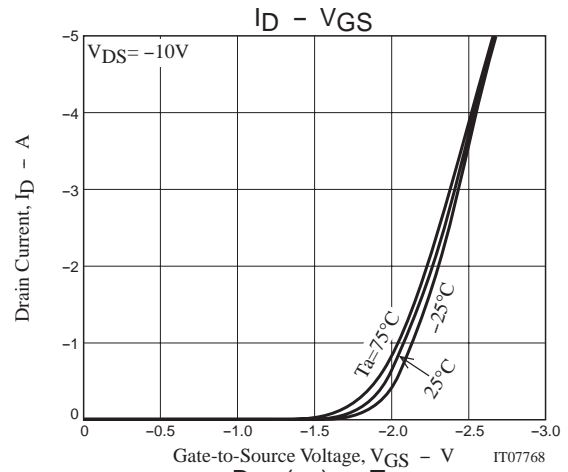
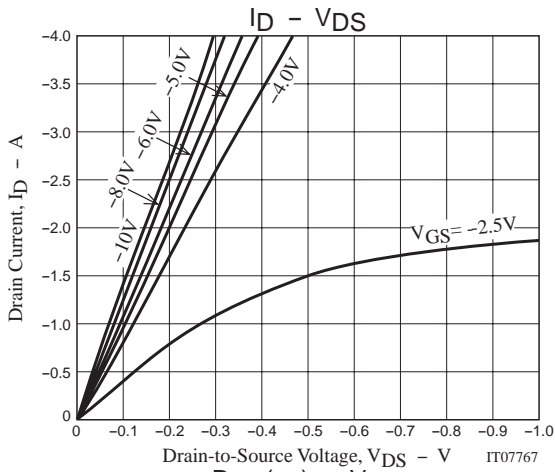
Electrical Connection



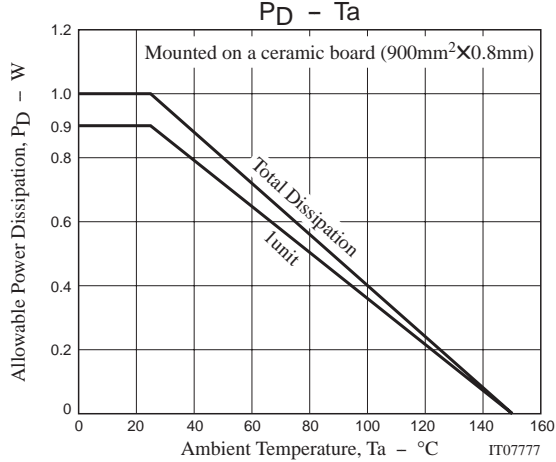
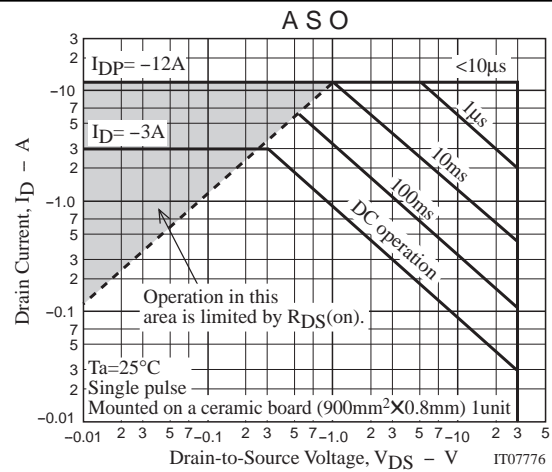
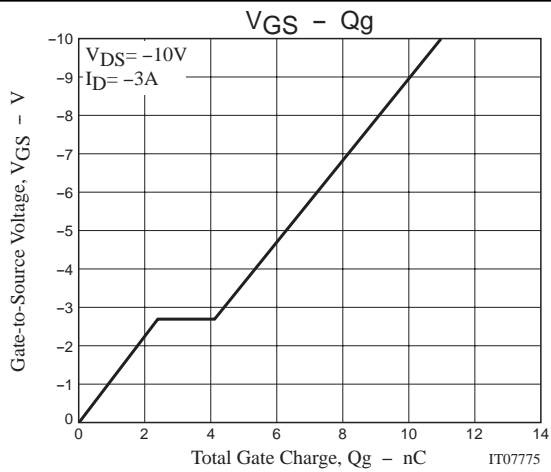
Switching Time Test Circuit



VEC2302



VEC2302



Note on usage : Since the VEC2302 is a MOSFET product, please avoid using this device in the vicinity of highly charged objects.

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