

SANYO Semiconductors DATA SHEET

N-Channel Silicon MOSFET

VEC2402 — 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	VGSS		±20	V
Drain Current (DC)	ID		4	А
Drain Current (Pulse)	IDP	PW≤10μs, duty cycle≤1%	16	Α
Allowable Power Dissipation	PD	Mounted on a ceramic board (900mm ² X0.8mm)1unit	0.9	W
Total Dissipation	PT	Mounted on a ceramic board (900mm ² X0.8mm)	1.0	W
Channel Temperature	Tch		150	°C
Storage Temperature	Tstg		-55 to +150	°C

Electrical Characteristics at Ta=25°C

Parameter	Symbol	Conditions	Ratings			Unit
			min	typ	max	Offic
Drain-to-Source Breakdown Voltage	V(BR)DSS	ID=1mA, VGS=0	30			٧
Zero-Gate Voltage Drain Current	IDSS	V _{DS} =30V, V _{GS} =0			1	μΑ
Gate-to-Source Leakage Current	IGSS	V _{GS} =±16V, V _{DS} =0			±10	μΑ
Cutoff Voltage	VGS(off)	VDS=10V, ID=1mA	1.0		2.4	٧
Forward Transfer Admittance	yfs	V _{DS} =10V, I _D =2A	2.2	3.6		S
Static Drain-to-Source On-State Resistance	RDS(on)1	ID=2A, VGS=10V		37	48	mΩ
	RDS(on)2	ID=1A, VGS=4V		70	98	mΩ
Input Capacitance	Ciss	V _{DS} =10V, f=1MHz		370		pF
Output Capacitance	Coss	V _{DS} =10V, f=1MHz		85	·	pF
Reverse Transfer Capacitance	Crss	V _{DS} =10V, f=1MHz		47		pF

Marking: BH Continued on next page.

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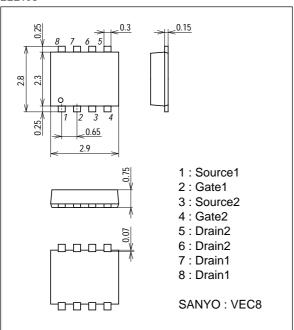
VEC2402

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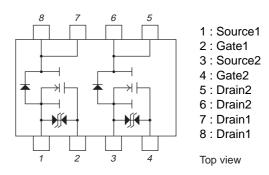
Parameter	Symbol	Conditions	Ratings			Unit
			min	typ	max	Oill
Turn-ON Delay Time	td(on)	See specified Test Circuit		11		ns
Rise Time	t _r	See specified Test Circuit		28		ns
Turn-OFF Delay Time	t _d (off)	See specified Test Circuit		37		ns
Fall Time	tf	See specified Test Circuit		34		ns
Total Gate Charge	Qg	V _{DS} =10V, V _{GS} =10V, I _D =4A		8.5		nC
Gate-to-Source Charge	Qgs	V _{DS} =10V, V _{GS} =10V, I _D =4A		1.8		nC
Gate-to-Drain "Miller" Charge	Qgd	V _{DS} =10V, V _{GS} =10V, I _D =4A		1.3		nC
Diode Forward Voltage	V _{SD}	I _S =4A, V _{GS} =0		0.83	1.2	V

Package Dimensions

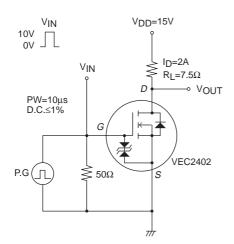
unit : mm 2227A

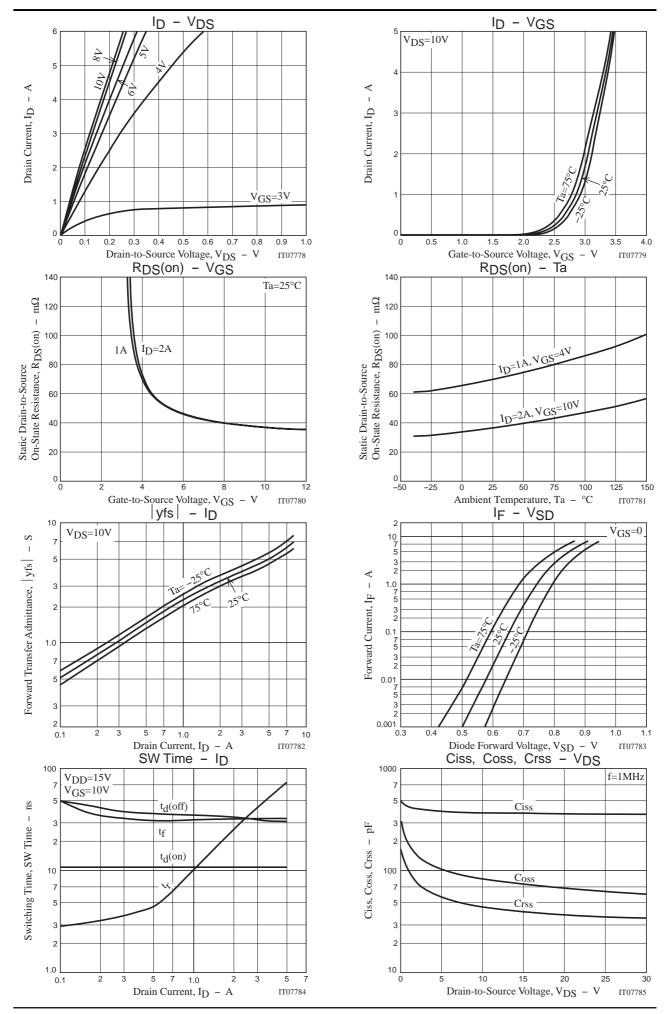


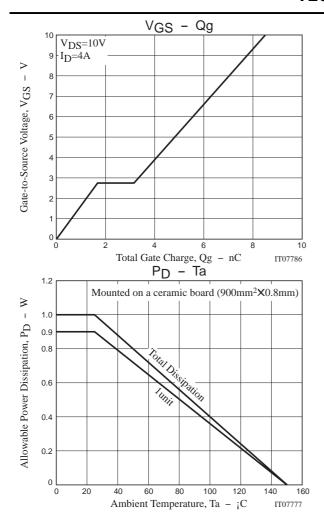
Electrical Connection

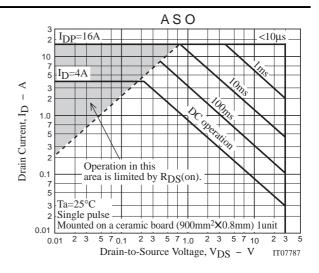


Switching Time Test Circuit









Note on usage: Since the VEC2402 is a MOSFET product, please avoid using this device in the vicinity of highly charged objects.

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