



P-Channel Enhancement-Mode Vertical DMOS FETs

Ordering Information

BV _{DSS} / R _{DS(ON)}		I _{D(ON)}	Order Number / Package			
BV _{DGS}	(max)	(min)	TO-92			
-80V	5.0Ω	-1.1A	VP0808L			

勝 特 力 材 料 886-3-5753170 胜特力电子(上海) 86-21-34970699 胜特力电子(深圳) 86-755-83298787 Http://www.100y.com.tw

Features

- □ Free from secondary breakdown
- Low power drive requirement
- Ease of paralleling
- $\hfill\square$ Low $C_{_{ISS}}$ and fast switching speeds
- Excellent thermal stability
- □ Integral Source-Drain diode
- High input impedance and high gain
- Complementary N- and P-channel devices

Applications

- Motor controls
- Converters
- Amplifiers
- Switches
- Power supply circuits
- Drivers (relays, hammers, solenoids, lamps, memories, displays, bipolar transistors, etc.)

Absolute Maximum Ratings

Drain-to-Source Voltage	BV _{DSS}
Drain-to-Gate Voltage	BV _{DGS}
Gate-to-Source Voltage	± 30V
Operating and Storage Temperature	-55°C to +150°C
Soldering Temperature*	300°C

* Distance of 1.6 mm from case for 10 seconds.

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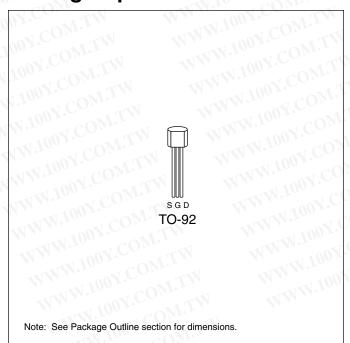
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Advanced DMOS Technology

These enhancement-mode (normally-off) transistors utilize a vertical DMOS structure and Supertex's well-proven silicon-gate manufacturing process. This combination produces devices with the power handling capabilities of bipolar transistors and with the high input impedance and positive temperature coefficient inherent in MOS devices. Characteristic of all MOS structures, these devices are free from thermal runaway and thermally-induced secondary breakdown.

Supertex's vertical DMOS FETs are ideally suited to a wide range of switching and amplifying applications where high breakdown voltage, high input impedance, low input capacitance, and fast switching speeds are desired.

Package Option



Thermal Characteristics

Package	I _D (continuous)*	I _D (pulsed)	Power Dissipation	θ _{jc} °C/W	θ _{ja} N°C/W
TO-92	-0.28A	-3A	1W	125	170

^{*} I_{D} (continuous) is limited by max rated T_{i} .

Electrical Characteristics (@ 25°C unless otherwise specified)

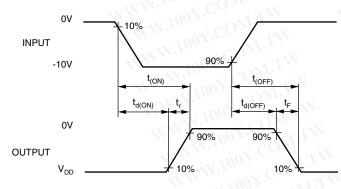
Symbol	Parameter	Min	Тур	Max	Unit	Conditions	
BV _{DSS}	Drain-to-Source Breakdown Voltage	-80	1		00 V	V _{GS} = 0V, I _D =-10μA	
V _{GS(th)}	Gate Threshold Voltage	-1.0		-4.5	VI.C	$V_{GS} = V_{DS}, I_D = -1mA$	
I _{GSS}	Gate Body Leakage	WT		-100	nA	$V_{GS} = \pm 20V, V_{DS} = 0V$	
I _{DSS}	Zero Gate Voltage Drain Current	NT.		-10	N. L	$V_{GS} = 0V, V_{DS} = Max Rating$	
W.100 1	LCOMTW WWW.100 X.CC		N	-500	μA	$V_{GS} = 0V, V_{DS} = Max Rating$ $T_A = 125^{\circ}C$	
I _{D(ON)}	ON-State Drain Current	-1.1	1	N	A	$V_{GS} = -10V, V_{DS} = -15V$	
R _{DS(ON)}	Static Drain-to-Source ON-State Resistance		TW	5.0 🔨	Ω	$V_{GS} = -10V, I_{D} = -1A$	
G _{FS}	Forward Transconductance	200	WT.	-	mö	$V_{\rm DS} = -10V, I_{\rm D} = -0.5A$	
C _{ISS}	Input Capacitance	N.CO	WT	150	MMM	100Y.COM	
C _{OSS}	Common Source Output Capacitance	N.CC	Dr.	60	pF	$V_{GS} = 0V, V_{DS} = -25V$ f = 1MHz	
C _{RSS}	Reverse Transfer Capacitance	J.V	OM.,	25		W.I.COM. TW	
t _{d(ON)}	Turn-ON Delay Time		.O _V .,	15	No.	ALWW. INV. COM. TW	
t _r	Rise Time	100	COM	40		V_{DD} = -25V, I_D = -0.5A R_{GEN} = 25 Ω	
t _{d(OFF)}	Turn-OFF Time	N.100	CON	30	ns		
t _f	Fall Time	N.100	1.0	30		W.100Y. COM.TW	
V _{SD}	Diode Forward Voltage Drop	110	-1.2	VIII	V	$V_{GS} = 0V, I_{SD} = -0.9A$	

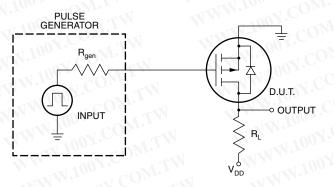
Notes:

1. All D.C. parameters 100% tested at 25°C unless otherwise stated. (Pulse test: 300µs pulse, 2% duty cycle.)

2. All A.C. parameters sample tested.

Switching Waveforms and Test Circuit





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