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VP0808

P-Channel Enhancement-Mode Vertical DMOS FETs

Ordering Information

BV_{DSS} / BV_{DGS}	$R_{DS(ON)}$ (max)	$I_{D(ON)}$ (min)	Order Number / Package
			TO-92
-80V	5.0Ω	-1.1A	VP0808L

Features

- Free from secondary breakdown
- Low power drive requirement
- Ease of paralleling
- 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.)

Package Option

S G D
TO-92

Note: See Package Outline section for dimensions.

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.

Thermal Characteristics

Package	I_D (continuous)*	I_D (pulsed)	Power Dissipation	θ_{jc} °C/W	θ_{ja} °C/W
TO-92	-0.28A	-3A	1W	125	170

* I_D (continuous) is limited by max rated T_j.

Electrical Characteristics (@ 25°C unless otherwise specified)

Symbol	Parameter	Min	Typ	Max	Unit	Conditions
BV_{DSS}	Drain-to-Source Breakdown Voltage	-80			V	V_{GS}= 0V, I_D =-10µA
$V_{GS(th)}$	Gate Threshold Voltage	-1.0		-4.5	V	V_{GS} = V_{DS}, I_D = -1mA
I_{GSS}	Gate Body Leakage			-100	nA	V_{GS} = ±20V, V_{DS} = 0V
I_{DSS}	Zero Gate Voltage Drain Current			-10	µA	V_{GS} = 0V, V_{DS} = Max Rating
				-500		V_{GS} = 0V, V_{DS} = Max Rating T_A = 125°C
$I_{D(ON)}$	ON-State Drain Current	-1.1			A	V_{GS} = -10V, V_{DS} = -15V
$R_{DS(ON)}$	Static Drain-to-Source ON-State Resistance			5.0	Ω	V_{GS} = -10V, I_D = -1A
G_{FS}	Forward Transconductance	200			m℧	V_{DS} = -10V, I_D = -0.5A
C_{ISS}	Input Capacitance			150	pF	V_{GS} = 0V, V_{DS} = -25V f = 1MHz
C_{OSS}	Common Source Output Capacitance			60		
C_{RSS}	Reverse Transfer Capacitance			25		
$t_{d(ON)}$	Turn-ON Delay Time			15	ns	V_{DD} = -25V, I_D = -0.5A R_{GEN} = 25Ω
t_r	Rise Time			40		
$t_{d(OFF)}$	Turn-OFF Time			30		
t_f	Fall Time			30		
V_{SD}	Diode Forward Voltage Drop		-1.2		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