P-CHANNEL ENHANCEMENT MODE VERTICAL DMOS FET

ZVP4105A

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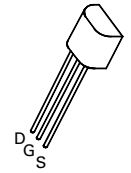
FEATURES

* 50 Volt V_{DS}
* $R_{DS(on)}$=10Ω
* Low threshold



E-Line
TO92 Compatible

ABSOLUTE MAXIMUM RATINGS.

PARAMETER	SYMBOL	VALUE	UNIT
Drain-Source Voltage	V_{DS}	-50	V
Continuous Drain Current at T_{amb}=25°C	I_D	-175	mA
Pulsed Drain Current	I_{DM}	-520	mA
Gate Source Voltage	V_{GS}	± 20	V
Power Dissipation at T_{amb}=25°C	P_{tot}	625	mW
Operating and Storage Temperature Range	T_j:T_{stg}	-55 to +150	°C

ELECTRICAL CHARACTERISTICS (at T_{amb} = 25°C unless otherwise stated).

PARAMETER	SYMBOL	MIN.	MAX.	UNIT	CONDITIONS.
Drain-Source Breakdown Voltage	BV_{DSS}	-50		V	I_D=-0.25mA, V_{GS}=0V
Gate-Source Threshold Voltage	$V_{GS(th)}$	-0.8	-2.0	V	ID=-1mA, V_{DS}= V_{GS}
Gate-Body Leakage	I_{GSS}		10	nA	V_{GS}=± 20V, V_{DS}=0V
Zero Gate Voltage Drain Current	I_{DSS}		-15 -60 -100	µA µA nA	V_{DS}=-50V, V_{GS}=0V V_{DS}=-50V, V_{GS}=0V, T=125°C(2) V_{DS}=-25V, V_{GS}=0V
Static Drain-Source On-State Resistance (1)	$R_{DS(on)}$		10	Ω	V_{GS}=-5V,I_D=-100mA
Forward Transconductance (1)(2)	g_{fs}	50		mS	V_{DS}=-25V,I_D=-100mA
Input Capacitance (2)(4)	C_{iss}		40	pF	V_{DS}=-25V, V_{GS}=0V, f=1MHz
Common Source Output Capacitance (2)(4)	C_{oss}		15	pF	
Reverse Transfer Capacitance (2)(4)	C_{rss}		6	pF	
Turn-On Delay Time (2)(3)(4)	$t_{d(on)}$		10	ns	V_{DD}≈-30V, I_D=-270mA
Rise Time (2)(3)(4)	t_r		10	ns	
Turn-Off Delay Time (2)(3)(4)	$t_{d(off)}$		18	ns	
Fall Time (2)(3)(4)	t_f		25	ns	

(1) Measured under pulsed conditions. Width=300µs. Duty cycle ≤2%
(2) Sample test.
(3) Switching times measured with 50Ω source impedance and <5ns rise time on a pulse generator