

20V P-Channel Enhancement Mode MOSFET

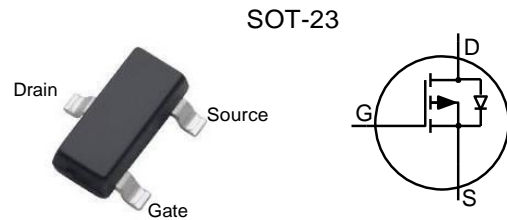
General Features

- > Proprietary Advanced Planar Technology
- > Rugged Polysilicon Gate Cell Structure
- > Fast Switching Speed
- > RoHS Compliant
- > Halogen-free Available

BV_{DSS}	R_{DS(ON)} (Typ.)	I_D
-20V	5.2Ω	-280mA

Applications

- > High Efficiency SMPS
- > Adaptor/Charger
- > Active PFC



Ordering Information

Part Number	Package	Marking	Remark
FTZ50P01G5	SOT-23	P01	Halogen Free

Absolute Maximum Ratings

T_A=25°C unless otherwise specified

Symbol	Parameter	FTZ50P01G5	Unit
V _{DSS}	Drain-to-Source Voltage ^[1]	-20	V
I _D	Continuous Drain Current	-0.28	A
I _{DM}	Pulsed Drain Current ^[2]	-1.12	
P _D	Power Dissipation	0.5	W
V _{GS}	Gate-to-Source Voltage	±20	V
T _L	Soldering Temperature Distance of 1.6mm from case for 10 seconds	300	°C
T _J and T _{STG}	Operating and Storage Temperature Range	-55 to 150	

Caution: Stresses greater than those listed in the "Absolute Maximum Ratings" may cause permanent damage to the device.

Thermal Characteristics

Symbol	Parameter	FTZ50P01G5	Unit
R _{θJA}	Thermal Resistance, Junction-to-Ambient	250	K/W

Electrical Characteristics

OFF Characteristics

 $T_A = 25^\circ\text{C}$ unless otherwise specified

Symbol	Parameter	Min.	Typ.	Max.	Unit	Test Conditions
BV_{DSS}	Drain-to-Source Breakdown Voltage	-20	--	--	V	$V_{GS}=0V, I_D=-250\mu A$
I_{DSS}	Drain-to-Source Leakage Current	--	-0.23	--	nA	$V_{DS}=-10V, V_{GS}=0V$
I_{GSS}	Gate-to-Source Leakage Current	--	2	--	nA	$V_{GS}=+20V, V_{DS}=0V$
		--	-3	--		$V_{GS}=-20V, V_{DS}=0V$

ON Characteristics

 $T_A = 25^\circ\text{C}$ unless otherwise specified

Symbol	Parameter	Min.	Typ.	Max.	Unit	Test Conditions
$R_{DS(ON)}$	Static Drain-to-Source On-Resistance	--	5.2	--	Ω	$V_{GS}=-10V, I_D=-50mA^{[3]}$
$V_{GS(OFF)}$	Gate-to-Source Cut-off Voltage	--	-4.38	--	V	$V_{GD}=0V, I_D=-1\mu A$
		--	-5.24	--	V	$V_{GD}=0V, I_D=-250\mu A$

Source-Drain Diode Characteristics

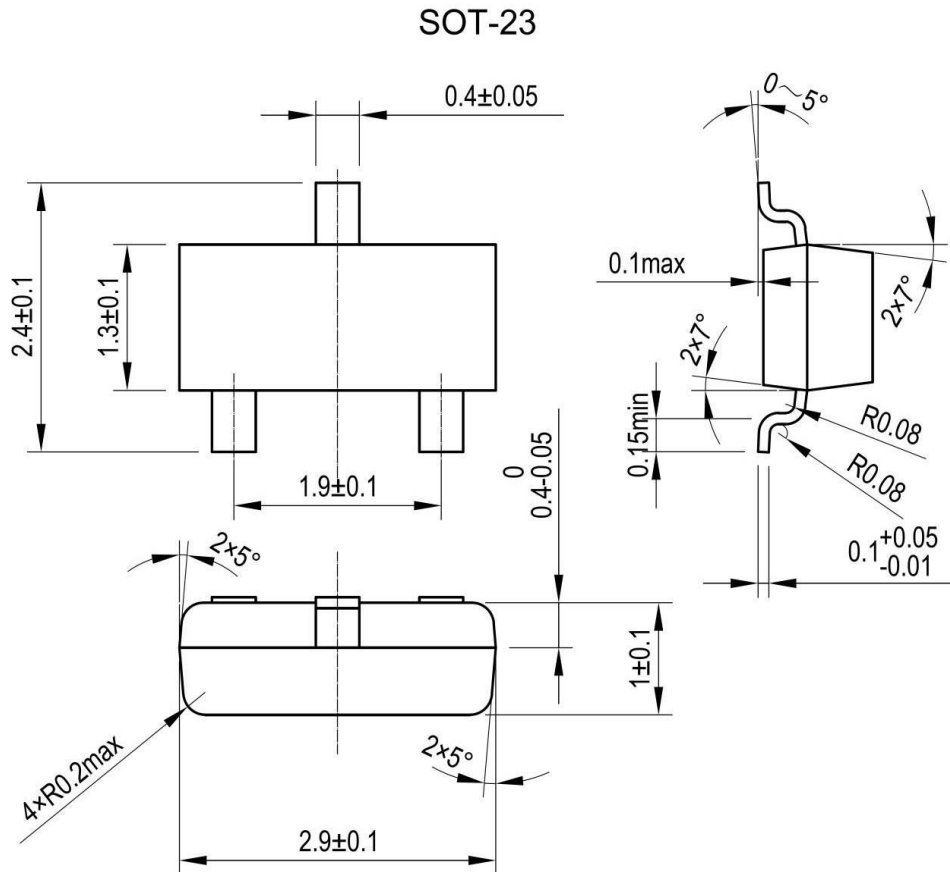
 $T_A = 25^\circ\text{C}$ unless otherwise specified

Symbol	Parameter	Min	Typ.	Max.	Units	Test Conditions
V_{SD}	Diode Forward Voltage	--	1.13	--	V	$I_{SD}=-50mA^{[3]}, V_{GS}=0V$

NOTE:

[1] $T_J = +25^\circ\text{C}$ to $+150^\circ\text{C}$

[2] Repetitive rating, pulse width limited by maximum junction temperature. [3] Pulse width $\leq 380\mu s$; duty cycle $\leq 2\%$.

Package Dimensions


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