

## 20V N-Channel Enhancement Mode MOSFET

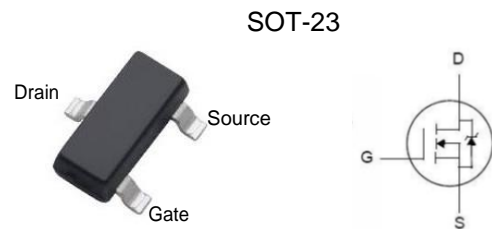
### General Features

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

$BV_{DSS}$	$R_{DS(ON)}$ (Typ.)	$I_D$
<b>20V</b>	<b>1.55Ω</b>	<b>500mA</b>

### Applications

- High Efficiency SMPS
- Adaptor/Charger
- Active PFC



### Ordering Information

Part Number	Package	Marking	Remark
FTZ20N01G5	SOT-23	N01	Halogen Free

### Absolute Maximum Ratings

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

Symbol	Parameter	FTZ20N01G5	Unit
$V_{DSS}$	Drain-to-Source Voltage <sup>[1]</sup>	20	V
$I_D$	Continuous Drain Current	0.5	A
$I_{DM}$	Pulsed Drain Current <sup>[2]</sup>	2	
$P_D$	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	FTZ20N01G5	Unit
$R_{\theta JA}$	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	--	0.38	--	nA	$V_{DS}=10V, V_{GS}=0V$
$I_{GSS}$	Gate-to-Source Leakage Current	--	2	--	nA	$V_{GS}=+20V, V_{DS}=0V$
		--	-2	--		$V_{GS}=-20V, V_{DS}=0V$

### 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	--	1.55	--	$\Omega$	$V_{GS}=10V, I_D=50mA^{[1]}$
$V_{GS(TH)}$	Gate Threshold Voltage	--	4.65	--	V	$V_{GD}=0V, I_D=1\mu A$
		--	5.39	--	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	--	0.78	--	V	$I_{SD}=50mA^{[3]}, V_{GS}=0V$

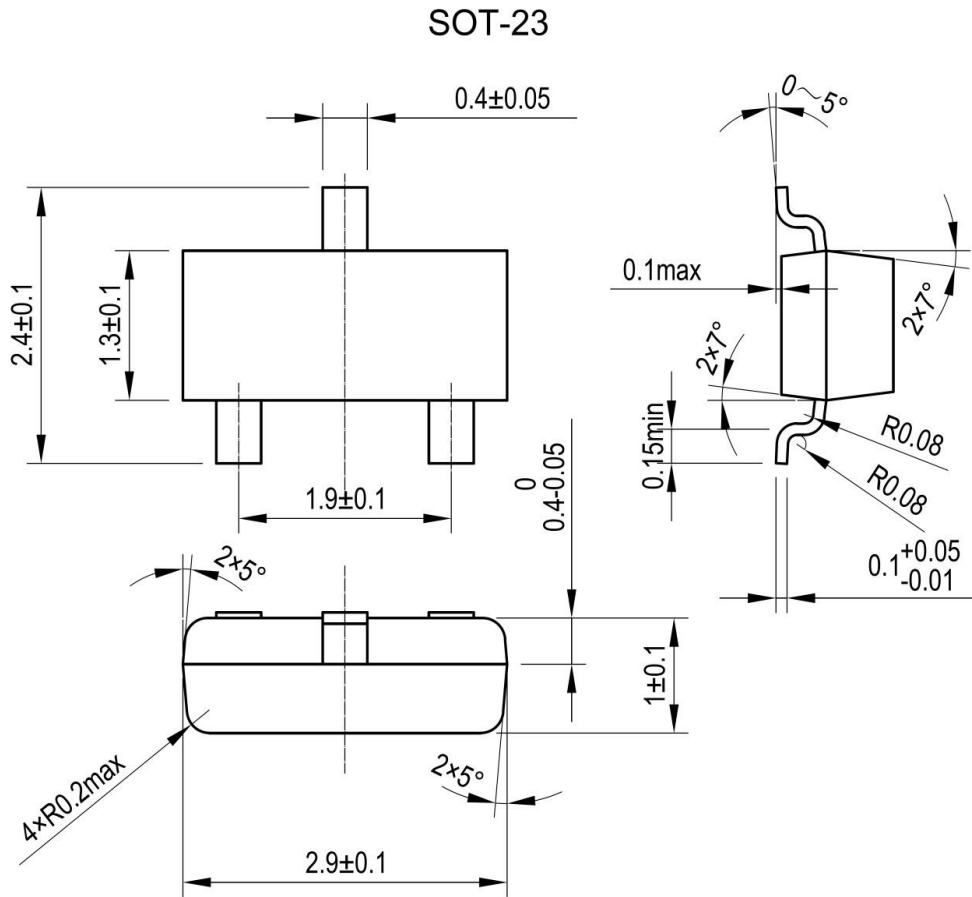
NOTE:

[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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