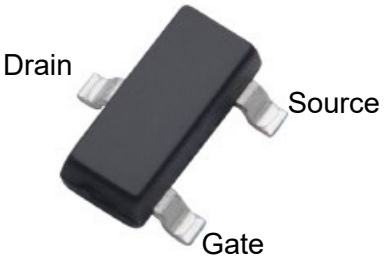
350V P-Channel MOSFET

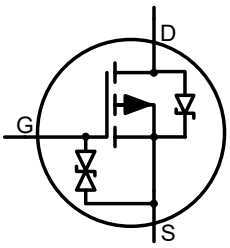
General Features

- ESD improved Capability
- Proprietary Advanced Planar Technology
- Rugged Polysilicon Gate Cell Structure
- Fast Switching Speed
- RoHS Compliant
- Halogen-free available

BV_{DSX}	$R_{DS(ON)}$ (Max.)	I_D
-350V	30 Ω	-200mA

SOT-23





Applications

- High Efficiency SMPS
- Adaptor/Charger
- Active PFC

Ordering Information

Part Number	Package	Marking	Remark
FTZ30P35G	SOT-23	P35	Halogen Free

Absolute Maximum Ratings

T_A=25℃ unless otherwise specified

Symbol	Parameter	FTZ30P35G	Unit
V_{DSX}	Drain-to-Source Voltage[1]	-350	V
V_{DGX}	Drain-to-Gate Voltage[1]	-350	V
I_D	Continuous Drain Current	-0.2	A
I_{DM}	Pulsed Drain Current[2]	-0.6	
P_D	Power Dissipation	0.50	W
V_{GS}	Gate-to-Source Voltage	±20	V
$V_{ESD(G-S)}$	Gate Source ESD IEC, C=150pF, R=330 Ω	350	V
T_L	Soldering Temperature Distance of 1.6mm from case for 10 seconds	300	℃
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	FTZ30P35G	Unit
$R_{\theta JA}$	Thermal Resistance, Junction-to-Ambient	250	K/W

Electrical Characteristics

OFF Characteristics

T_A =25℃ unless otherwise specified

Symbol	Parameter	Min.	Typ.	Max.	Unit	Test Conditions
BV_{DSX}	Drain-to-Source Breakdown Voltage	-350	--	--	V	V_{GS}=0V, I_D=-250μA
$\triangle BV_{DSS}/\triangle T_J$	Breakdown Voltage Temperature Coefficient	--	-0.35	--	V/℃	Reference to 25℃, I_D=-250μA
I_{DSS}	Drain-to-Source Leakage Current	--	--	-1	μA	V_{DS}=-350V， V_{GS}= 0V
		--	--	-100	uA	V_{DS}=-350V， V_{GS}= 0V T_J=125℃
I_{GSS}	Gate-to-Source Leakage Current	--	--	20	uA	V_{GS}=+20V, V_{DS}=0V
		--	--	-20		V_{GS}=-20V, V_{DS}=0V

ON Characteristics

T_A =25℃ unless otherwise specified

Symbol	Parameter	Min.	Typ.	Max.	Unit	Test Conditions
$R_{DS(ON)}$	Static Drain-to-Source On-Resistance	--	18	30	Ω	V_{GS}=-10V， I_D=-200mA [3]
$V_{GS(TH)}$	Gate Threshold Voltage	-1	--	-3	V	V_{GD} =0V, I_D=-250μA

Dynamic Characteristics

Essentially independent of operating temperature

Symbol	Parameter	Min.	Typ.	Max.	Unit	Test Conditions
C_{ISS}	Input Capacitance	--	43.39	--	pF	V_{GS}=0V V_{DS}=-25V f=1.0MHz
C_{OSS}	Oput Capacitance	--	6.94	--		
C_{RSS}	Reverse Transfer Capacitance	--	0.84	--		
$t_{d(ON)}$	Turn-on Delay Time	--	12	--	ns	V_{GS} = -10V~0V V_{DD} = -25V, I_D=-80mA R_G = 25Ohm
t_{rise}	Rise Time	--	60	--		
$t_{d(OFF)}$	Turn-off Delay Time	--	136	--		
t_{fall}	Fall Time	--	320	--		

Source-Drain Diode Characteristics

T_A=25℃ unless otherwise specified

Symbol	Parameter	Min	Typ.	Max.	Units	Test Conditions
V_{SD}	Diode Forward Voltage	--	--	-1.8	V	I_{SD} =-200 mA, V_{GS} =0 V

NOTE：

[1] T_J=+25℃ to +150℃
[2] Repetitive rating, pulse width limited by maximum junction temperature.
[3] Pulse width≤380μs; duty cycle≤2%.

Figure 1. Maximum Power Dissipation vs. Case Temperature

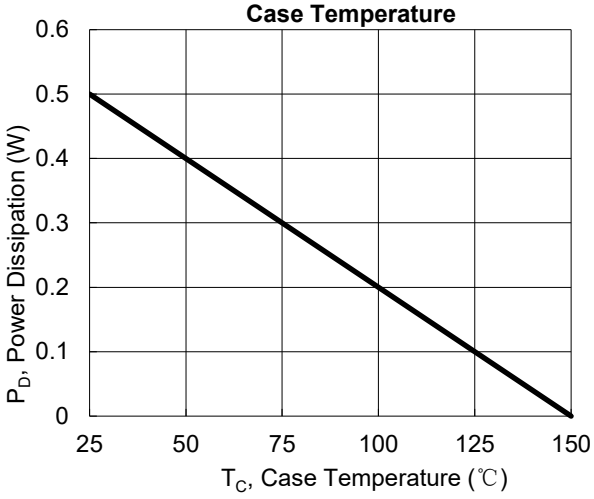


Figure 2. Maximum Continuous Drain Current vs Case Temperature

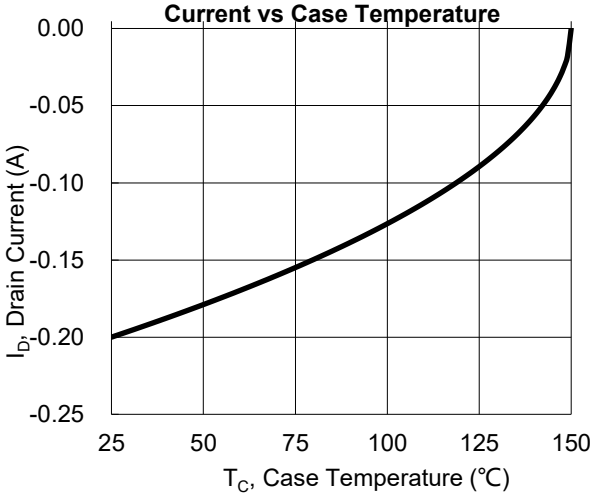
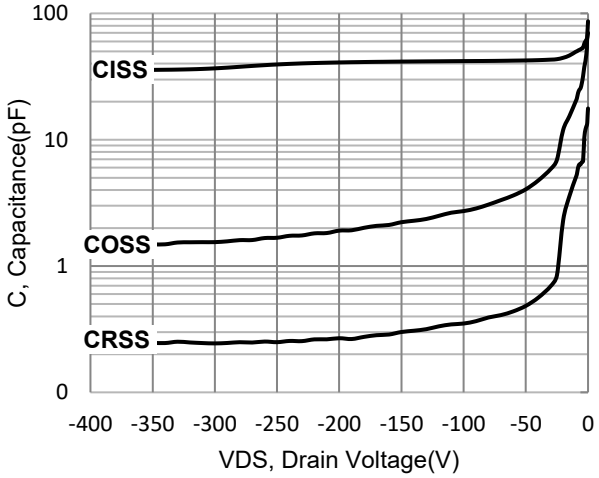


Figure 3. Typical Capacitance vs. Drain-to-Source Voltage



Switching Waveforms and Test Circuit

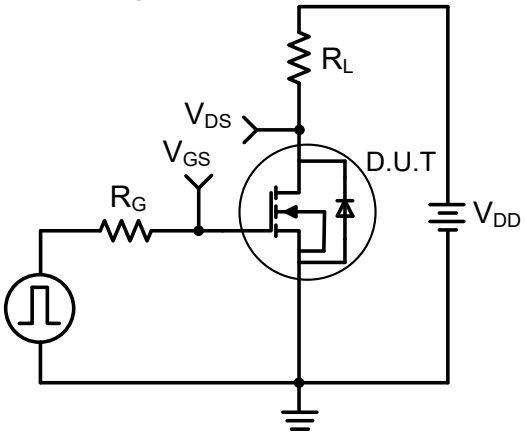


Figure 4. Resistive Switching Test Circuit

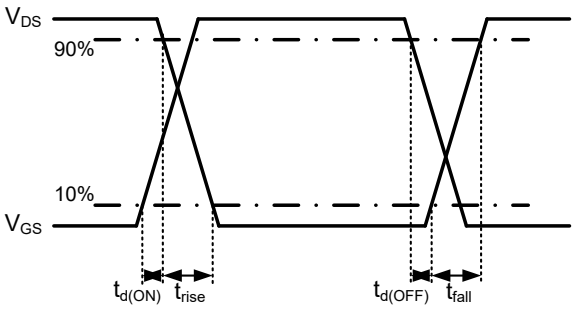
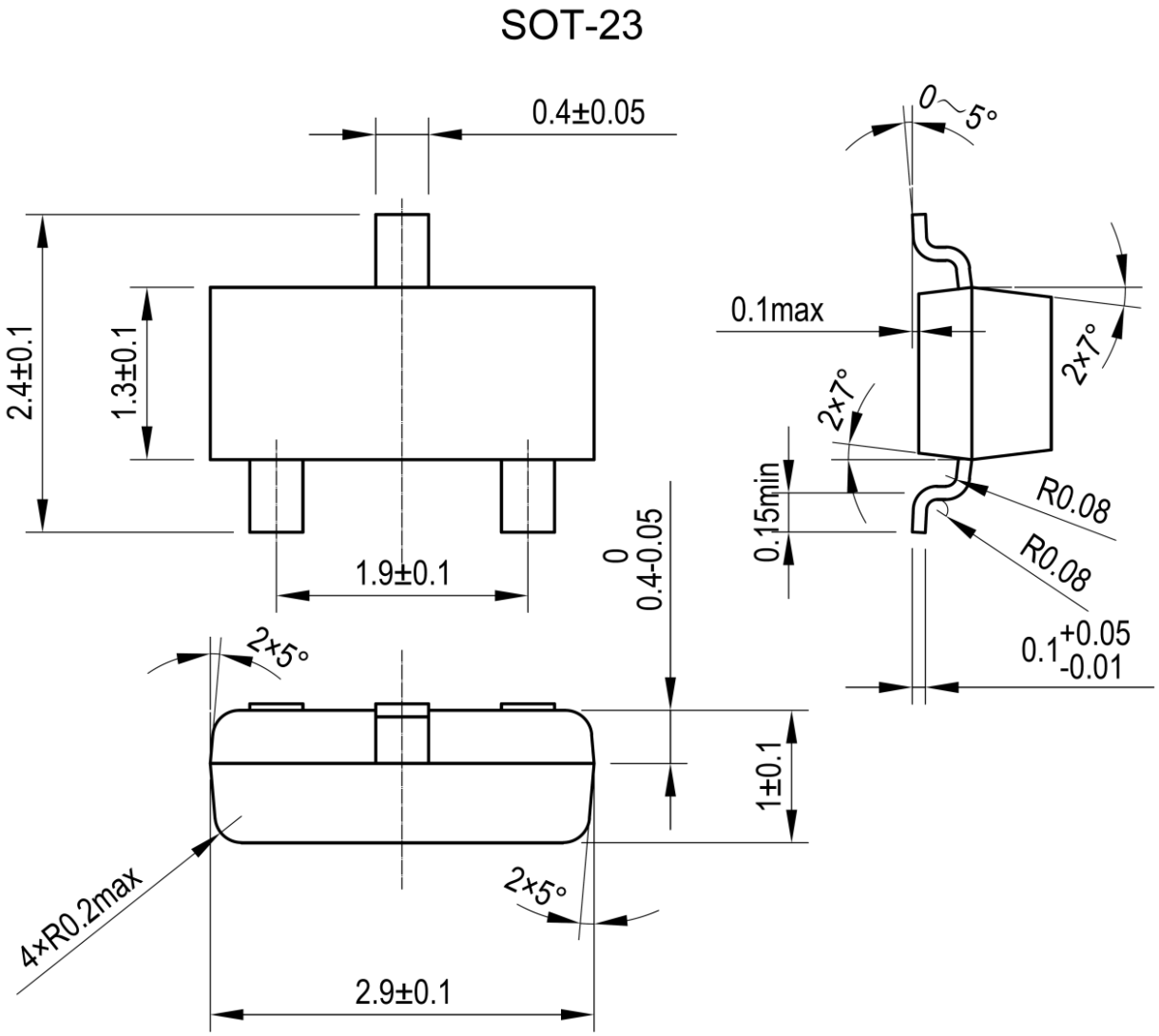


Figure 5. Resistive Switching Waveforms

Package Dimensions



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