350V N-Channel Enhancement Mode MOSFET

General Features

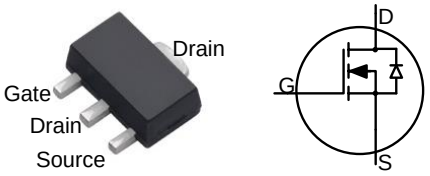
- Proprietary Advanced Planar Technology
- Rugged Polysilicon Gate Cell Structure
- Fast Switching Speed
- RoHS Compliant
- Halogen-free available

BV_{DSS}	$R_{DS(ON)}$ (Max.)	I_D
350V	15 Ω	200mA

Applications

- High Efficiency SMPS
- Adaptor/Charger
- Active PFC

SOT-89



Ordering Information

Part Number	Package	Marking	Remark
FTX15N35G	SOT-89	N35	Halogen Free

Absolute Maximum Ratings

T_A=25℃ unless otherwise specified

Symbol	Parameter	FTX15N35G	Unit
V_{DSS}	Drain-to-Source Voltage[1]	350	V
I_D	Continuous Drain Current	0.2	A
I_{DM}	Pulsed Drain Current[2]	0.6	
P_D	Power Dissipation	1.0	W
V_{GS}	Gate-to-Source Voltage	±20	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	FTX15N35G	Unit
$R_{\theta JA}$	Thermal Resistance, Junction-to-Ambient	125	K/W

Electrical Characteristics

OFF Characteristics

T_A =25℃ unless otherwise specified

Symbol	Parameter	Min.	Typ.	Max.	Unit	Test Conditions
BV_{DSS}	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	μA	V_{DS}=350V，V_{GS}= 0V T_J=125℃
I_{GSS}	Gate-to-Source Leakage Current	--	--	20	μA	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	--	8	15	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	--	32.58	--	pF	V_{GS}=0V V_{DS}=25V f=1.0MHz
C_{OSS}	Oput Capacitance	--	5.36	--		
C_{RSS}	Reverse Transfer Capacitance	--	0.75	--		
$t_{d(ON)}$	Turn-on Delay Time	--	14	--	ns	V_{DD} = 25V, I_D=80mA R_G = 25Ohm V_{GS} = 10V~0V
t_{rise}	Rise Time	--	10	--		
$t_{d(OFF)}$	Turn-off Delay Time	--	24	--		
t_{fall}	Fall Time	--	36	--		

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%.

Typical Characteristics

Figure 1. Maximum Power Dissipation vs. Case Temperature

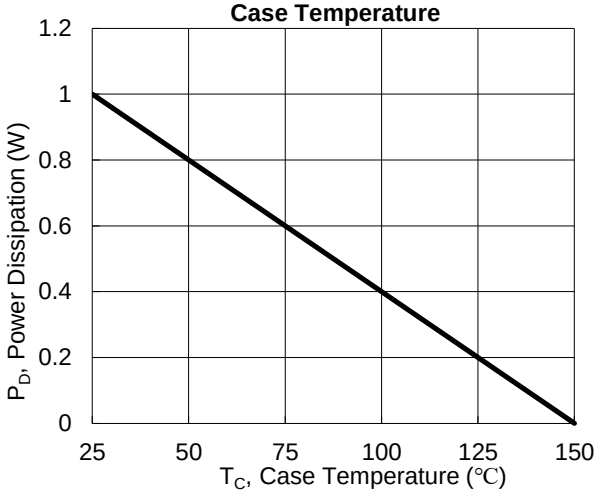


Figure 2. Maximum Continuous Drain Current vs Case Temperature

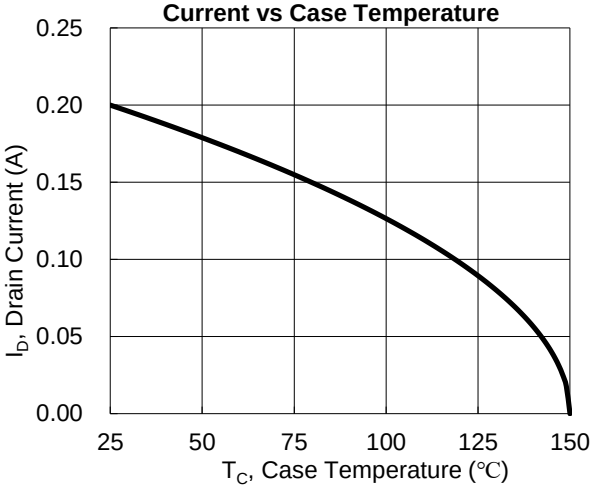
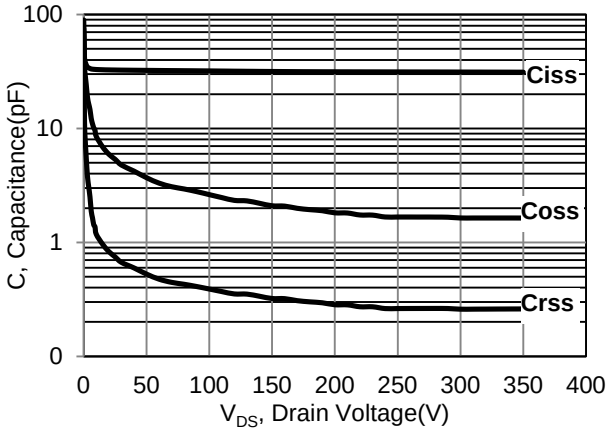


Figure 3. Typical Capacitance vs. Drain-to-Source Voltage



Switching Waveforms and Test Circuit

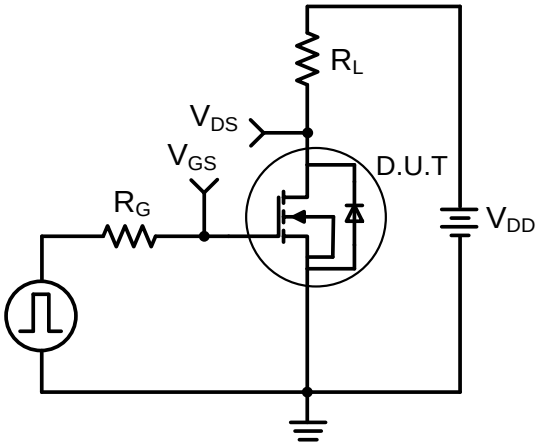


Figure 4. Resistive Switching Test Circuit

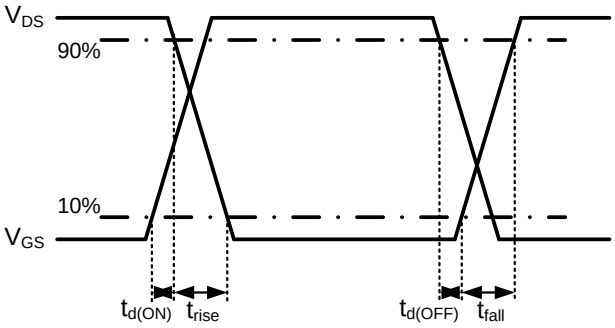
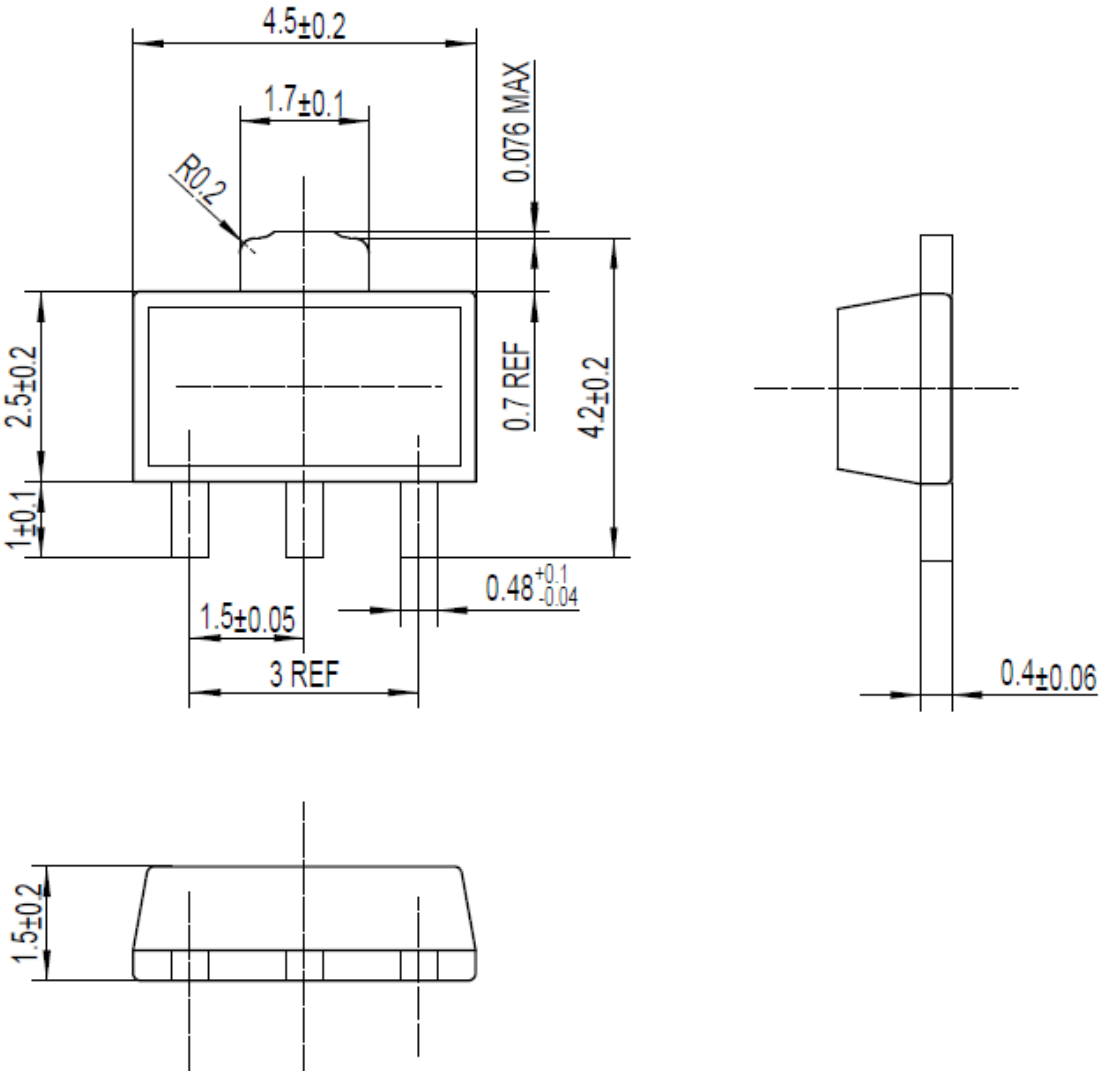


Figure 5. Resistive Switching Waveforms

Package Dimensions

SOT-89



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