

Plastic Package N-Channel MOSFET

Absolute Maximum Ratings $T_A = 25^{\circ}\text{C}$
 unless otherwise noted

Symbol	Parameter	Value	Units
V_{DS}	Drain-Source Voltage	60	V
V_{GS}	Continuous Gate-Source Voltage	$\pm 20\text{V}$	V
I_D	Continuous Drain Current	340	mA
P_D	Power Dissipation	300	mW
$R_{\theta JA}$	Thermal Resistance from Junction to Ambient	357	$^{\circ}\text{C}/\text{W}$
T_{STG}	Storage Temperature Range	-55 to +150	$^{\circ}\text{C}$
T_J	Operating Junction Temperature	+150	$^{\circ}\text{C}$



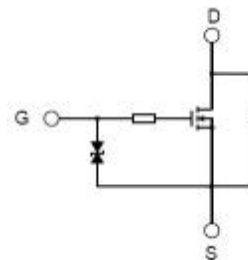
SOT-23

These ratings are limiting values above which the serviceability of the device may be impaired.

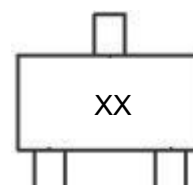
Specification Features:

- ◇ Epoxy meets UL 94 V-0 flammability rating
- ◇ High density cell design for low $R_{DS(ON)}$
- ◇ Voltage controlled small signal switch
- ◇ Rugged and reliable
- ◇ ESD Protected up to 2KV (HBM)
- ◇ AEC-Q101

Electrical Symbol:



Device Marking Code:



Electrical Characteristics (TA = 25°C unless otherwise noted)
Off Characteristics

Symbol	Parameter	Test Condition	Limits			Unit
			Min	Typ	Max	
BV_{DSS}	Drain-Source Breakdown Voltage	V _{GS} =0V, I _D =10uA	60			Volts
I_{gss}	Gate-Body Leakage	V _{DS} =0V, V _{GS} =±10V			±200	nA
		V _{DS} =0V, V _{GS} =±5V			±100	nA
I_{DSS}	Zero Gate Voltage Drain Current	V _{DS} =48V, V _{GS} =0V			1	uA

On Characteristics

Symbol	Parameter	Test Condition	Limits			Unit
			Min	Typ	Max	
V_{th(GS)}	Gate-Threshold Voltage	V _{DS} = V _{GS} , I _D =1mA	1		2.5	Volts
I_{D(ON)}	On-state Drain Current	V _{GS} =10V, V _{DS} =7V	500			mA
R_{DS(on)}	Drain-Source On-Resistance	V _{GS} =10V, I _D =500mA			5.0	Ω
		V _{GS} =4.5V, I _D =200mA			5.3	Ω
g_r	Recovered charge	V _{gs} =0V, I _s =300mA, V _r = 25V , D _{I_s/dt} =-100A/us	--	--	30	nC
V_{DS(on)}	Drain-Source On-Voltage	V _{GS} =10V, I _D =500mA			3.75	V
		V _{GS} =5V, I _D =50mA			0.375	V
V_{SD}	Diode Forward Voltage	I _S =300mA, V _{GS} =0V			1.5	V

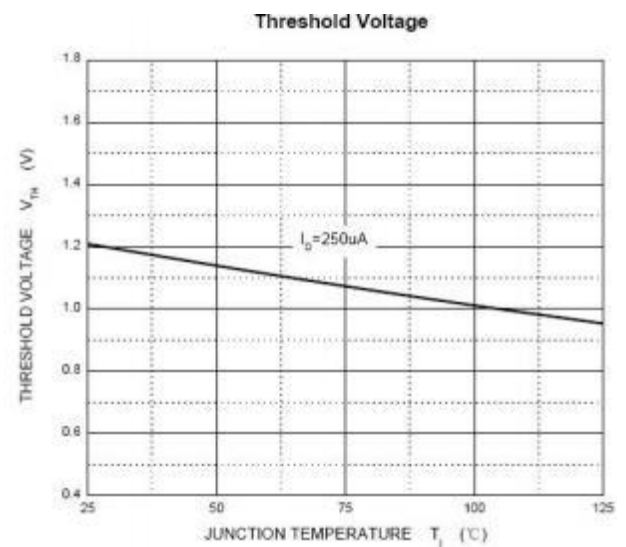
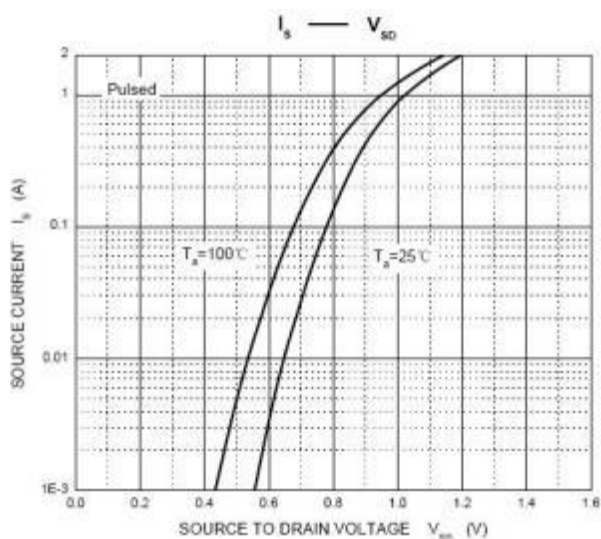
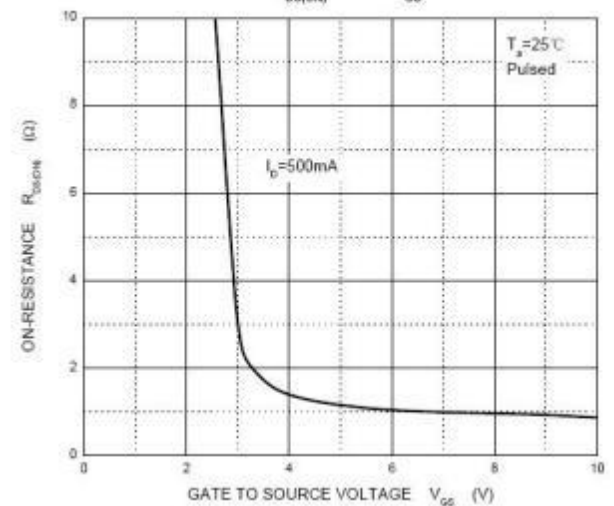
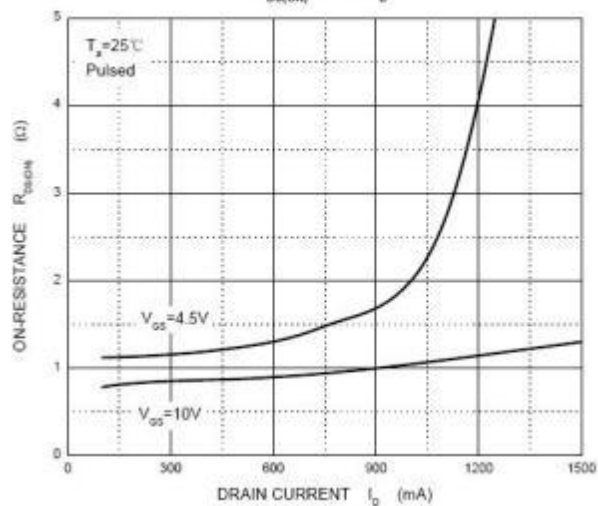
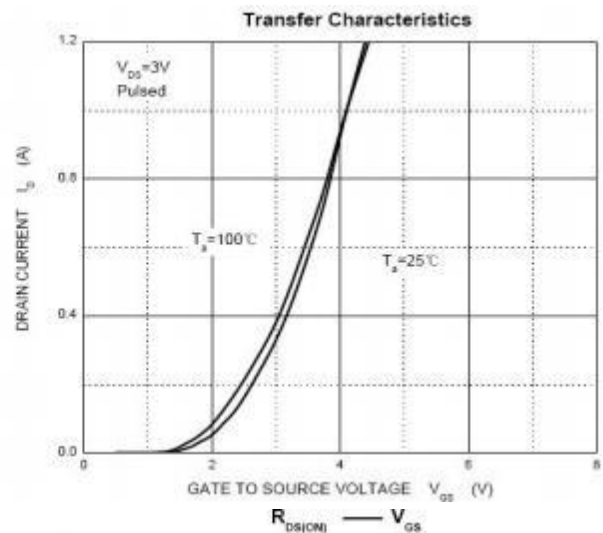
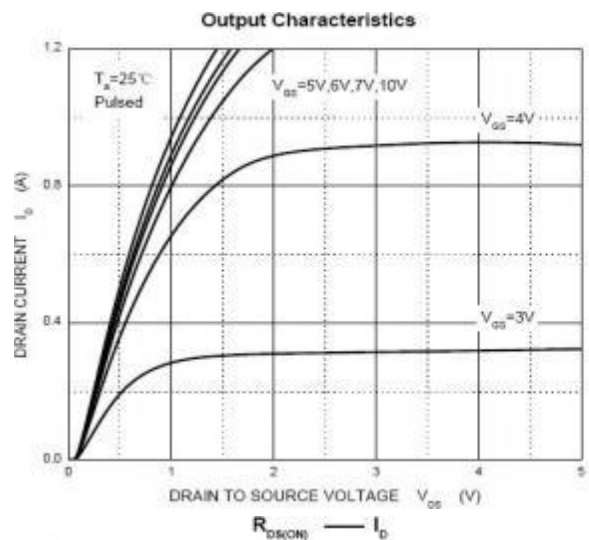
Dynamic Characteristics

Symbol	Parameter	Test Condition	Limits			Unit
			Min	Typ	Max	
C_{iss}	Input Capacitance		--	--	40	pF
C_{oss}	Output Capacitance	V _{DS} = 10V, V _{GS} = 0V, f = 1.0MHz	--	--	30	pF
C_{rss}	Reverse Transfer Capacitance		--	--	10	pF

Switching Characteristics

Symbol	Parameter	Test Condition	Limits			Unit
			Min	Typ	Max	
t_{D(on)}	Turn-on Time	V _{DD} =50V, R _L =250Ω,	--	--	10	nS
t_{D(off)}	Turn-off Time	R _{GS} = 50Ω , V _{GS} =10V, R _G = 50Ω	--	--	15	nS
t_{rr}	Reverse recovery time	V _{GS} =0V, I _S =300mA, V _R = 25V , D _{I_s/dt} =-100A/us	--	--	30	nS

Typical characteristics



OUTLINE DRAWING

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