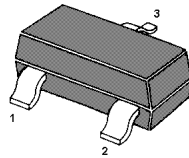


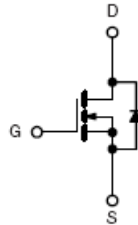
N-Channel 20-V(D-S) MOSFET

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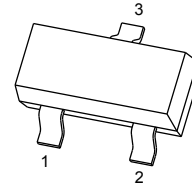
MARKING : 00BF

Equivalent Circuit



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1. GATE
2. SOURCE
3. DRAIN



$V_{(BR)DSS}$	$R_{DS(on)Typ}$	I_D
20V	21mΩ@4.5V	6A
	29mΩ@2.5V	

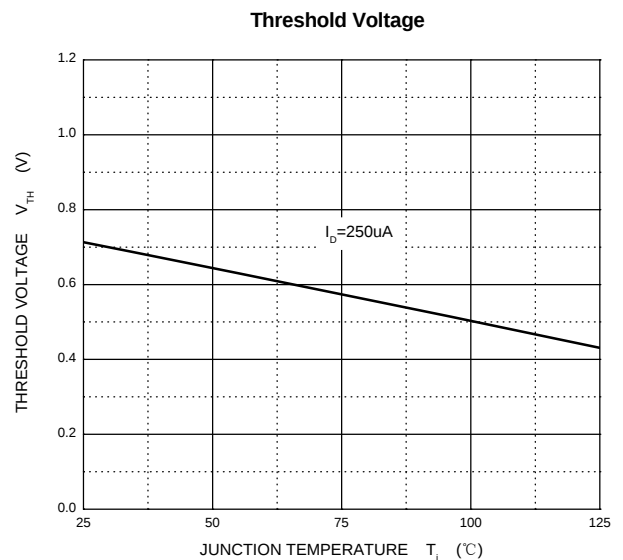
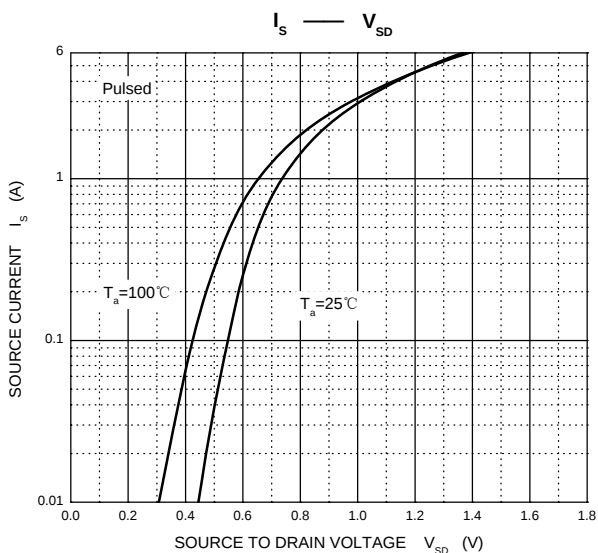
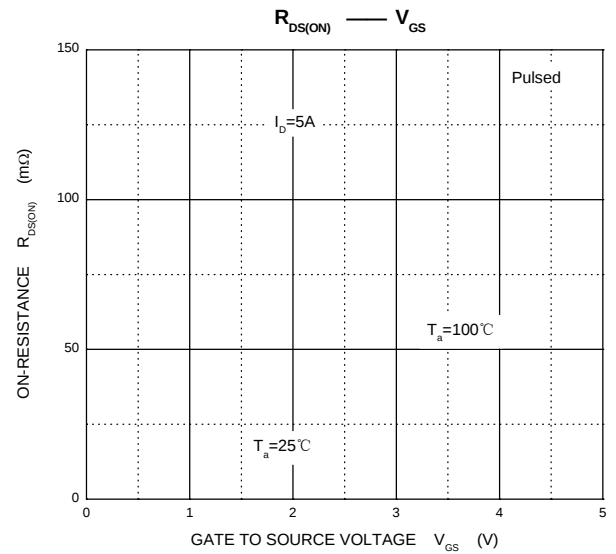
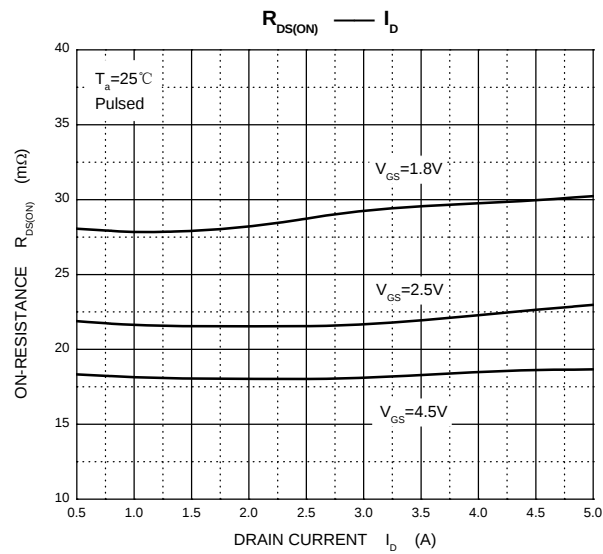
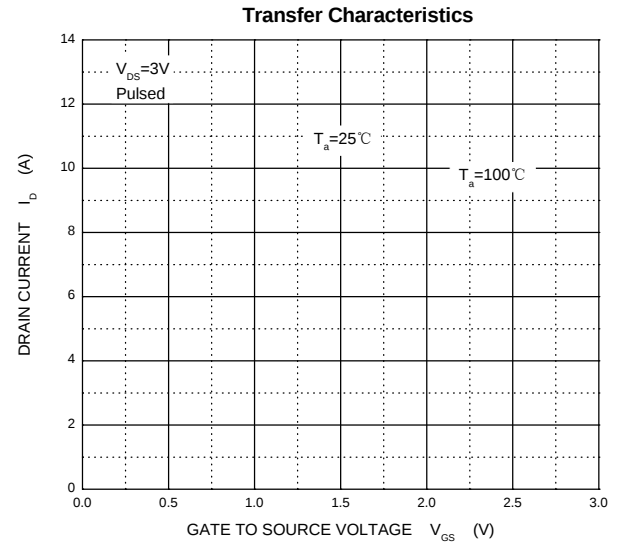
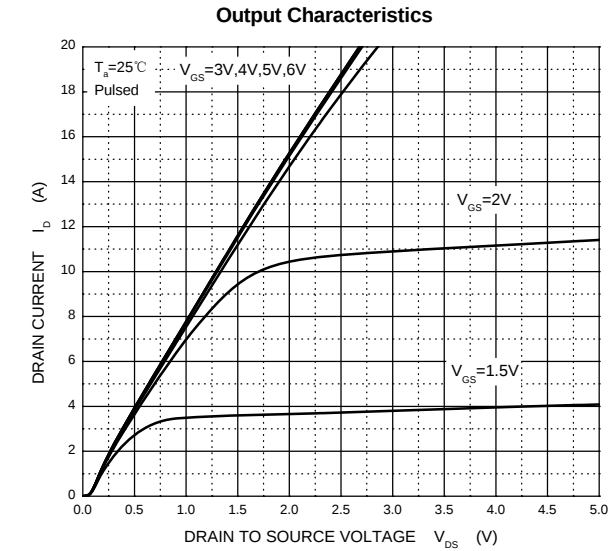
Maximum ratings ($T_a=25^{\circ}\text{C}$ unless otherwise noted)

Symbol	Parameter	Rating	Unit	
Common Ratings (T _A =25°C Unless Otherwise Noted)				
V _{GS}	Gate-Source Voltage	±10	V	
V _{(BR)DSS}	Drain-Source Breakdown Voltage	20	V	
T _J	Maximum Junction Temperature	150	°C	
T _{STG}	Storage Temperature Range	-50 to 150	°C	
Mounted on Large Heat Sink				
I _{DM}	Pulse Drain Current Tested①	T _A =25°C	24.8	A
I _D	Continuous Drain Current	T _A =25°C	6	A
		T _A =70°C	4.2	
P _D	Maximum Power Dissipation	T _A =25°C	1.56	W
		T _A =70°C	0.9	
R _{θJA}	Thermal Resistance Junction-Ambient	80	°C/W	

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

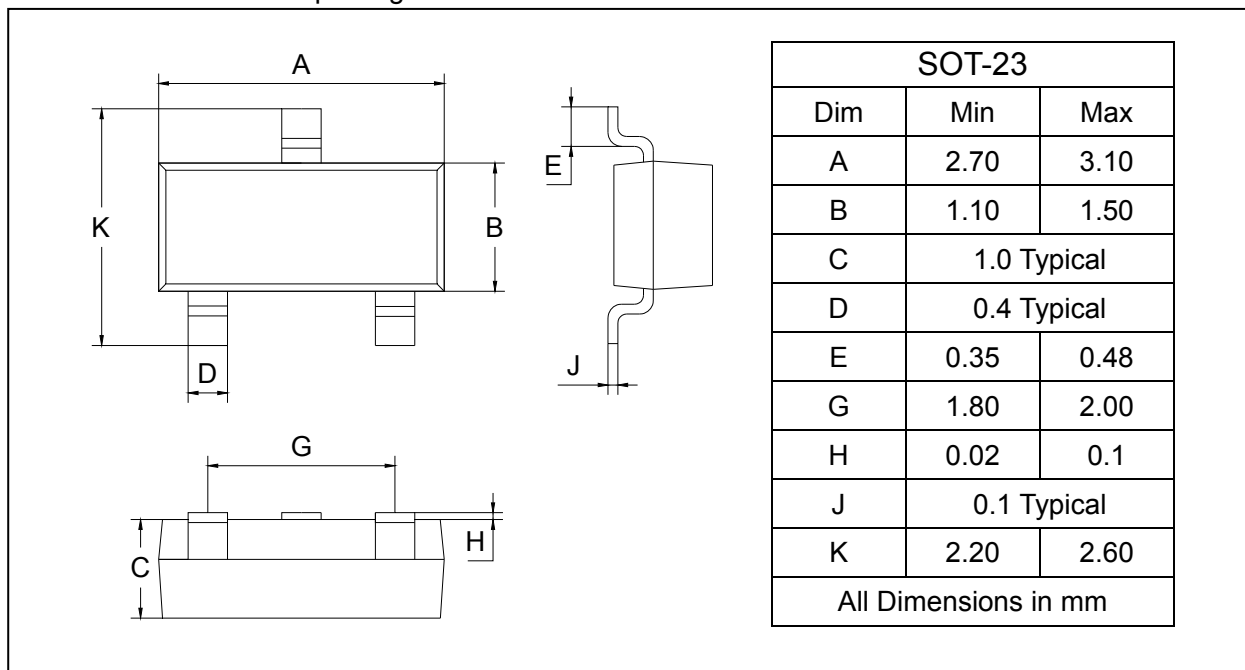
Symbol	Parameter	Condition	Min	Typ	Max	Unit
Static Electrical Characteristics @ T _J = 25°C (unless otherwise stated)						
V _{(BR)DSS}	Drain-Source Breakdown Voltage	V _{GS} =0V I _D =250μA	20	--	--	V
I _{DSS}	Zero Gate Voltage Drain Current(T _A =25°C)	V _{DS} =16V, V _{GS} =0V	--	--	1	μA
	Zero Gate Voltage Drain Current(T _A =125°C)	V _{DS} =16V, V _{GS} =0V	--	--	100	uA
I _{GSS}	Gate-Body Leakage Current	V _{GS} =±10V, V _{DS} =0V	--	--	±100	nA
V _{GS(TH)}	Gate Threshold Voltage	V _{DS} =V _{GS} , I _D =250μA	0.45	0.6	1.0	V
R _{DS(ON)}	Drain-Source On-State Resistance②	V _{GS} =4.5V, I _D =4A	16.8	17.2	18.4	mΩ
R _{DS(ON)}	Drain-Source On-State Resistance②	V _{GS} =3.3V, I _D =3A	20.4	21.6	22.5	mΩ
Dynamic Electrical Characteristics @ T _J = 25°C (unless otherwise stated)						
C _{iss}	Input Capacitance	V _{DS} =10V, V _{GS} =0V, f=1MHz	--	457	--	pF
C _{oss}	Output Capacitance		--	71	--	pF
C _{rss}	Reverse Transfer Capacitance		--	66	--	pF
R _g	Gate Resistance	f=1MHz		7.8		Ω
Q _g	Total Gate Charge	V _{DS} =10V I _D =4A, V _{GS} =4.5V	--	6.6	--	nC
Q _{gs}	Gate Source Charge		--	0.4	--	nC
Q _{gd}	Gate Drain Charge		--	2	--	nC
Switching Characteristics @ T _J = 25°C (unless otherwise stated)						
t _{d(on)}	Turn on Delay Time	V _{DD} =10V, I _D =1A, R _G =3.3Ω, V _{GS} =4.5V	--	4.1	--	ns
t _r	Turn on Rise Time		--	11.6	--	ns
t _{d(off)}	Turn Off Delay Time		-	24	--	ns
t _f	Turn Off Fall Time		--	7.6	--	ns
Source Drain Diode Characteristics @ T _J = 25°C (unless otherwise stated)						
I _{SD}	Source drain current(Body Diode)	T _A =25°C	--	--	2	A
V _{SD}	Forward on voltage②	T _J =25°C, I _{SD} =4A, V _{GS} =0V	--	0.79	1.2	V

Typical Characteristics

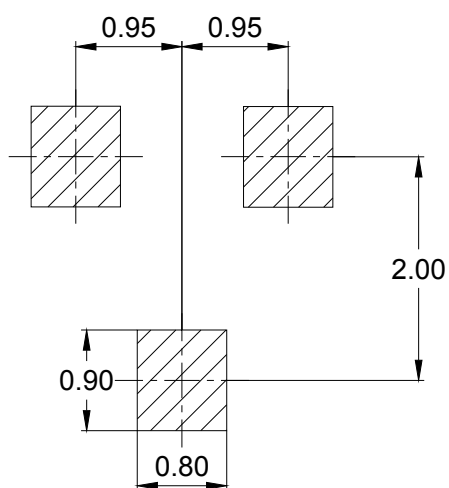


Plastic surface mounted package

SOT-23



SOLDERING FOOTPRINT



Unit : mm