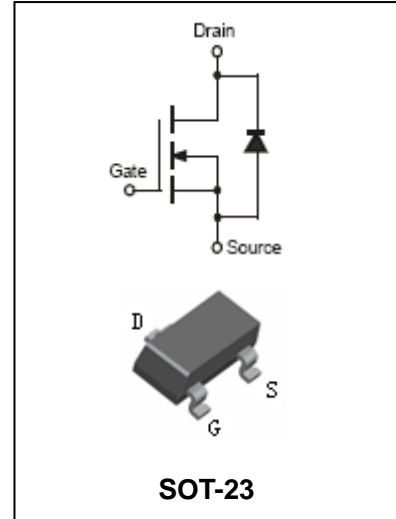




### FEATURES

- Low on-resistance
- Low gate threshold voltage
- Low input capacitance
- Fast switching speed
- Low input/output leakage



### ORDERING INFORMATION

Type No.	Marking	Package Code
BSS138	K38	SOT-23

### MAXIMUM RATING @ Ta=25°C unless otherwise specified

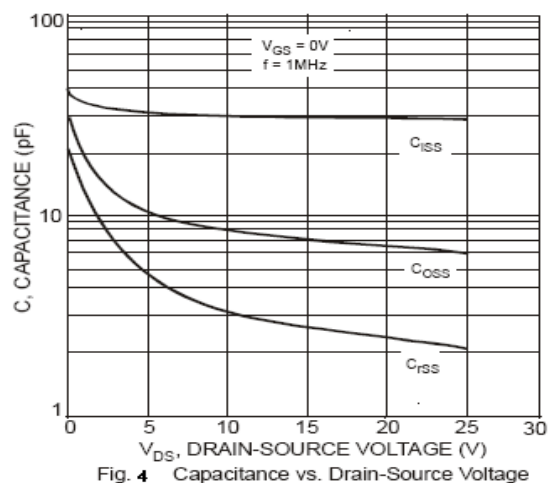
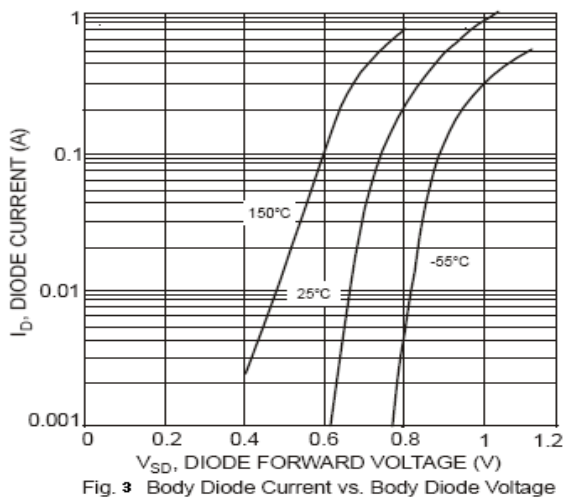
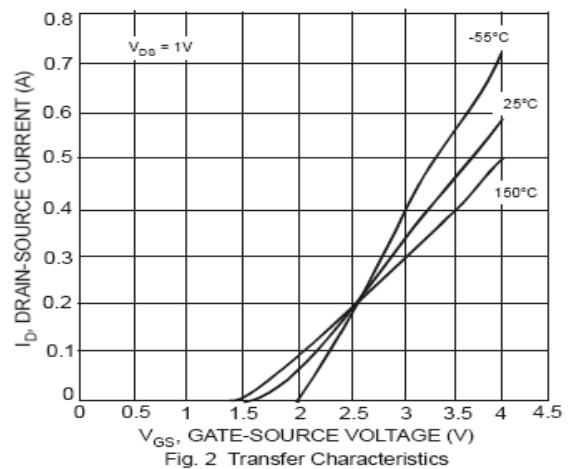
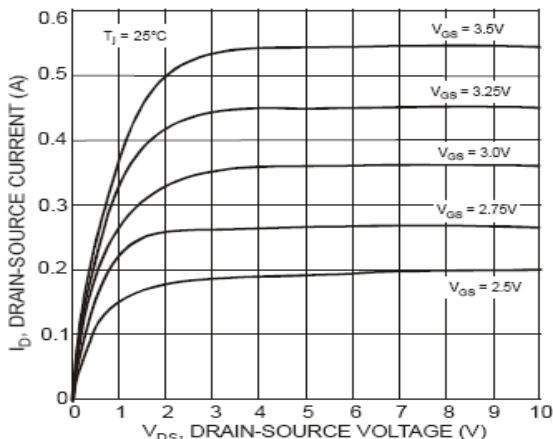
Symbol	Parameter	Value	Units
$V_{DSS}$	Drain-Source voltage	50	V
$V_{DGR}$	Drain-Gate voltage $R_{GS} \leq 20K \Omega$	50	V
$V_{GSS}$	Gate-Source Voltage	$\pm 20$	V
$I_D$	Drain current -continuous	200	mA
$P_D$	Power Dissipation	300	mW
$R_{\theta JA}$	Thermal Resistance, Junction-to-Ambient	417	$^{\circ}C/W$
$T_J, T_{STG}$	Junction and Storage Temperature	-55 to +150	$^{\circ}C$



### ELECTRICAL CHARACTERISTICS @ Ta=25°C unless otherwise specified

Parameter	Symbol	Test conditions	MIN	TYP	MAX	UNIT
Gate leakage current	$I_{GSS}$	$V_{GS}=\pm 20V, V_{DS}=0V$			$\pm 1$	$\mu A$
Drain-Source Breakdown Voltage	$V_{(BR)DSS}$	$V_{GS}=0V, I_D=250\mu A$	50	75		V
Gate Threshold Voltage	$V_{GS(th)}$	$V_{DS}=V_{GS}, I_D=250\mu A$	0.5	1.2	1.6	V
Zero Gate Voltage Drain Current	$I_{DSS}$	$V_{DS}=50V, V_{GS}=0V$			0.5	$\mu A$
Drain-source on-state resistance	$R_{DS(on)}$	$I_D=0.22A, V_{GS}=10V$		1.4	3.5	$\Omega$
Forward transfer admittance	$g_{fs}$	$V_{DS}=25V, I_D=0.2A, f=1MHz$	100			mS
Input capacitance	$C_{ISS}$	$V_{DS}=10V, V_{GS}=0V, f=1.0MHz$			50	pF
Output capacitance	$C_{OSS}$				25	
Reverse transfer capacitance	$C_{RSS}$				8	
Turn-On Delay Time	$t_{D(ON)}$	$V_{DD}=30V, I_D=0.2A,$ $R_{GEN}=50\Omega$			20	ns
Turn-Off Delay Time	$t_{D(OFF)}$				20	ns

### TYPICAL CHARACTERISTICS @ Ta=25°C unless otherwise specified

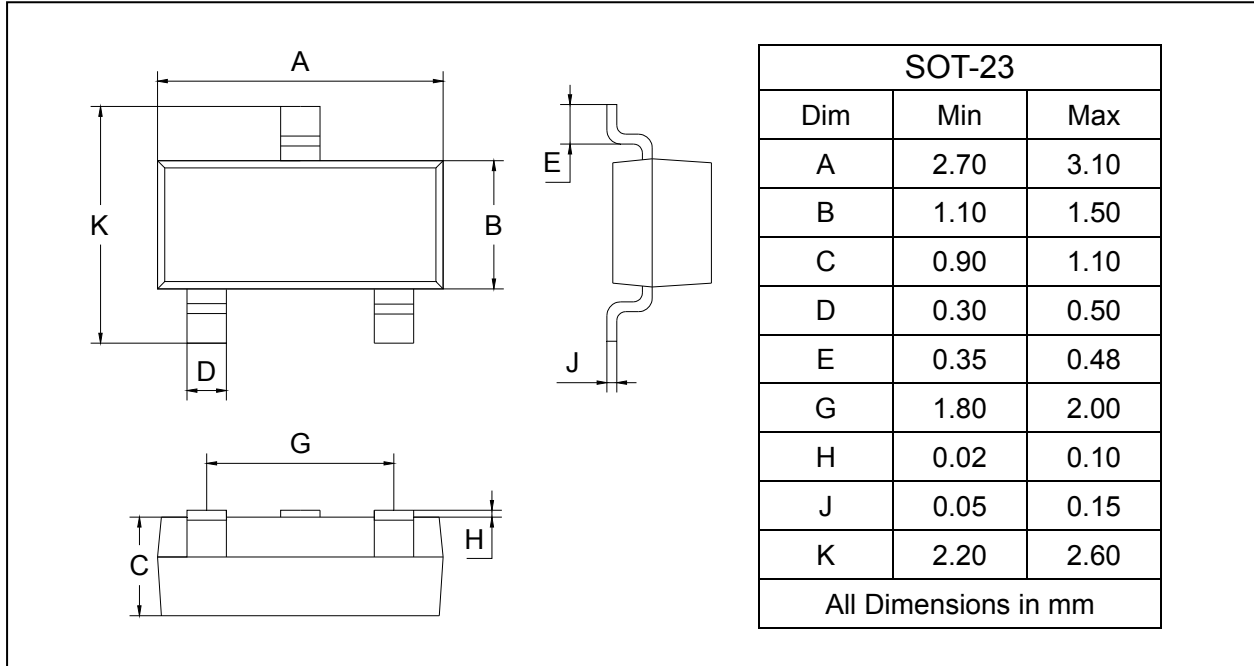




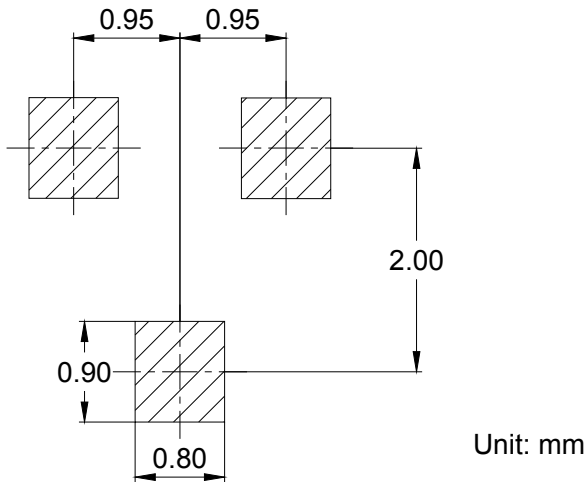
### PACKAGE OUTLINE

Plastic surface mounted package

SOT-23



### SOLDERING FOOTPRINT



### PACKAGE INFORMATION

Device	Package	Shipping
BSS138	SOT-23	3000 pcs / Tape & Reel