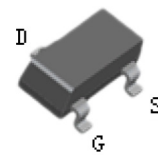
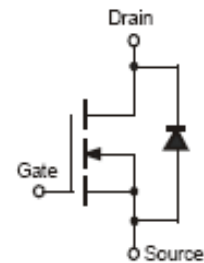
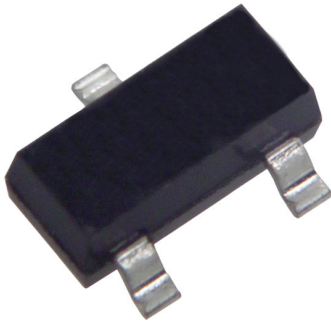


N-Channel Logic Level Enhancement Mode Field Effect Transistor



SOT-23

Features:

- Low On-Resistance
- Low Gate Threshold Voltage
- Low Input Capacitance
- Fast Switching Speed
- Low Input / Output Leakage

Applications:

- N-channel Enhancement Mode Effect Transistor
- Switching Application

Maximum Ratings:

Ratings at 25°C unless otherwise specified.

Parameter	Symbol	Value	Units
Drain-source voltage	V_{DS}	50	V
Drain-gate voltage $R_{GS} \leq 20k\Omega$	V_{GGR}	50	V
Gate-source voltage	V_{GSS}	± 20	V
Drain current -continuous	I_D	200	mA
Power dissipation	P_D	300	mW
Thermal resistance, junction-to-ambient	$R_{\theta JA}$	417	$^{\circ}C/W$
Junction and storage temperature	T_J, T_{stg}	-55 to +150	$^{\circ}C$

N-Channel Logic Level Enhancement Mode Field Effect Transistor



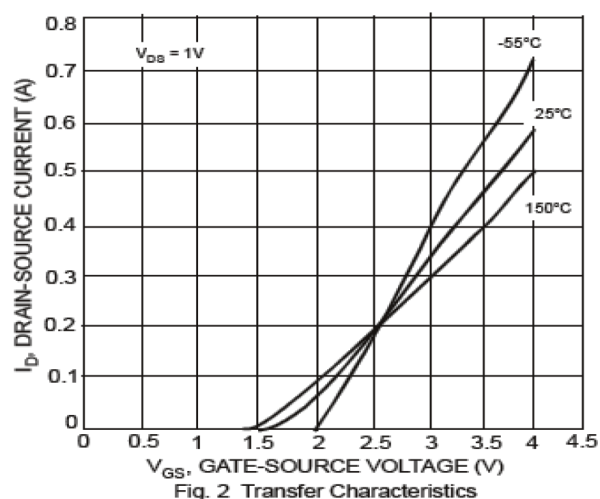
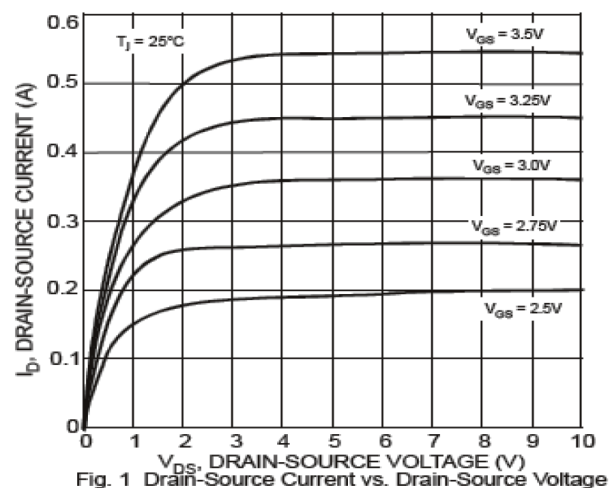
Electrical Characteristics:

Ratings at 25°C unless otherwise specified

Parameter	Symbol	Test conditions	Min.	Typ.	Max.	Unit
Gate leakage current	I_{GSS}	$V_{GS} = \pm 20V, V_{DS} = 0V$	-	-	± 100	nA
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	1.5	V
Zero gate voltage drain current	I_{DSS}	$V_{DS} = 50V, V_{GS} = 0V$	-	-	0.5	μA
Drain-source on-state resistance	$R_{DS(on)}$	$I_D = 0.22A, V_{GS} = 10V$	-	1.4	3.5	Ω
Forward transfer admittance	g_{FS}	$V_{DS} = 25V, I_D = 0.2A, f = 1MHz$	100	-	-	mS
Input capacitance	C_{iss}	$V_{DS} = 10V, V_{GS} = 0V, f = 1MHz$	-	-	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	$t_{D(OFF)}$		-	-		ns

Typical Characteristics:

$T_A = 25^\circ C$ unless otherwise specified



N-Channel Logic Level Enhancement Mode Field Effect Transistor

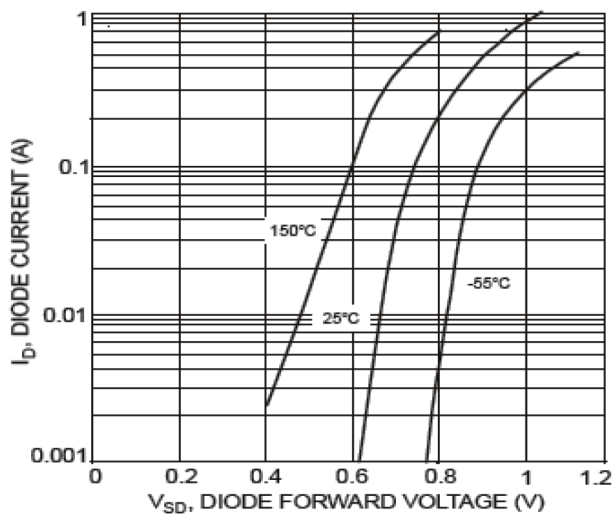


Fig. 3 Body Diode Current vs. Body Diode Voltage

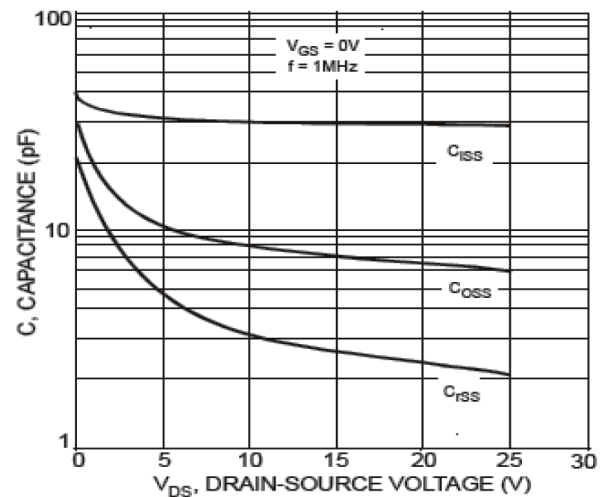
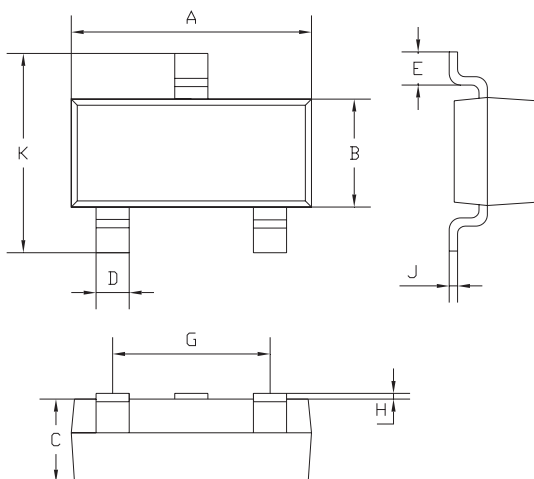


Fig. 4 Capacitance vs. Drain-Source Voltage

Package Outline:

Plastic surface mounted package



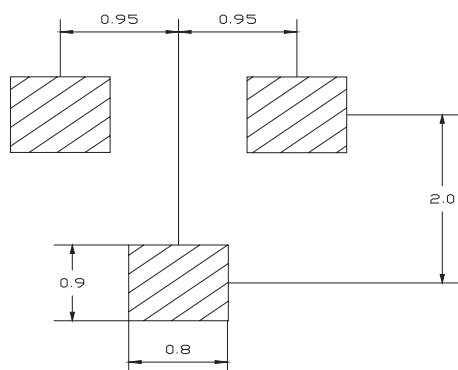
SOT-23		
Dim.	Min.	Max.
A	2.85	2.95
B	1.25	1.35
C	1 Typ.	
D	0.37	0.43
E	0.35	0.48
G	1.85	1.95
H	0.02	0.1
J	0.1 Typ.	
K	2.35	2.45

Dimensions : Millimetres

N-Channel Logic Level Enhancement Mode Field Effect Transistor



Soldering Footprint:



Dimensions : Millimetres

Package Information:

Device	Package	Shipping
BSS138-7-F	SOT-23	3,000 / Tape & Reel

Part Number Table

Description	Part Number
N-Channel Logic Level Enhancement Mode Field Effect Transistor	BSS138-7-F

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