

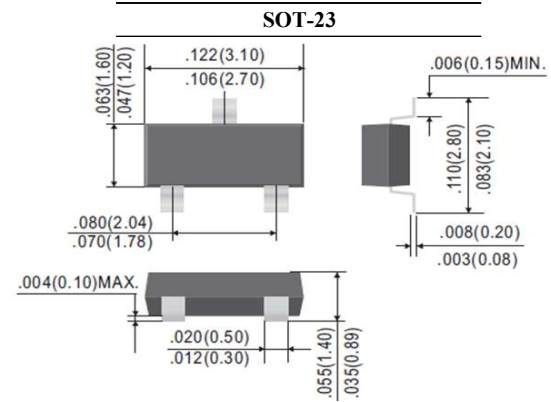
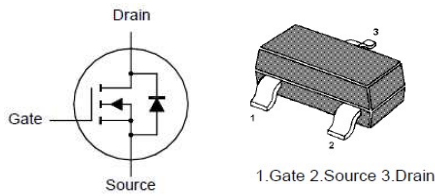


BSS123

N-Channel Enhancement Mode Field Effect Transistor

FEATURES

- High Drain-Source Voltage Rating
- Fast Switching Speed
- Suffix "H" indicates Halogen-free parts, ex. BSS123H



Dimension in inchs and (millimeters)

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

Parameter	Symbol	Value	Unit
Drain-Source Voltage	V_{DS}	100	V
Gate-Source Voltage	V_{GS}	± 20	V
Maximum Drain Current	I_D	170	mA
Peak Drain Current	I_{DM}	680	mA
Total Power Dissipation	P_{tot}	360	mW
Thermal Resistance from Junction to Ambient ⁽¹⁾	R_{thj-a}	500	K/W
Operating and Storage Temperature Range	T_j, T_{stg}	- 55 to + 150	$^\circ\text{C}$

Note:

1-Device mounted on a printed-circuit board.

Electrical Characteristics ($T_A = 25^\circ\text{C}$ unless otherwise specified)

Parameter	Conditions	Symbol	Min.	Typ.	Max.	Unit
Drain Source Breakdown Voltage	$I_D = 250 \mu\text{A}$	$V_{(BR)DS}$	100	-	-	V
Zero Gate Voltage Drain Current	$V_{DS} = 100 \text{ V}$	I_{DSS}	-	-	1.0	μA
	$V_{DS} = 20 \text{ V}$		-	-	10.0	nA
Gate-Body Leakage Current	$V_{GS} = \pm 20 \text{ V}$	I_{GSS}	-	-	± 50	nA
Gate Threshold Voltage	$V_{DS} = V_{GS}, I_D = 1 \text{ mA}$	$V_{GS(th)}$	0.8	-	2.0	V
Drain-Source On-State Resistance	$V_{GS} = 10 \text{ V}, I_D = 170 \text{ mA}$	$R_{DS(ON)}$	-	-	6.0	Ω
	$V_{GS} = 4.5 \text{ V}, I_D = 170 \text{ mA}$		-	-	10.0	
Input Capacitance	$V_{DS} = 25 \text{ V}, f = 1 \text{ MHz}$	C_{iss}	-	73.0	-	pF
Output Capacitance		C_{oss}	-	7.0	-	
Reverse Transfer Capacitance		C_{rss}	-	3.4	-	
Turn-On Delay Time	$V_{DD} = 30 \text{ V}, R_G = 6 \Omega,$ $I_D = 0.28 \text{ A}, V_{GS} = 10 \text{ V},$	$t_{d(on)}$	-	-	3.4	nS
Turn-On Rise Time		t_r	-	-	18.0	
Turn-Off Delay Time		$t_{d(off)}$	-	-	31.0	
Turn-Off Fall Time		t_f	-	-	5.0	



RATINGS AND CHARACTERISTIC CURVES

