

Power MOSFET

N-Channel

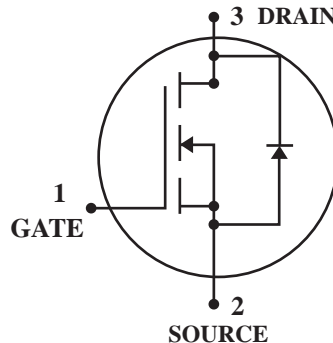
(Pb) Lead(Pb)-Free

Features:

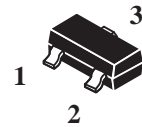
- *Low On-Resistance :6.0Ω
- *Low Input Capacitance: 20PF
- *Low Out put Capacitance : 9PF
- *Low Threshold :2.8V
- *Fast Switching Speed :20ns

Application:

- * DC to DC Converter
- * Cellular & PCMCIA Card
- * Cordless Telephone
- * Power Management in Portable and Battery etc.



SOT-23



Maximum Ratings (TA=25°C Unless Otherwise Specified)

Rating	Symbol	Value	Unit
Drain-Source Voltage	V_{DSS}	100	V
Gate-Source Voltage	V_{GS}	±20	V
Continuous Drain Current (TA=25°C)	I_D	170	mA
Pulsed Drain Current ⁽¹⁾	I_{DM}	680	mA
Power Dissipation (TA=25°C) ⁽²⁾	P_D	225	mW
Maximax Junction-to-Ambient	$R_{\theta JA}$	556	°C/W
Operating Junction and Storage Temperature Range	T_J, T_{stg}	-55 to 150	°C

Device Marking

BSS123=SA

Electrical Characteristics (T_A=25°C Unless otherwise noted)

Characteristic	Symbol	Min	Typ	Max	Unit
----------------	--------	-----	-----	-----	------

Static⁽¹⁾

Drain-Source Breakdown Voltage V _{GS} =0V, I _D =250 μA	V _{(BR)DSS}	100	-	-	V
Gate-Threshold Voltage V _{DS} =V _{GS} , I _D =1.0 mA	V _{GS(th)}	0.8	-	2.8	V
Gate-body Leakage Current V _{GS} = 20V, V _{DS} =0V	I _{GSS}	-	-	50	nA
Zero Gate Voltage Drain Current V _{DS} =0V, V _{GS} =100V, T _j =25°C V _{DS} =0V, V _{GS} =100V, T _j =125°C	I _{DSS}	- -	- -	15 60	μA
Static Drain-to-Source On-Resistance V _{GS} =10V, I _D =0.1A	r _{DS(on)}	-	5.0	6.0	Ω
Forward Trans Conductance V _{DS} =25V, I _D =100 mA	g _{fS}	8.0	-	-	ms

Dynamic Characteristics

Input Capacitance V _{DS} =25V, V _{GS} =0, f=1.0 MHz	C _{iss}	-	20	-	PF
Output Capacitance V _{DS} =25V, V _{GS} =0, f=1.0 MHz	C _{oss}	-	9.0	-	
Transfer Capacitance V _{DG} =25V, V _{GS} =0, f=1.0 MHz	C _{rss}	-	4.0	-	

Switching Characteristics⁽¹⁾

Turn-On Delay Time	(V _{CC} =30V, I _C =0.28A, V _{GS} =10V, R _{GS} =50Ω)	t _{d(on)}	-	20	-	nS
Turn-Off Delay Time		t _{d(off)}	-	40	-	

Reverse Diode

Diode Forward On-Voltage I _D =0.34A, V _{GS} =0V	V _{SD}	-	-	1.3	V
--	-----------------	---	---	-----	---

Note:

1. Pulse Test: Pulse Width ≤ 300us, Duty Cycle ≤ 2%.
2. RF-5=1.0×0.75×0.062m.

