

**BSS123**

Preliminary

Power MOSFET

**170mA, 100V N-CHANNEL
POWER MOSFET****DESCRIPTION**

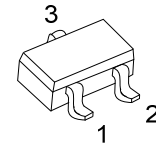
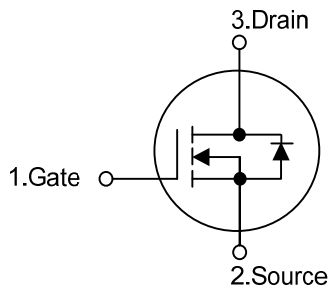
The UTC **BSS123** is an N-channel mode Power MOSFET, it uses UTC's advanced technology to provide the customers with low C_{RSS} .

The UTC **BSS123** is suitable for Automotive and Other Applications Requiring.

FEATURES

* $R_{DS(on)} \leq 6.0\Omega$ @ $V_{GS}=10V$, $I_D=100mA$

* Low C_{RSS}

SYMBOL

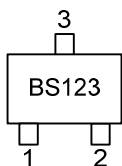
SOT-23
(EIAJ SC-59)

ORDERING INFORMATION

Ordering Number		Package	Pin Assignment			Packing
Lead Free	Halogen Free		1	2	3	
BSS123L-AE3-R	BSS123G-AE3-R	SOT-23	G	S	D	Tape Reel

Note: Pin Assignment: G: Gate S: Source D: Drain

 BSS123G-AE3-R	(1)Packing Type	(1) R: Tape Reel
	(2)Package Type	(2) AE3: SOT-23
	(3)Green Package	(3) G: Halogen Free and Lead Free, L: Lead Free

MARKING

■ ABSOLUTE MAXIMUM RATINGS

PARAMETER		SYMBOL	RATINGS	UNIT
Drain-Source Voltage		V_{DS}	100	V
Gate-Source Voltage	Continuous	V_{GS}	± 20	V
	Non-Repetitive	V_{GSM}	± 40	V _{pk}
Drain Current	Continuous (Note 1)	I_D	0.17	A
	Pulsed (Note 2)	I_{DM}	0.68	A
Power Dissipation	$T_A=25^\circ\text{C}$ (Note 3)	P_D	225	mW
	Derate above 25°C		1.8	mW/ $^\circ\text{C}$
Junction Temperature		T_J	$-55 \sim +150$	$^\circ\text{C}$
Storage Temperature Range		T_{STG}	$-55 \sim +150$	$^\circ\text{C}$

Note: Absolute maximum ratings are those values beyond which the device could be permanently damaged.
Absolute maximum ratings are stress ratings only and functional device operation is not implied.

■ THERMAL CHARACTERISTICS

PARAMETER	SYMBOL	RATINGS	UNIT
Junction to Ambient	θ_{JA}	556	$^\circ\text{C/W}$

■ ELECTRICAL CHARACTERISTICS ($T_A=25^\circ\text{C}$, unless otherwise noted)

PARAMETER	SYMBOL	TEST CONDITIONS	MIN	TYP	MAX	UNIT
OFF CHARACTERISTICS						
Drain-Source Breakdown Voltage	BV_{DSS}	$I_D=250\mu A, V_{GS}=0V$	100			V
Drain-Source Leakage Current	I_{DSS}	$V_{DS}=100V, V_{GS}=0V, T_J=25^{\circ}C$			15	μA
		$V_{DS}=100V, V_{GS}=0V, T_J=125^{\circ}C$			60	μA
Gate-Source Leakage Current	I_{GSS}	$V_{GS}=+20V, V_{DS}=0V$			± 100	nA
ON CHARACTERISTICS						
Gate Threshold Voltage	$V_{GS(TH)}$	$V_{DS}=V_{GS}, I_D=1mA$	0.6		2.0	V
Static Drain-Source On-State Resistance	$R_{DS(ON)}$	$V_{GS}=10V, I_D=100mA$			6.0	Ω
DYNAMIC PARAMETERS						
Input Capacitance	C_{ISS}	$V_{GS}=0V, V_{DS}=25V, f=1.0MHz$		20		pF
Output Capacitance	C_{OSS}			9		pF
Reverse Transfer Capacitance	C_{RSS}			4		pF
SWITCHING PARAMETERS						
Turn-ON Delay Time	$t_{D(ON)}$	$V_{CC}=30V, I_C=0.28A, V_{GS}=10V,$		20		ns
Turn-OFF Delay Time	$t_{D(OFF)}$	$R_{GS}=50\Omega$		40		ns
SOURCE- DRAIN DIODE RATINGS AND CHARACTERISTICS						
Drain-Source Diode Forward Voltage	V_{SD}	$I_D=0.34A, V_{GS}=0V$			1.3	V

Notes: 1. The Power Dissipation of the package may result in a lower continuous drain current.

2. Pulse Test: Pulse Width $\leq 300\mu\text{s}$, Duty Cycle $\leq 2.0\%$.

3. FR-5=1.0×0.75×0.062 in.

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