

BSS63LT1

High Voltage Transistor

PNP Silicon

Features

- Pb-Free Package is Available

MAXIMUM RATINGS

Rating	Symbol	Value	Unit
Collector – Emitter Voltage	V_{CEO}	–100	Vdc
Collector – Emitter Voltage $R_{BE} = 10\text{ k}\Omega$	V_{CER}	–110	Vdc
Collector Current – Continuous	I_C	–100	mA dc

THERMAL CHARACTERISTICS

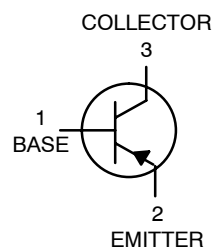
Characteristic	Symbol	Max	Unit
Total Device Dissipation FR–5 Board ⁽¹⁾ $T_A = 25^\circ\text{C}$ Derate above 25°C	P_D	225 1.8	mW mW/ $^\circ\text{C}$
Thermal Resistance Junction–to–Ambient	$R_{\theta JA}$	556	$^\circ\text{C}/\text{W}$
Total Device Dissipation Alumina Substrate, ⁽²⁾ $T_A = 25^\circ\text{C}$ Derate above 25°C	P_D	300 2.4	mW mW/ $^\circ\text{C}$
Thermal Resistance, Junction–to–Ambient	$R_{\theta JA}$	417	$^\circ\text{C}/\text{W}$
Junction and Storage Temperature	T_J, T_{stg}	–55 to +150	$^\circ\text{C}$

Maximum ratings are those values beyond which device damage can occur. Maximum ratings applied to the device are individual stress limit values (not normal operating conditions) and are not valid simultaneously. If these limits are exceeded, device functional operation is not implied, damage may occur and reliability may be affected.

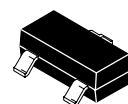


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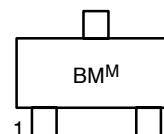
<http://onsemi.com>



MARKING DIAGRAM



SOT-23
CASE 318-08



BM = Specific Device Code
M = Date Code

ORDERING INFORMATION

Device	Package	Shipping [†]
BSS63LT1	SOT-23	3000 / Tape & Reel
BSS63LT1G	SOT-23 (Pb-Free)	3000 / Tape & Reel

[†]For information on tape and reel specifications, including part orientation and tape sizes, please refer to our Tape and Reel Packaging Specifications Brochure, BRD8011/D.

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

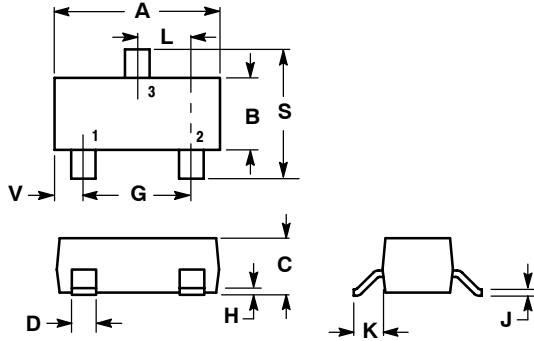
Characteristic	Symbol	Min	Typ	Max	Unit
OFF CHARACTERISTICS					
Collector – Emitter Breakdown Voltage ($I_C = -100\ \mu\text{Adc}$)	$V_{(BR)CEO}$	-100	–	–	Vdc
Collector – Emitter Breakdown Voltage ($I_C = -10\ \mu\text{Adc}$, $I_E = 0$, $R_{BE} = 10\ \text{k}\Omega$)	$V_{(BR)CER}$	-110	–	–	Vdc
Collector – Base Breakdown Voltage ($I_E = -10\ \mu\text{Adc}$, $I_C = 0$)	$V_{(BR)CBO}$	-110	–	–	Vdc
Emitter – Base Breakdown Voltage ($I_E = -10\ \mu\text{Adc}$)	$V_{(BR)EBO}$	-6.0	–	–	Vdc
Collector Cutoff Current ($V_{CB} = -90\ \text{Vdc}$, $I_E = 0$)	I_{CBO}	–	–	-100	nAdc
Collector Cutoff Current ($V_{CE} = -110\ \text{Vdc}$, $R_{BE} = 10\ \text{k}\Omega$)	I_{CER}	–	–	-10	μAdc
Emitter Cutoff Current ($V_{EB} = -6.0\ \text{Vdc}$, $I_C = 0$)	I_{EBO}	–	–	-200	nAdc
ON CHARACTERISTICS					
DC Current Gain ($I_C = -10\ \text{mAdc}$, $V_{CE} = -1.0\ \text{Vdc}$) ($I_C = -25\ \text{mAdc}$, $V_{CE} = -1.0\ \text{Vdc}$)	h_{FE}	30 30	– –	– –	–
Collector – Emitter Saturation Voltage ($I_C = -25\ \text{mAdc}$, $I_B = -2.5\ \text{mAdc}$)	$V_{CE(sat)}$	–	–	-250	mVdc
Base – Emitter Saturation Voltage ($I_C = -25\ \text{mAdc}$, $I_B = -2.5\ \text{mAdc}$)	$V_{BE(sat)}$	–	–	-900	mVdc
SMALL-SIGNAL CHARACTERISTICS					
Current – Gain – Bandwidth Product ($I_C = -25\ \text{mAdc}$, $V_{CE} = -5.0\ \text{Vdc}$, $f = 20\ \text{MHz}$)	f_T	50	95	–	MHz
Case Capacitance ($I_E = I_C = 0$, $V_{CB} = -10\ \text{Vdc}$, $f = 1.0\ \text{MHz}$)	C_C	–	–	20	pF

1. FR-5 = $1.0 \times 0.75 \times 0.062\ \text{in.}$
2. Alumina = $0.4 \times 0.3 \times 0.024\ \text{in.}$ 99.5% alumina.

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PACKAGE DIMENSIONS

SOT-23 (TO-236)
CASE 318-08
ISSUE AK



NOTES:

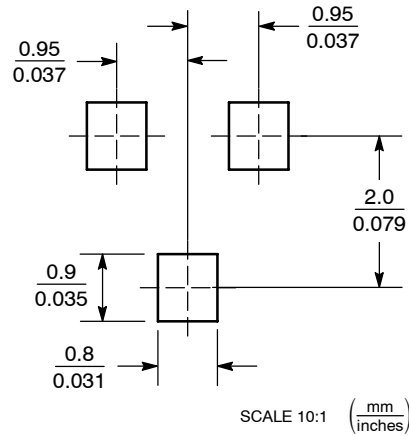
1. DIMENSIONING AND TOLERANCING PER ANSI Y14.5M, 1982.
2. CONTROLLING DIMENSION: INCH.
3. MAXIMUM LEAD THICKNESS INCLUDES LEAD FINISH THICKNESS. MINIMUM LEAD THICKNESS IS THE MINIMUM THICKNESS OF BASE MATERIAL.
4. 318-01 THRU -07 AND -09 OBSOLETE, NEW STANDARD 318-08.

DIM	INCHES		MILLIMETERS	
	MIN	MAX	MIN	MAX
A	0.1102	0.1197	2.80	3.04
B	0.0472	0.0551	1.20	1.40
C	0.0350	0.0440	0.89	1.11
D	0.0150	0.0200	0.37	0.50
G	0.0701	0.0807	1.78	2.04
H	0.0005	0.0040	0.013	0.100
J	0.0034	0.0070	0.085	0.177
K	0.0140	0.0285	0.35	0.69
L	0.0350	0.0401	0.89	1.02
S	0.0830	0.1039	2.10	2.64
V	0.0177	0.0236	0.45	0.60


STYLE 6:

- PIN 1. BASE
2. EMITTER
3. COLLECTOR

SOLDERING FOOTPRINT*



*For additional information on our Pb-Free strategy and soldering details, please download the ON Semiconductor Soldering and Mounting Techniques Reference Manual, SOLDERRM/D.

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