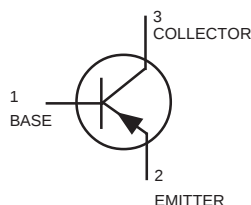


High Voltage Transistors

PNP Silicon

BSS63LT1



CASE 318-08, STYLE 6
SOT-23 (TO-236AB)

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	mAdc

DEVICE MARKING

BSS63LT1 = T1

THERMAL CHARACTERISTICS

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

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

Characteristic	Symbol	Min	Typ	Max	Unit
Collector–Emitter Breakdown Voltage ($I_C = -100\text{ }\mu\text{A}$)	$V_{(BR)CEO}$	–100	—	—	Vdc
Collector–Emitter Breakdown Voltage ($I_C = -10\text{ }\mu\text{Adc}$, $I_E = 0$, $R_{BE} = 10\text{ k}\Omega$)	$V_{(BR)CER}$	–110	—	—	Vdc
Collector–Base Breakdown Voltage ($I_E = -10\text{ }\mu\text{Adc}$, $I_C = 0$)	$V_{(BR)CBO}$	–110	—	—	Vdc
Emitter–Base Breakdown Voltage ($I_E = -10\text{ }\mu\text{A}$)	$V_{(BR)CBO}$	–6.0	—	—	Vdc
Collector Cutoff Current ($V_{CB} = -90\text{ Vdc}$, $I_E = 0$)	I_{CBO}	—	—	–100	μAdc
Collector Cutoff Current ($V_{CB} = -110\text{ Vdc}$, $R_{BE} = 10\text{ k}\Omega$)	I_{CER}	—	—	–10	μAdc
Emitter Cutoff Current ($V_{EB} = -6.0\text{ Vdc}$, $I_C = 0$)	I_{EBO}	—	—	–200	μAdc

1. FR–5 = 1.0 x 0.75 x 0.062 in.

2. Alumina = 0.4 x 0.3 x 0.024 in. 99.5% alumina.

Thermal Clad is a trademark of the Bergquist Company.

BSS63LT
ELECTRICAL CHARACTERISTICS ($T_A = 25^\circ\text{C}$ unless otherwise noted.) (Continued)

Characteristic	Symbol	Min	Typ	Max	Unit
ON CHARACTERISTICS					
DC Current Gain ($I_C = -10\text{ mAdc}$, $V_{CE} = -1.0\text{ Vdc}$)	h_{FE}	30	—	—	—
($I_C = -25\text{ mAdc}$, $V_{CE} = -1.0\text{ Vdc}$)		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