

MAXIMUM RATINGS

Rating	Symbol	Value	Unit
Collector-Emitter Voltage	V _{CEO}	40	Vdc
Collector-Base Voltage	V _{CBO}	75	Vdc
Emitter-Base Voltage	V _{EBO}	6.0	Vdc
Collector Current — Continuous	I _C	800	mAdc

THERMAL CHARACTERISTICS

Characteristic	Symbol	Max	Unit
Total Device Dissipation FR-5 Board,* T _A = 25°C Derate above 25°C	P _D	225	mW
Thermal Resistance Junction to Ambient	R _{θJA}	556	°C/W
Total Device Dissipation Alumina Substrate,** T _A = 25°C Derate above 25°C	P _D	300	mW
Thermal Resistance Junction to Ambient	R _{θJA}	417	°C/W
Junction and Storage Temperature	T _J , T _{stg}	-55 to +150	°C

*FR-5 = 1.0 x 0.75 x 0.062 in.

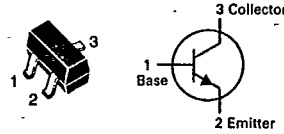
**Alumina = 0.4 x 0.3 x 0.024 in. 99.5% alumina.

DEVICE MARKING

BSS79BL = CE; BSS79CL = CF

BSS79BL, CL

CASE 318-03, STYLE 6
SOT-23 (TO-236AB)



GENERAL PURPOSE
TRANSISTORS
NPN SILICON

T-35-19



ELECTRICAL CHARACTERISTICS (T_A = 25°C unless otherwise noted.)

Characteristic	Symbol	Min	Max	Unit
OFF CHARACTERISTICS				
Collector-Emitter Breakdown Voltage (I _C = 10 mAdc)	V _{(BR)CEO}	40	—	Vdc
Collector-Base Breakdown Voltage (I _C = 10 μAdc)	V _{(BR)CBO}	75	—	Vdc
Emitter-Base Breakdown Voltage (I _E = 10 μAdc)	V _{(BR)EBO}	6.0	—	Vdc
Collector Cutoff Current (V _{CB} = 60 Vdc) (V _{CB} = 60 Vdc, T _A = 150°C)	I _{CBO}	—	10	nAdc μAdc
Emitter Cutoff Current (V _{BE} = 3.0 Vdc)	I _{EBO}	—	10	nAdc
ON CHARACTERISTICS				
DC Current Gain (I _C = 150 mAdc, V _{CE} = 10 Vdc)	BSS79BL BSS79CL	h _{FE}	40 100	120 300
Collector-Emitter Saturation Voltage (I _C = 150 mAdc, I _B = 15 mAdc) (I _C = 500 mAdc, I _B = 50 mAdc)	V _{CE(sat)}	—	0.3 1.0	Vdc
SMALL-SIGNAL CHARACTERISTICS				
Current-Gain — Bandwidth Product (V _{CE} = 20 Vdc, I _C = 20 mAdc, f = 100 MHz)	f _T	250	—	MHz
Output Capacitance (V _{CB} = 10 Vdc, f = 1.0 MHz)	C _{obo}	—	8.0	pF
SWITCHING CHARACTERISTICS				
Delay Time (V _{CC} = 30 Vdc, I _C = 150 mAdc) (I _{B1} = I _{B2} = 15 mAdc)	t _d	—	10	ns
Rise Time (V _{CC} = 30 Vdc, I _C = 150 mAdc) (I _{B1} = I _{B2} = 15 mAdc)	t _r	—	10	ns
Storage Time (V _{CC} = 30 Vdc, I _C = 150 mAdc) (I _{B1} = I _{B2} = 15 mAdc)	t _s	—	225	ns
Fall Time (V _{CC} = 30 Vdc, I _C = 150 mAdc) (I _{B1} = I _{B2} = 15 mAdc)	t _f	—	60	ns