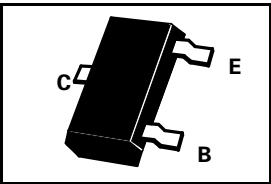


SOT23 PNP SILICON PLANAR MEDIUM POWER SWITCHING TRANSISTORS

BSS69
BSS70

ISSUE 2 – SEPTEMBER 1995

PARTMARKING DETAILS — BSS69 - L2
BSS70 - L3
BSS69R - L6
BSS70R - L7



ABSOLUTE MAXIMUM RATINGS.

PARAMETER	SYMBOL	VALUE	UNIT
Collector-Base Voltage	V_{CBO}	-40	V
Collector-Emitter Voltage	V_{CEO}	-40	V
Emitter-Base Voltage	V_{EBO}	-5	V
Peak Pulse Current	I_{CM}	-200	mA
Continuous Collector Current	I_C	-100	mA
Base Current	I_B	-50	mA
Power Dissipation at $T_{amb}=25^\circ\text{C}$	P_{TOT}	330	mW
Operating and Storage Temperature Range	$t_j; t_{stg}$	-55 to +150	$^\circ\text{C}$

ELECTRICAL CHARACTERISTICS (at $T_{amb} = 25^\circ\text{C}$).

PARAMETER	SYMBOL	MIN.	MAX.	UNIT	CONDITIONS.
Collector-Emitter Breakdown Voltage	$V_{(BR)CEO}$	-40		V	$I_C = -1\text{mA}$
Collector-Base Breakdown Voltage	$V_{(BR)CBO}$	-40		V	$I_C = -10\mu\text{A}$
Emitter-Base Breakdown Voltage	$V_{(BR)EBO}$	-5		V	$I_E = -10\mu\text{A}$
Collector- Emitter Cut-off Current	I_{CES}		-50	nA	$V_{CES} = -30\text{V}$
Collector-Emitter Saturation Voltage	$V_{CE(sat)}$		-0.25 -0.40	V V	$I_C = -10\text{mA}, I_B = -1\text{mA}$ $I_C = -50\text{mA}, I_B = -5\text{mA}^*$
Base-Emitter Saturation Voltage	$V_{BE(sat)}$	-0.65	-0.85 -0.95	V V	$I_C = -10\text{mA}, I_B = -1\text{mA}$ $I_C = -50\text{mA}, I_B = -5\text{mA}^*$
Static Forward Current Transfer Ratio	BSS69 h_{FE}	30 40 50 30 15	150		$I_C = -100\mu\text{A}, I_C = -1\text{mA}, I_C = -10\text{mA}, V_{CE} = -1\text{V}$ $I_C = -50\text{mA}^*, I_C = -100\text{mA}^*,$
Static Forward Current Transfer Ratio	BSS70 h_{FE}	60 80 100 60 30	300		$I_C = -100\mu\text{A}, I_C = -1\text{mA}, I_C = -10\text{mA}, V_{CE} = -1\text{V}$ $I_C = -50\text{mA}^*, I_C = -100\text{mA}^*,$
Transition Frequency	BSS69 BSS70 f_T	200 250		MHz MHz	$I_C = -10\text{mA}, V_{CE} = -20\text{V}$ $f = 100\text{MHz}$
Collector-Base Capacitance	C_{obo}		4.5	pF	$V_{CB} = -5\text{V}, f = 100\text{kHz}$
Emitter-Base Capacitance	C_{ibo}		10	pF	$V_{EB} = -0.5\text{V}, f = 100\text{kHz}$
Noise Figure	N	Typ. 5		dB	$I_C = -100\mu\text{A}, V_{CE} = -5\text{V}$ $R_S = 1\text{k}\Omega, f = 10\text{Hz to } 15.7\text{ kHz}$
Switching times: Delay; Rise	$t_d; t_r$		35	ns	$V_{CC} = -3\text{V}, I_C = -10\text{mA}$ $I_{B1} = I_{B2} = -1\text{mA}$
Storage Time	t_s		225	ns	
Fall Time	t_f		70	ns	

*Measured under pulsed conditions. Pulse width=300 μs . Duty cycle $\leq 2\%$



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