

SOT23 PNP SILICON PLANAR MEDIUM
POWER SWITCHING TRANSISTORS

ISSUE 2 – SEPTEMBER 1995

BSS69
BSS70

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 $T_{amb}=25^{\circ}C$	P_{TOT}	330	mW
Operating and Storage Temperature Range	t_j, t_{stg}	-55 to +150	$^{\circ}C$

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

PARAMETER	SYMBOL	MIN.	MAX.	UNIT	CONDITIONS.
Collector-Emitter Breakdown Voltage	$V_{(BR)CEO}$	-40		V	$I_C=-1mA$
Collector-Base Breakdown Voltage	$V_{(BR)CBO}$	-40		V	$I_C=-10\mu A$
Emitter-Base Breakdown Voltage	$V_{(BR)EBO}$	-5		V	$I_E=-10\mu A$
Collector- Emitter Cut-off Current	I_{CES}		-50	nA	$V_{CES}=-30V$
Collector-Emitter Saturation Voltage	$V_{CE(sat)}$		-0.25 -0.40	V	$I_C=-10mA, I_B=-1mA$ $I_C=-50mA, I_B=-5mA^*$
Base-Emitter Saturation Voltage	$V_{BE(sat)}$	-0.65	-0.85 -0.95	V	$I_C=-10mA, I_B=-1mA$ $I_C=-50mA, I_B=-5mA^*$
Static Forward Current Transfer Ratio	h_{FE}	30 40 50 30 15			$I_C=-100\mu A, I_C=-1mA, I_C=-10mA, V_{CE}=-1V, I_C=-50mA^*, I_C=-100mA^*, I_C=-100\mu A, I_C=-1mA, I_C=-10mA, V_{CE}=-1V, I_C=-50mA^*, I_C=-100mA^*,$
Static Forward Current Transfer Ratio	h_{FE}	60 80 100 60 30			$I_C=-100\mu A, I_C=-1mA, I_C=-10mA, V_{CE}=-1V, I_C=-50mA^*, I_C=-100mA^*,$
Transition Frequency	f_T	200 250		MHz	$I_C=-10mA, V_{CE}=-20V, f=100MHz$
Collector-Base Capacitance	C_{ob0}		4.5	pF	$V_{CB}=-5V, f=100kHz$
Emitter-Base Capacitance	C_{ib0}		10	pF	$V_{EB}=-0.5V, f=100kHz$
Noise Figure	N	Typ. 5		dB	$I_C=-100\mu A, V_{CE}=-5V, R_S=1k\Omega, f=10Hz$ to 15.7 kHz
Switching times: Delay; Rise	$t_{d}; t_r$		35	ns	$V_{CC}=-3V, I_C=-10mA, I_{B1}=I_{B2}=-1mA$
Storage Time	t_s		225	ns	
Fall Time	t_f		70	ns	

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