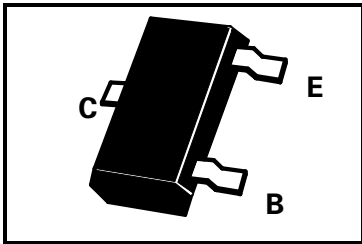


SOT23 NPN SILICON PLANAR MEDIUM POWER SWITCHING TRANSISTORS

ISSUE 2 – SEPTEMBER 1995

BSS66
BSS67

PARTMARKING DETAILS — BSS66 - M6
BSS67 - M7
BSS66R - M8
BSS67R - M9



ABSOLUTE MAXIMUM RATINGS.

PARAMETER	SYMBOL	VALUE	UNIT
Collector-Base Voltage	V_{CBO}	60	V
Collector-Emitter Voltage	V_{CEO}	40	V
Emitter-Base Voltage	V_{EBO}	6	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	$V_{(BR)CBO}$	60		V	$I_C=10\mu\text{A}$
Emitter-Base Breakdown Voltage	$V_{(BR)EBO}$	6		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	$V_{CE(sat)}$		0.20 0.30	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	BSS66 h_{FE}	20 35 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	BSS67 h_{FE}	40 70 100 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	BSS66 BSS67 f_T	250 300		MHz MHz	$I_C=10\text{mA}, V_{CE}=20\text{V}$ $f=100\text{MHz}$
Collector-Base Capacitance	C_{obo}		4	pF	$V_{CB}=5\text{V}, f=100\text{kHz}$
Emitter-Base Capacitance	C_{ibo}		8	pF	$V_{EB}=0.5\text{V}, f=100\text{kHz}$
Noise Figure	N	Typ. 6		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 Storage Time Fall Time	$t_d; t_r$ t_s t_f		35 200 50	ns ns ns	$V_{CC}=3\text{V}, I_C=10\text{mA}$ $I_{B1}=I_{B2}=1\text{mA}$

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