

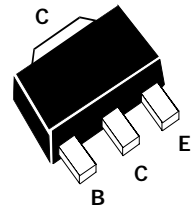
# SOT89 NPN SILICON PLANAR DARLINGTON TRANSISTOR

ISSUE 3 – SEPTEMBER 1995

## BCV49

COMPLEMENTARY TYPE – BCV48

PARTMARKING DETAILS – EG



### ABSOLUTE MAXIMUM RATINGS.

PARAMETER	SYMBOL	VALUE	UNIT
Collector-Base Voltage	$V_{CBO}$	80	V
Collector-Emitter Voltage	$V_{CEO}$	60	V
Emitter-Base Voltage	$V_{EBO}$	10	V
Peak Pulse Current	$I_{CM}$	800	mA
Continuous Collector Current	$I_C$	500	mA
Power Dissipation at $T_{amb}=25^\circ\text{C}$	$P_{tot}$	1	W
Operating and Storage Temperature Range	$T_j; T_{stg}$	-65 to +150	$^\circ\text{C}$

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

PARAMETER	SYMBOL	MIN.	TYP.	MAX.	UNIT	CONDITIONS.
Collector-Base Breakdown Voltage	$V_{(BR)CBO}$	80			V	$I_C=100\mu\text{A}$
Collector-Emitter Breakdown Voltage	$V_{(BR)CEO}$	60			V	$I_C=10\text{mA}^*$
Emitter-Base Breakdown Voltage	$V_{(BR)EBO}$	10			V	$I_E=10\mu\text{A}$
Collector Cut-Off Current	$I_{CBO}$			100 10	nA $\mu\text{A}$	$V_{CB}=60\text{V}$ $V_{CB}=60\text{V}, T_{amb}=150^\circ\text{C}$
Emitter Cut-Off Current	$I_{EBO}$			100	nA	$V_{EB}=4\text{V}$
Collector-Emitter Saturation Voltage	$V_{CE(sat)}$			1	V	$I_C=100\text{mA}, I_B=0.1\text{mA}^*$
Base-Emitter Saturation Voltage	$V_{BE(sat)}$			1.5	V	$I_C=100\text{mA}, I_B=0.1\text{mA}^*$
Static Forward Current Transfer Ratio	$h_{FE}$	2000 4000 10000 2000				$I_C=100\mu\text{A}, V_{CE}=1\text{V}^\dagger$ $I_C=10\text{mA}, V_{CE}=5\text{V}^*$ $I_C=100\text{mA}, V_{CE}=5\text{V}^*$ $I_C=500\text{mA}, V_{CE}=5\text{V}^*$
Transition Frequency	$f_T$		170		MHz	$I_C=50\text{mA}, V_{CE}=5\text{V}$ $f = 20\text{MHz}$
Output Capacitance	$C_{obo}$		3.5		pF	$V_{CB}=10\text{V}, f=1\text{MHz}$

\*Measured under pulsed conditions. Pulse width=300 $\mu\text{s}$ . Duty cycle  $\leq 2\%$   
 For typical graphs see FMMT38A datasheet  $\dagger$  Periodic Sample Test Only.  
 Spice parameter data is available upon request for this device