

SOT23 NPN SILICON PLANAR DARLINGTON TRANSISTORS

ISSUE 3 – SEPTEMBER 1995

FEATURES

- * High V_{CEO}
- * Low saturation voltage

COMPLEMENTARY TYPES – BCV27 – BCV28
BCV47 – BCV48

PARTMARKING DETAILS – BCV27 – ZFF
BCV47 – ZFG

ABSOLUTE MAXIMUM RATINGS.

PARAMETER	SYMBOL	BCV27	BCV47	UNIT
Collector-Base Voltage	V_{CBO}	40	80	V
Collector-Emitter Voltage	V_{CEO}	30	60	V
Emitter-Base Voltage	V_{EBO}	10		V
Peak Pulse Current	I_{CM}	800		mA
Continuous Collector Current	I_C	500		mA
Base Current	I_B	100		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		$^{\circ}C$

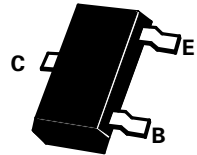
ELECTRICAL CHARACTERISTICS (at $T_{amb} = 25^{\circ}C$ unless otherwise stated).

PARAMETER	SYMBOL	BCV27		BCV47		UNIT	CONDITIONS.
		MIN.	MAX.	MIN.	MAX.		
Collector-Base Breakdown Voltage	$V_{(BR)CBO}$	40		80		V	$I_C=100\mu A$
Collector-Emitter Breakdown Voltage	$V_{(BR)CEO}$	30		60		V	$I_C=10mA^*$
Emitter-Base Breakdown Voltage	$V_{(BR)EBO}$	10		10		V	$I_E=10\mu A$
Collector Cut-Off Current	I_{CBO}		100		100	nA	$V_{CB} = 30V$
			10		10	nA	$V_{CB} = 60V$
					10	μA	$V_{CB}=30V, T_{amb}=150^{\circ}C$
					10	μA	$V_{CB}=60V, T_{amb}=150^{\circ}C$
Emitter Base Cut-Off Current	I_{EBO}		100		100	nA	$V_{EB}=4V$
Collector-Emitter Saturation Voltage	$V_{CE(sat)}$		1.0		1.0	V	$I_C=100mA, I_B=0.1mA^*$
Base-Emitter Saturation Voltage	$V_{BE(sat)}$		1.5		1.5	V	$I_C=100mA, I_B=0.1mA^*$
Static Forward Current Transfer Ratio	h_{FE}	4K 10K 20K 4K		2K 4K 10K 2K			$I_C=100\mu A, V_{CE}=1V^{\dagger}$ $I_C=10mA, V_{CE}=5V^*$ $I_C=100mA, V_{CE}=5V^*$ $I_C=500mA, V_{CE}=5V^*$
Transition Frequency	f_T	170 Typical		170 Typical		MHz	$I_C=50mA, V_{CE}=5V$ $f = 20MHz$
Output Capacitance	C_{obo}	3.5 Typical		3.5 Typical		pF	$V_{CB}=10V, f=1MHz$

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

$\dagger$ Periodic Sample Test Only. For typical graphs see FMMT38A datasheet

BCV27
BCV47



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