

# SOT223 NPN SILICON PLANAR HIGH VOLTAGE TRANSISTOR

## BFN38

ISSUE 4 - JANUARY 1996

### FEATURES:

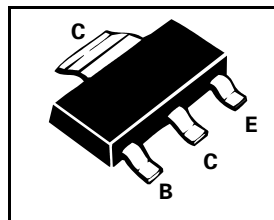
- \* High  $V_{CE0}$  and Low saturation voltage

### APPLICATIONS:

- \* Suitable for video output stages in TV sets
- \* Switching power supplies

COMPLEMENTARY TYPE - BFN39

PARTMARKING DETAILS - BFN38



### ABSOLUTE MAXIMUM RATINGS.

PARAMETER	SYMBOL	VALUE	UNIT
Collector-Base Voltage	$V_{CBO}$	300	V
Collector-Emitter Voltage	$V_{CEO}$	300	V
Emitter-Base Voltage	$V_{EBO}$	5	V
Continuous Collector Current	$I_C$	500	mA
Power Dissipation at $T_{amb}=25^{\circ}C$	$P_{tot}$	2	W
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.	TYP.	MAX.	UNIT	CONDITIONS.
Collector-Base Breakdown Voltage	$V_{(BR)CBO}$	300			V	$I_C=100\mu A$
Collector-Emitter Breakdown Voltage	$V_{(BR)CEO}$	300			V	$I_C=1mA$
Emitter-Base Breakdown Voltage	$V_{(BR)EBO}$	5			V	$I_E=100\mu A$
Collector Cut-Off Current	$I_{CBO}$			100 20	nA $\mu A$	$V_{CB}=250V$ $V_{CB}=250V, T_{amb}=150^{\circ}C$
Emitter Cut-Off Current	$I_{EBO}$			100	nA	$V_{EB}=4V$
Collector-Emitter Saturation Voltage	$V_{CE(sat)}$			0.5	V	$I_C=20mA, I_B=2mA$
Base-Emitter Saturation Voltage	$V_{BE(sat)}$			0.9	V	$I_C=20mA, I_B=2mA$
Static Forward Current Transfer Ratio	$h_{FE}$	25 40 30				$I_C=1mA, V_{CE}=10V^*$ $I_C=10mA, V_{CE}=10V^*$ $I_C=30mA, V_{CE}=10V^*$
Transition Frequency	$f_T$		70		MHz	$I_C=20mA, V_{CE}=10V$ $f=100MHz$
Output Capacitance	Cobo		1.5		pF	$V_{CB}=30V, f=1MHz$

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

For typical characteristics graphs see FMMTA42 datasheet.