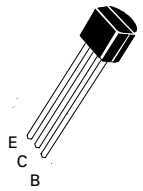
NPN SILICON PLANAR MEDIUM POWER TRANSISTOR

BC639

ISSUE 1 – SEPT 93

FEATURES

* 1 Amp continuous current
* P_{tot}= 800 mW



TO92

ABSOLUTE MAXIMUM RATINGS.

PARAMETER	SYMBOL	VALUE	UNIT
Collector-Base Voltage	V_{CBO}	80	V
Collector-Emitter Voltage	V_{CEO}	80	V
Emitter-Base Voltage	V_{EBO}	5	V
Continuous Collector Current	I_C	1	A
Power Dissipation at T_{amb}=25°C	P_{tot}	800	mW
Operating and Storage Temperature Range	T_j:T_{stg}	-55 to +150	°C

ELECTRICAL CHARACTERISTICS (at T_{amb} = 25°C unless otherwise stated).

PARAMETER	SYMBOL	MIN.	TYP.	MAX.	UNIT	CONDITIONS.
Collector-Base Breakdown Voltage	$V_{(BR)CBO}$	80			V	I_C=100μA, I_E=0
Collector-Emitter Breakdown Voltage	$V_{(BR)CEO}$	80			V	I_C=10mA, I_B=0*
Emitter-Base Breakdown Voltage	$V_{(BR)EBO}$	5			V	I_E=10μA, I_C=0
Collector Cut-Off Current	I_{CBO}			0.1	μA	V_{CB}=30V
Collector-Emitter Saturation Voltage	$V_{CE(sat)}$			0.5	V	I_C=500mA, I_B=50mA*
Base-Emitter Turn-on Voltage	$V_{BE(on)}$			1.0	V	IC=500mA,V_{CE}=2V*
Static Forward Current Transfer Ratio	h_{FE}	25 40 25		160		I_C=5mA, V_{CE}=2V* I_C=150mA, V_{CE}=2V* I_C=500mA, V_{CE}=2V*
Transition Frequency	f_T		200		MHz	I_C=50mA, V_{CE}=2V f=100MHz

*Measured under pulsed conditions. Pulse width=300μs. Duty cycle ≤ 2%