

# MICRO ELECTRONICS

## 2N2193

NPN

SILICON  
TRANSISTOR

2N2193 is NPN silicon planar transistor designed for medium power switching and amplifier applications.

TO-39



### ABSOLUTE MAXIMUM RATINGS

Collector-Base Voltage	VCBO	80V
Collector-Emitter Voltage	VCEO	50V
Emitter-Base Voltage	VEBO	8V
Collector Current	IC	1A
Total Power Dissipation	Ptot	800mW
Operating Junction & Storage Temperature	Tj, Tstg	-65 to +200°C

### ELECTRICAL CHARACTERISTICS (TA=25°C unless otherwise specified)

PARAMETER	SYMBOL	MIN	MAX	UNIT	TEST CONDITIONS
Collector-Base Breakdown Voltage	BVCBO	80		V	IC=100µA IE=0
Collector-Emitter Breakdown Voltage	LVCEO	50		V	IC=10mA IB=0
Emitter-Base Breakdown Voltage	BVEBO	8		V	IE=100µA IC=0
Collector Cutoff Current	ICBO		10	nA	VCB=60V IE=0
			25	µA	VCB=60V TA=150°C
Emitter Cutoff Current	IEBO		50	nA	VEB=5V IC=0
D.C. Current Gain	HFE	15			VCE=10V IC=100µA
		30			VCE=10V IC=10mA
		40	120		VCE=10V IC=150mA*
		20			VCE=10V IC=500mA*
		15			VCE=10V IC=1A*
		30			VCE=1V IC=150mA*

MICRO ELECTRONICS LTD. 美科有限公司

38 Hung To Road, Kwun Tong, Kowloon, Hong Kong. Cable: Microtron, Hong Kong. Telex: 43510 Micro Hx.  
P.O. Box 69477, Kwun Tong. Tel: 3-430181-6, 3-893363, 3-892423, 3-898221 FAX: 3-410321

PARAMETER	SYMBOL	MIN	MAX	UNIT	TEST CONDITIONS
Base-Emitter Saturation Voltage	V <sub>BE(sat)</sub>		1.3	V	I <sub>C</sub> =150mA I <sub>B</sub> =15mA*
Collector-Emitter Saturation Voltage	V <sub>CE(sat)</sub>		0.35	V	I <sub>C</sub> =150mA I <sub>B</sub> =15mA*
Small Signal Current Gain	h <sub>fe</sub>	2.5			V <sub>CE</sub> =10V I <sub>C</sub> =50mA f=20MHz
Output Capacitance	C <sub>ob</sub>		20	pF	V <sub>CB</sub> =10V f=1MHz

\* Pulse Test : Pulse Width = 300μs, Duty Cycle ≤ 2%.