

**DESCRIPTION**

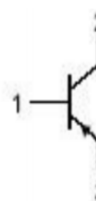
- ◆ High Transition Frequency :  $f_T = 200\text{MHz}$ (Typ.)



TO-220F package

**APPLICATIONS**

- ◆ Power amplifier applications
- ◆ Driver stage amplifier applications


 PIN  
 1.BASE  
 2.COLLECTOR  
 3.BMITTER

**ABSOLUTE MAXIMUM RATINGS**( $T_a=25^\circ\text{C}$ )

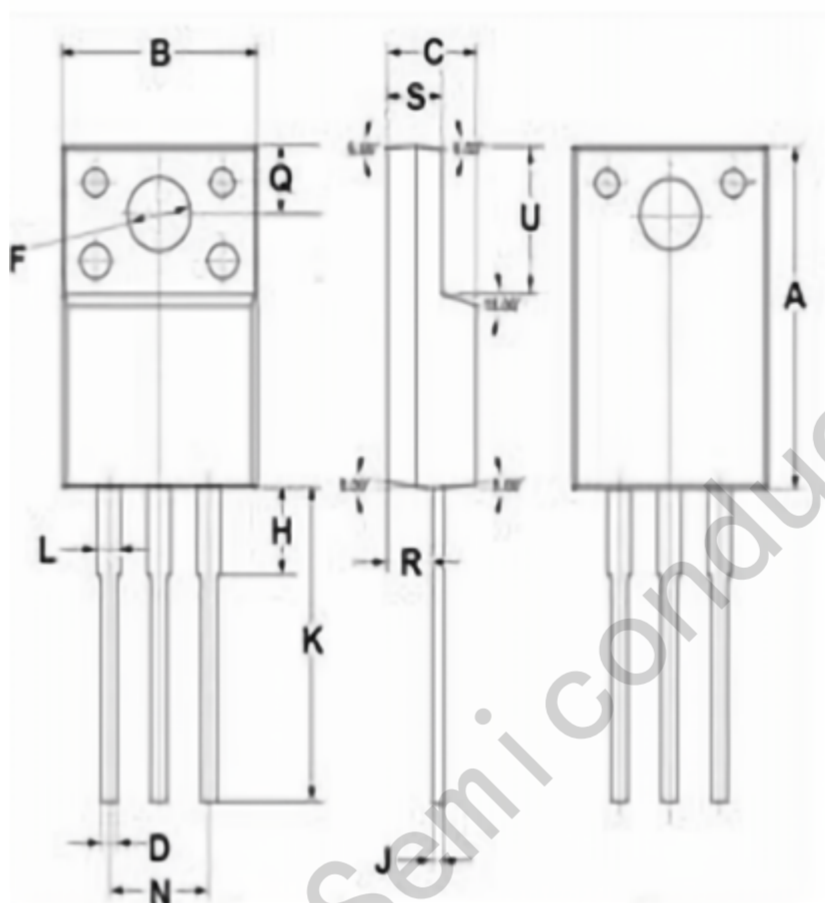
SYMBOL	PARAMETER	VALUE	UNIT
$V_{CBO}$	Collector-Base Voltage	-180	V
$V_{CEO}$	Collector-Emitter Voltage	-180	V
$V_{EBO}$	Emitter-Base Voltage	-5	V
$I_C$	Collector Current-Continuous	-2	A
$I_B$	Base Current-Continuous	-1	A
$P_c$	Collector Power Dissipation @ $T_c=25^\circ\text{C}$	20	W
$T_J$	Junction Temperature	150	$^\circ\text{C}$
$T_{stg}$	Storage Temperature Range	-55~150	$^\circ\text{C}$

**ELECTRICAL CHARACTERISTICS**

 T<sub>c</sub>=25°C unless otherwise specified

SYMBOL	PARAMETER	CONDITIONS	MIN	TYP.	MAX	UNIT
V <sub>CEO(SUS)</sub>	Collector-Emitter Sustaining Voltage	I <sub>C</sub> = -10mA; I <sub>B</sub> = 0	-180			V
V <sub>CE(sat)</sub>	Collector-Emitter Saturation Voltage	I <sub>C</sub> = -1.0A; I <sub>B</sub> =- 0.1A			-1.0	V
V <sub>BE(on)</sub>	Base-Emitter Voltage	I <sub>C</sub> = -1A ; V <sub>CE</sub> = -5V			-1.5	V
I <sub>CBO</sub>	Collector Cutoff Current	V <sub>CB</sub> = -180V ; I <sub>E</sub> = 0			-5	μ A
I <sub>EBO</sub>	Emitter Cutoff Current	V <sub>EB</sub> = -5V ; I <sub>C</sub> = 0			-5	μ A
h <sub>FE-1</sub>	DC Current Gain	I <sub>C</sub> = -0.1A ; V <sub>CE</sub> = -5V	100		320	
h <sub>FE-2</sub>	DC Current Gain	I <sub>C</sub> = -1A ; V <sub>CE</sub> = -5V	50			
C <sub>ob</sub>	Collector Output Capacitance	I <sub>E</sub> = 0 ; V <sub>CB</sub> = -10V,f=1MHz		16		pF
f <sub>T</sub>	Current-Gain—Bandwidth Product	I <sub>C</sub> = -0.3A ; V <sub>CE</sub> = -5V		200		MHz

TO-220F



DIM	mm	
	MIN	MAX
A	14.95	15.05
B	10.00	10.10
C	4.40	4.60
D	0.75	0.80
F	3.10	3.30
H	3.70	3.90
J	0.50	0.70
K	13.4	13.6
L	1.10	1.30
N	5.00	5.20
Q	2.70	2.90
R	2.20	2.40
S	2.65	2.85
U	6.40	6.60