

Pb Free Plating Product

2SC5200N



150 Watt Silicon Epitaxial Planar NPN Power Transistor

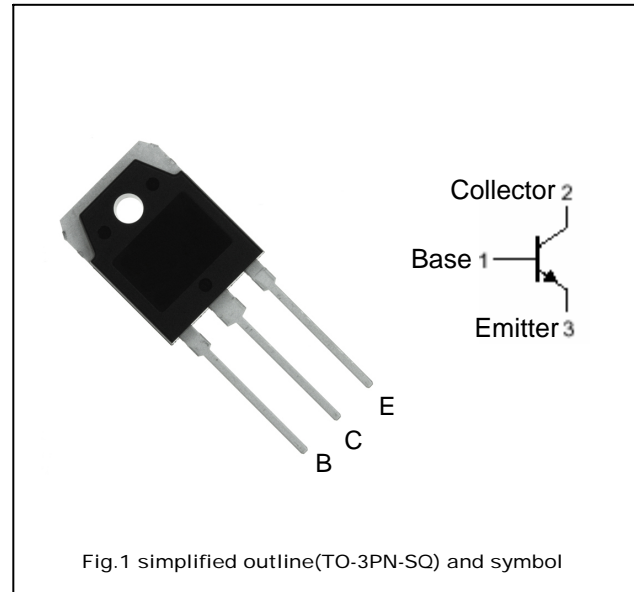
DESCRIPTION

- With TO-3PN-SQ package
- Complement to type 2SA1943N

APPLICATIONS

- Power amplifier applications
- Recommended for 100W high fidelity audio frequency amplifier output stage

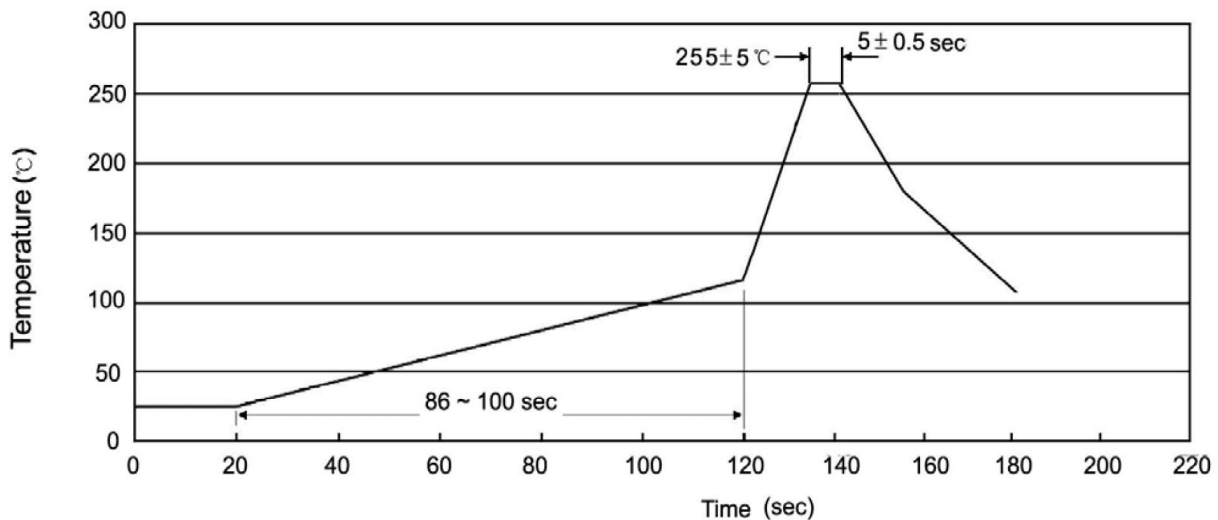
PIN	DESCRIPTION
1	Base
2	Collector; connected to mounting base
3	Emitter

**Absolute Maximum Ratings(Ta=25°C)**

Parameter	Symbol	Rating	Unit
Collector to Base Voltage	V_{CBO}	230	V
Collector to Emitter Voltage	V_{CEO}	230	V
Emitter to Base Voltage	V_{EBO}	5	V
Collector Current - Continuous	I_C	15	A
Peak Collector Current	I_{CP}	30	A
Base Current	I_B	1.5	A
Collector Power Dissipation	$P_{C(TC=25^\circ C)}$	150	W
Junction Temperature	T_j	150	°C
Storage Temperature Range	T_{stg}	-55 ~ 150	°C

Electrical Characteristics(Ta=25°C)

Parameter	Symbol	Test Conditions	Min	Typ	Max	Unit
Collector to Emitter Breakdown Voltage	V_{CEO}	$I_C=50mA$ $I_E=0$	230			V
Collector Cut-Off Current	I_{CBO}	$V_{CB}=230V$ $I_E=0$			5	μA
Emitter Cut-Off Current	I_{EBO}	$V_{EB}=5.0V$ $I_C=0$			5	μA
DC Current Gain	$h_{FE(1)}$	$V_{CE}=5.0V$ $I_C=1.0A$	55		160	
	$h_{FE(2)}$	$V_{CE}=5.0V$ $I_C=7.0A$	35	60		
Collector to Emitter Saturation Voltage	$V_{CE(sat)}$	$I_C=8.0A$ $I_B=0.8A$		0.4	3.0	V
Base to Emitter Voltage	V_{BE}	$V_{CE}=5.0V$ $I_C=7.0A$		1.0	1.5	V
Transition Frequency	f_T	$I_C=1.0A$ $V_{CE}=5.0V$		30		MHz
Collector output capacitance	C_{ob}	$V_{CB}=10V$ $I_E=0$ $f=1.0MHz$		200		pF

Temperature Profile for Dip Soldering(Pb-Free)


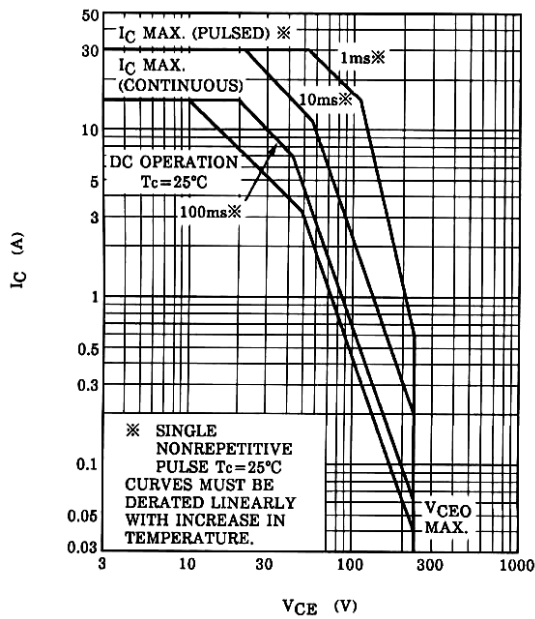
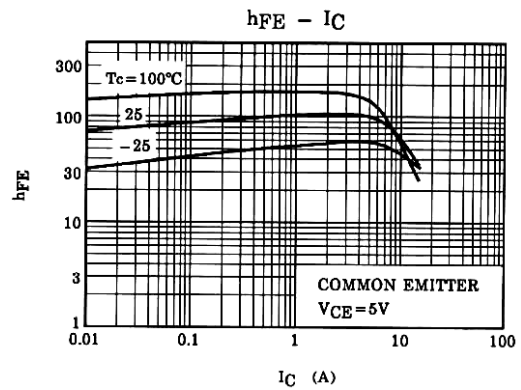
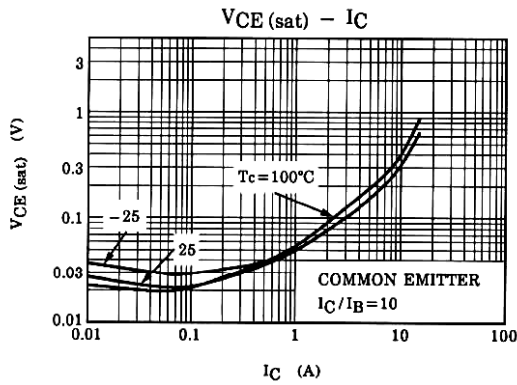
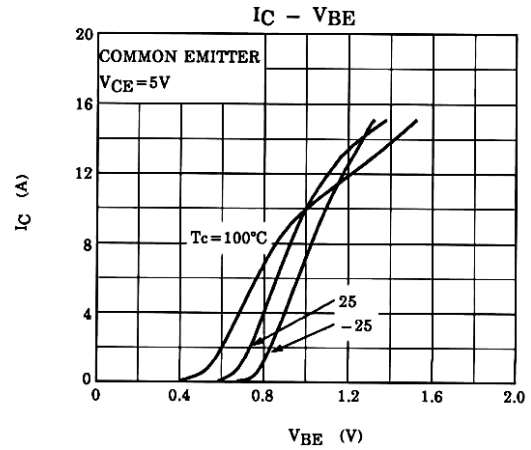
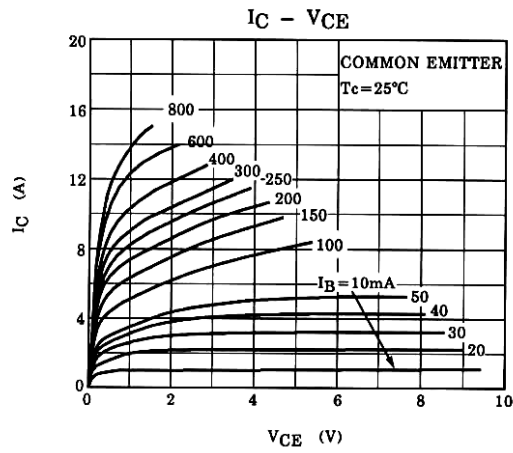
Note:

1. Preheating: 25~150°C, Time: 60~90sec.
2. Peak Temp.: 255±5°C, Duration: 5±0.5sec.
3. Cooling Speed: 2~10°C/sec.

Resistance to Soldering Heat Test Conditions

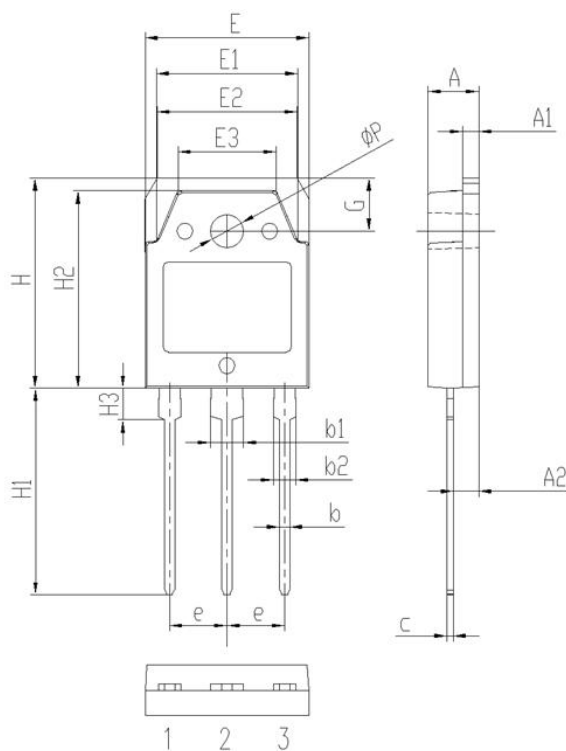
Temp.: 270±5°C Time: 10±1 sec

Electrical Characteristic Curve



Package Information

TO-3PN-SQ Package Outline



Symbol	Dimensions(millimeters)	
	Min.	Max.
A	4.60	5.00
A1	1.30	1.70
A2	2.20	2.60
b	0.80	1.20
b1	2.90	3.30
b2	1.90	2.30
c	0.40	0.80
e	5.25	5.65
E	15.3	15.7
E1	13.2	13.6
E2	13.1	13.5
E3	9.10	9.50
H	19.7	20.1
H1	19.1	20.1
H2	18.3	18.7
H3	2.80	3.20
G	4.80	5.20
ΦP	3.00	3.40