

INCHANGE Semiconductor

isc Product Specification

isc Silicon NPN Power Transistor

2SC5200

DESCRIPTION

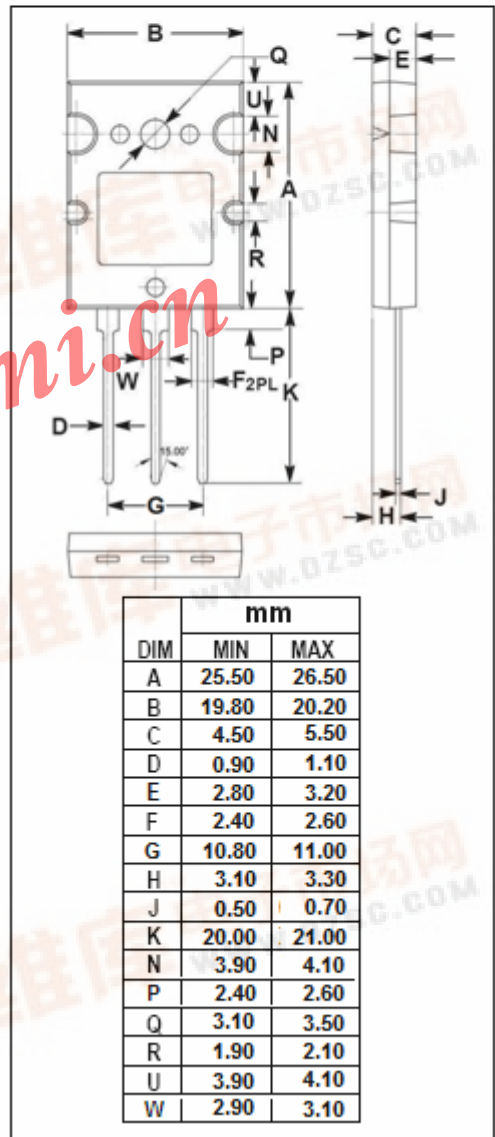
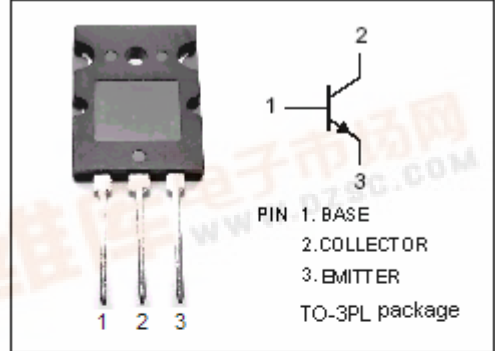
- High Current Capability
- High Power Dissipation
- High Collector-Emitter Breakdown Voltage-
: $V_{(BR)CEO} = 230V(\text{Min})$
- Complement to Type 2SA1943

APPLICATIONS

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

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

SYMBOL	PARAMETER	VALUE	UNIT
V_{CBO}	Collector-Base Voltage	230	V
V_{CEO}	Collector-Emitter Voltage	230	V
V_{EBO}	Emitter-Base Voltage	5	V
I_C	Collector Current-Continuous	15	A
I_B	Base Current-Continuous	1.5	A
P_C	Collector Power Dissipation @ $T_C=25^\circ\text{C}$	150	W
T_J	Junction Temperature	150	$^\circ\text{C}$
T_{stg}	Storage Temperature Range	-55~150	$^\circ\text{C}$



isc Silicon NPN Power Transistor**2SC5200****ELECTRICAL CHARACTERISTICS** $T_C=25^{\circ}\text{C}$ unless otherwise specified

SYMBOL	PARAMETER	CONDITIONS	MIN	TYP.	MAX	UNIT
$V_{(BR)CEO}$	Collector-Emitter Breakdown Voltage	$I_C=50\text{mA}; I_B=0$	230			V
$V_{CE(sat)}$	Collector-Emitter Saturation Voltage	$I_C=8.0\text{A}; I_B=0.8\text{A}$			3.0	V
$V_{BE(on)}$	Base-Emitter On Voltage	$I_C=7\text{A}; V_{CE}=-5\text{V}$			1.5	V
I_{CBO}	Collector Cutoff Current	$V_{CB}=230\text{V}; I_E=0$			5	μA
I_{EBO}	Emitter Cutoff Current	$V_{EB}=5\text{V}; I_C=0$			5	μA
h_{FE-1}	DC Current Gain	$I_C=1\text{A}; V_{CE}=5\text{V}$	55		160	
h_{FE-2}	DC Current Gain	$I_C=7\text{A}; V_{CE}=5\text{V}$	35			
C_{OB}	Output Capacitance	$I_E=0; V_{CB}=10\text{V}; f_{test}=1.0\text{MHz}$		200		pF
f_T	Current-Gain—Bandwidth Product	$I_C=1\text{A}; V_{CE}=5\text{V}$		30		MHz

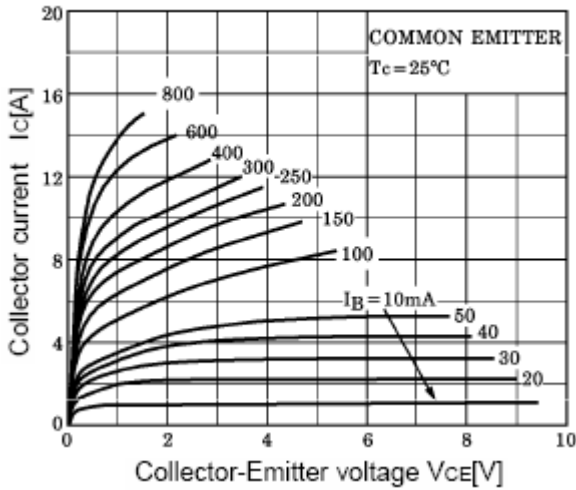
◆ **h_{FE-1} Classifications**

R	O
55-110	80-160

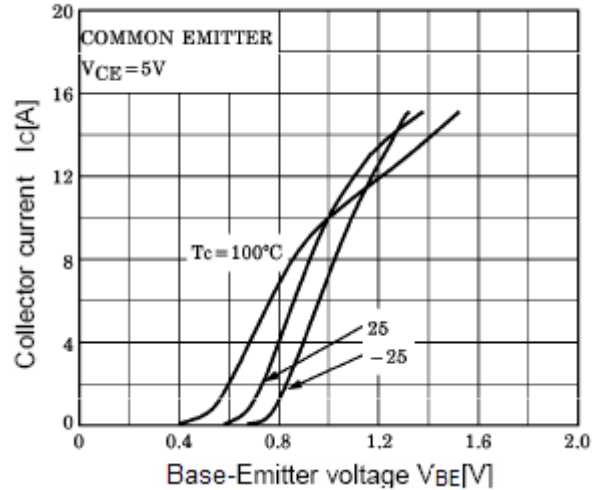
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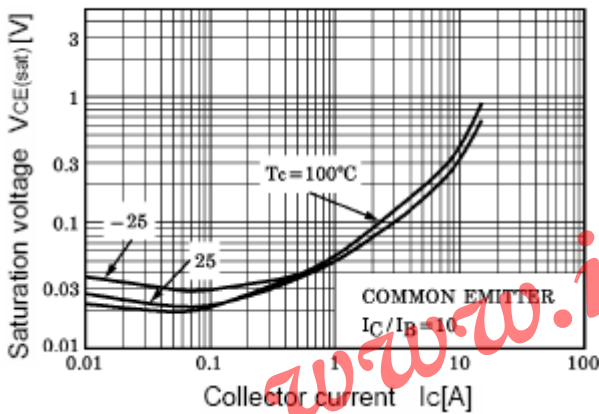
I_C - V_{CE} Characteristics



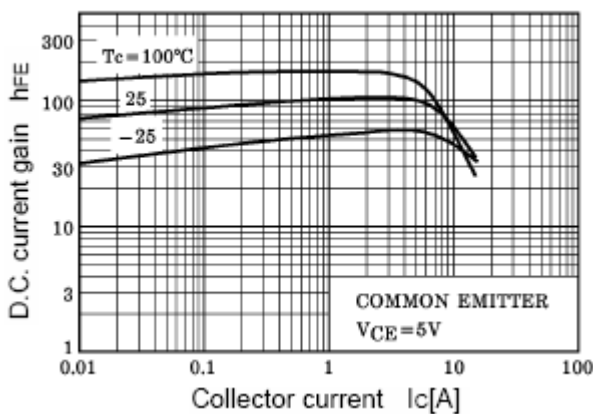
I_C - V_{BE} Characteristics



$V_{CE(sat)}$ - I_C Characteristics



h_{FE} - I_C Characteristics



Safe Operating Area

