

isc Silicon NPN Power Transistor

2SC5198

DESCRIPTION

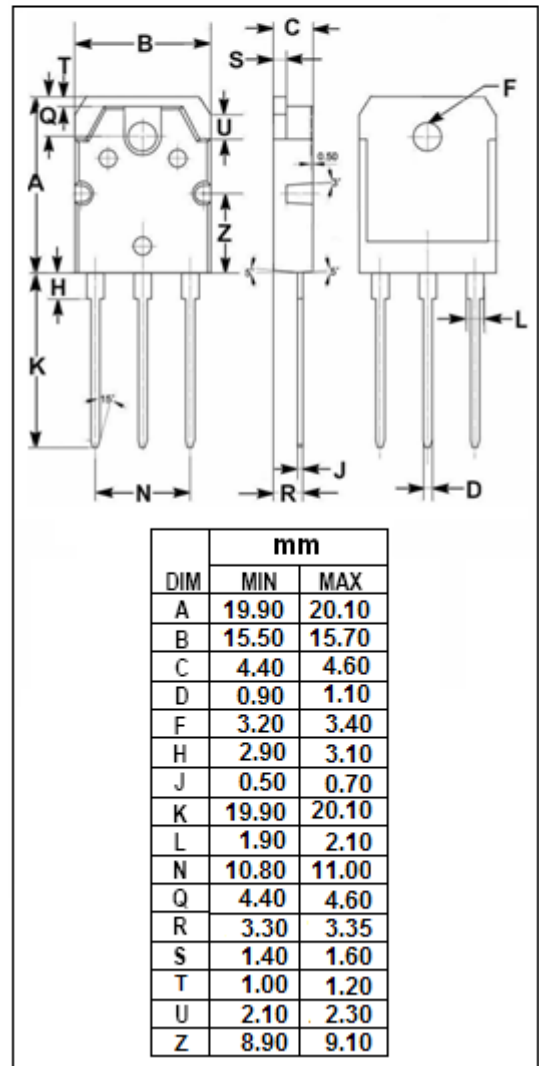
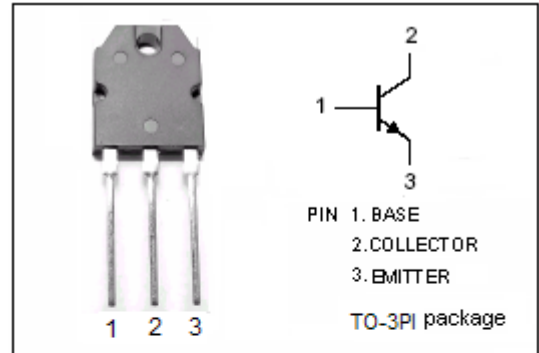
- Low Collector Saturation Voltage-
: $V_{CE(sat)} = 2.0V(\text{Min}) @ I_C = 7A$
- Good Linearity of h_{FE}
- Complement to Type 2SA1941

APPLICATIONS

- Power amplifier applications
- Recommend for 70W high fidelity audio frequency amplifier output stage applications

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

SYMBOL	PARAMETER	VALUE	UNIT
V_{CBO}	Collector-Base Voltage	140	V
V_{CEO}	Collector-Emitter Voltage	140	V
V_{EBO}	Emitter-Base Voltage	5	V
I_C	Collector Current-Continuous	10	A
I_B	Base Current-Continuous	1	A
P_C	Collector Power Dissipation @ $T_C = 25^\circ C$	100	W
T_J	Junction Temperature	150	$^\circ C$
T_{stg}	Storage Temperature Range	-55~150	$^\circ C$



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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	$I_C=50\text{mA}$; $I_B=0$	140			V
$V_{CE(sat)}$	Collector-Emitter Saturation Voltage	$I_C=7\text{A}$; $I_B=0.7\text{A}$			2.0	V
$V_{BE(on)}$	Base-Emitter On Voltage	$I_C=5\text{A}$; $V_{CE}=5\text{V}$			1.5	V
I_{CBO}	Collector Cutoff Current	$V_{CB}=140\text{V}$; $I_E=0$			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	$I_C=5\text{A}$; $V_{CE}=5\text{V}$	35			
C_{OB}	Output Capacitance	$I_E=0$; $V_{CB}=10\text{V}$; $f_{test}=1.0\text{MHz}$		170		pF
f_T	Current-Gain—Bandwidth Product	$I_C=1\text{A}$; $V_{CE}=5\text{V}$		30		MHz

◆ h_{FE-1} Classifications

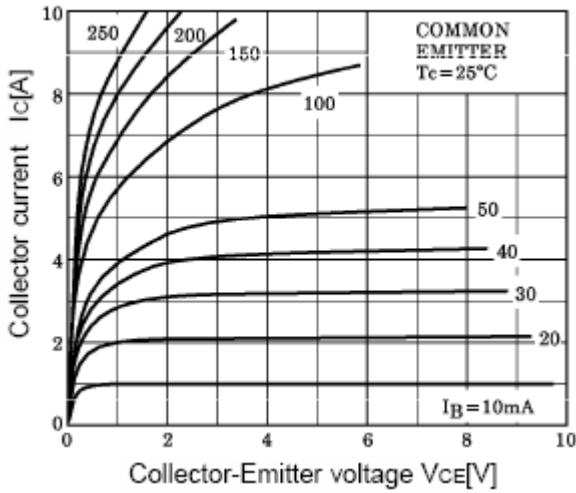
R55	R65	R75	R85
55-65	65-75	75-85	85-95

O95	O105	O115	O125	O135	O145	O155
95-105	105-115	115-125	125-135	135-145	145-155	155-160

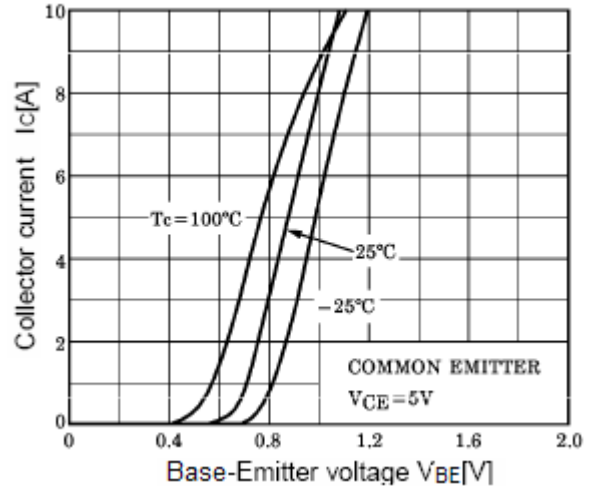
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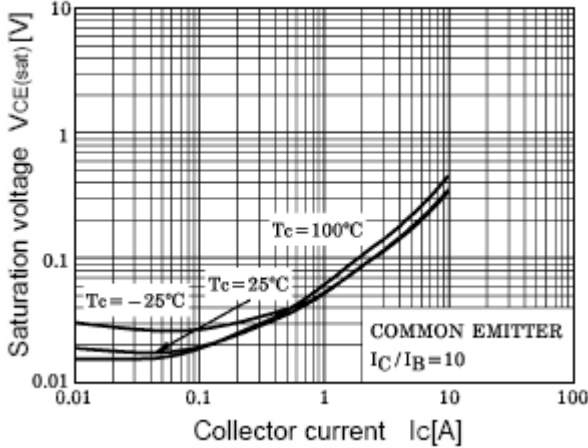
I_C-V_{CE} Characteristics



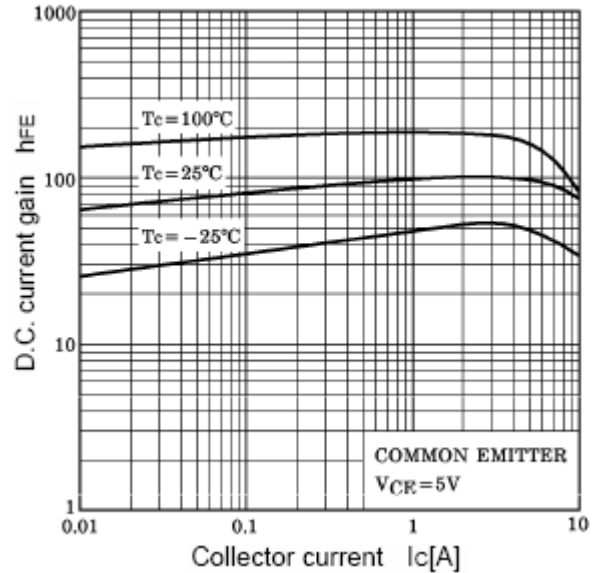
I_C-V_{BE} Characteristics



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



$h_{FE}-I_C$ Characteristics



Safe Operating Area

