

**isc Silicon NPN Power Transistor**

**2SC5198**

**DESCRIPTION**

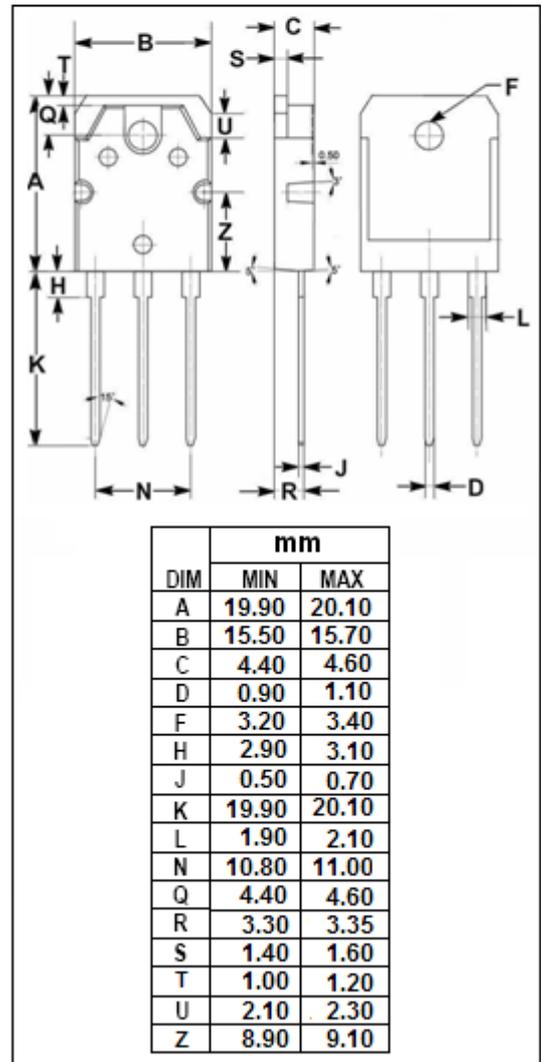
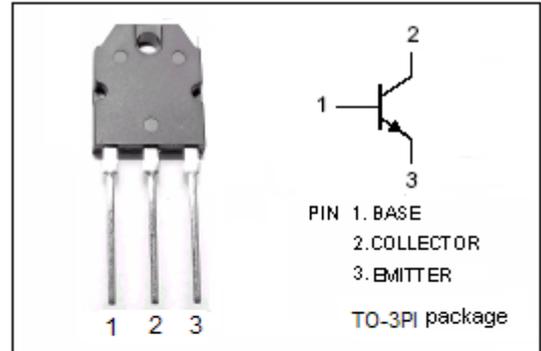
- Low Collector Saturation Voltage-  
:  $V_{CE(sat)} = 2.0V(\text{Min}) @ I_C = 7A$
- Good Linearity of  $h_{FE}$
- Complement to Type 2SA1941

**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	$\mu\text{A}$
$I_{EBO}$	Emitter Cutoff Current	$V_{EB}=5\text{V}; I_C=0$			5	$\mu\text{A}$
$h_{FE-1}$	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

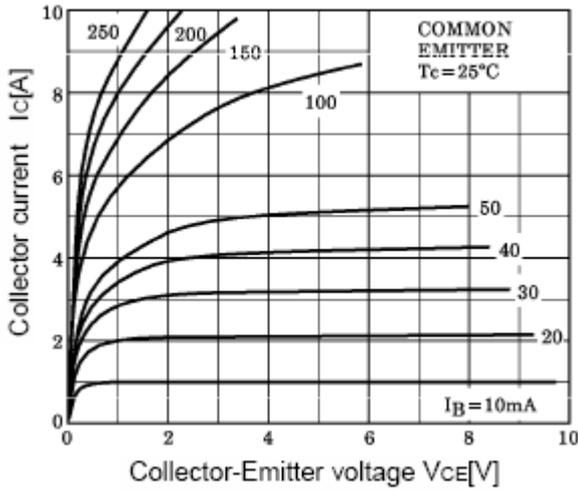
R55	R65	R75	R85
55-65	65-75	75-85	85-95

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

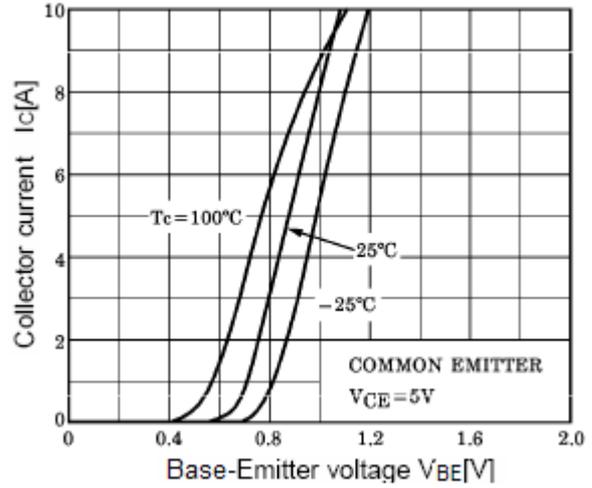
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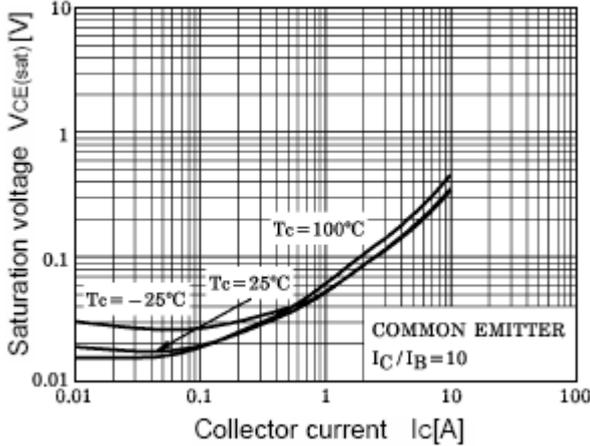
**$I_C-V_{CE}$  Characteristics**



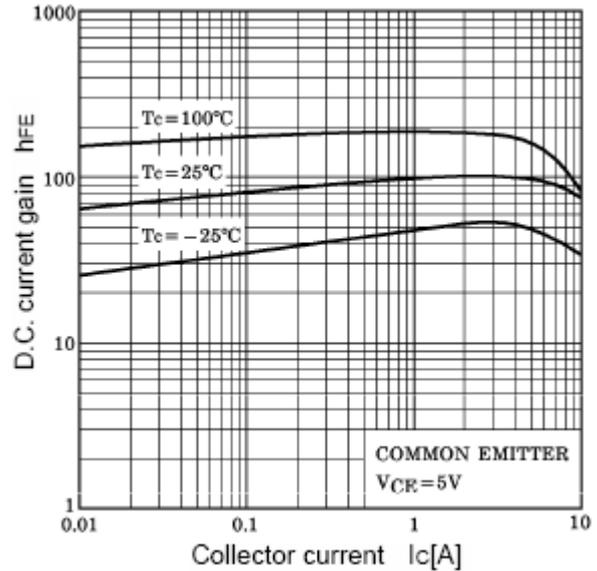
**$I_C-V_{BE}$  Characteristics**



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



**$h_{FE}-I_C$  Characteristics**



**Safe Operating Area**

