

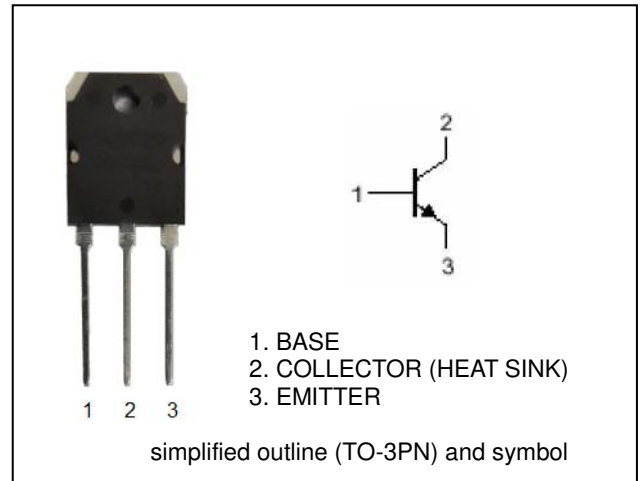
## Silicon NPN Power Transistors

### 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



### MAXIMUM RATINGS

Characteristic	Symbol	2SC5198	Unit
Collector-Base Voltage	$V_{CBO}$	140	V
Collector-Emitter Voltage	$V_{CEO}$	140	V
Emitter-Base Voltage	$V_{EBO}$	5	V
Collector Current	$I_C$	10	A
Base current	$I_B$	1	A
Collector power dissipation @ $T_C = 25^\circ\text{C}$	$P_C$	120	W
Junction Temperature	$T_j$	150	$^\circ\text{C}$
Storage Temperature Range	$T_{stg}$	-65 to +150	$^\circ\text{C}$

### ELECTRICAL CHARACTERISTICS ( $T_C = 25^\circ\text{C}$ unless otherwise notes)

Characteristic	Symbol	Min.	Typ.	Max.	Unit
Collector-Emitter Breakdown Voltage ( $I_C = 50 \text{ mA}$ , $I_B = 0$ )	$V_{CEO}$	140			V
Collector Cutoff Current ( $V_{CB} = 140 \text{ V}$ , $I_E = 0 \text{ V}$ )	$I_{CBO}$			5	$\mu\text{A}$
Emitter Cutoff Current ( $V_{EB} = 5.0 \text{ V}$ , $I_C = 0$ )	$I_{EBO}$			5	$\mu\text{A}$
DC Current Gain ( $I_C = 1.0 \text{ A}$ , $V_{CE} = 5.0 \text{ V}$ )	$h_{FE(1)}$ (Note)	55		160	
DC Current Gain ( $I_C = 5.0 \text{ A}$ , $V_{CE} = 5.0 \text{ V}$ )	$h_{FE(2)}$	35			
Collector-Emitter Saturation Voltage ( $I_C = 7.0 \text{ A}$ , $I_B = 0.7 \text{ A}$ )	$V_{CE(SAT)}$			2.0	V
Base-Emitter On Voltage ( $I_C = 5.0 \text{ A}$ , $V_{CE} = 5.0 \text{ V}$ )	$V_{BE(ON)}$			1.5	V
Output Capacitance ( $I_E = 0$ , $V_{CB} = 10 \text{ V}$ , $f = 1.0 \text{ MHz}$ )	$C_{OB}$		170		pF
Current-Gain—Bandwidth Product ( $I_C = 1 \text{ A}$ ; $V_{CE} = 5 \text{ V}$ )	$f_T$		30		MHz

Note :  $h_{FE(1)}$  Classifications R : 55~110 · O : 80~160

FIG-1  $I_C$ - $V_{CE}$  CHARACTERISTICS

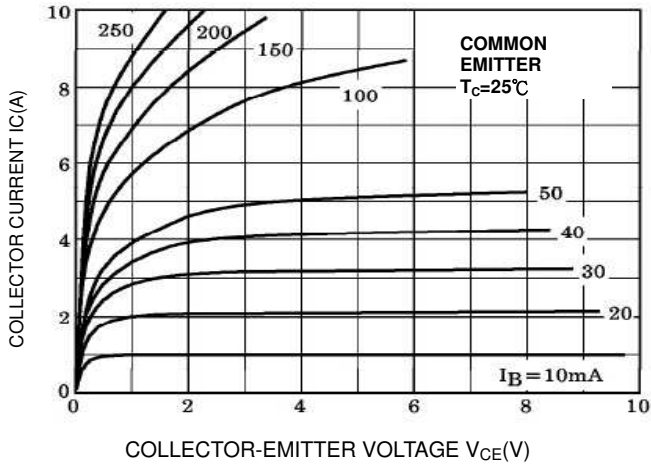


FIG-2  $I_C$ - $V_{BE}$  CHARACTERISTICS

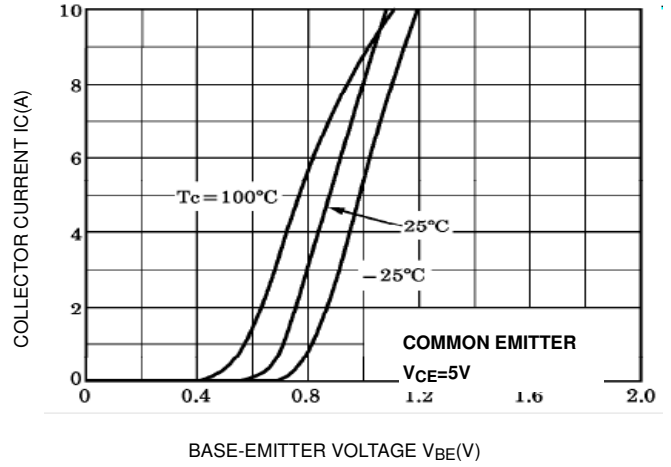


FIG-3  $V_{CE(sat)}$ - $I_C$  CHARACTERISTICS

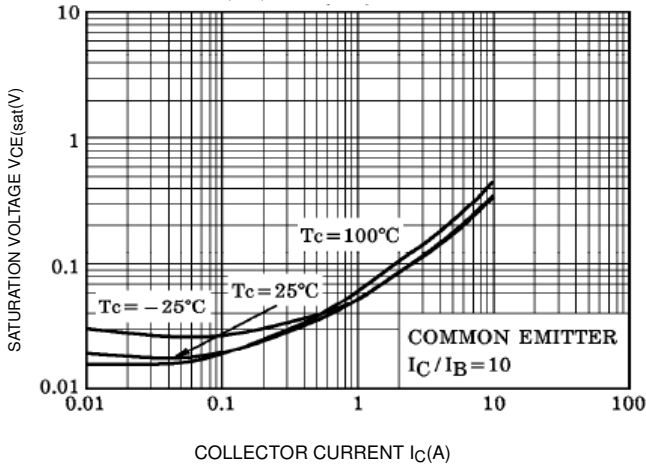


FIG-4  $h_{fe}$ - $I_C$  CHARACTERISTICS

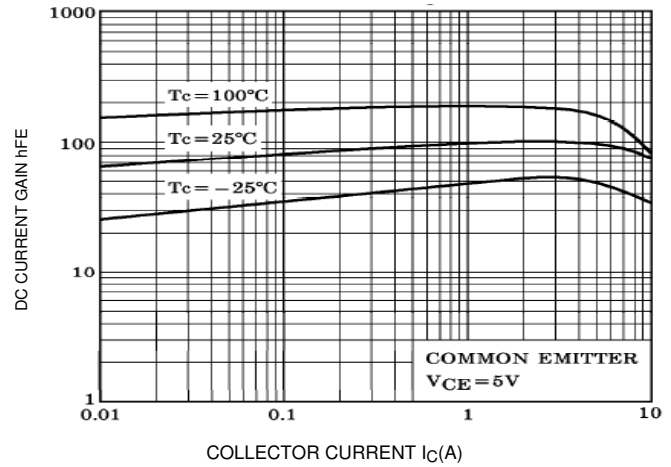
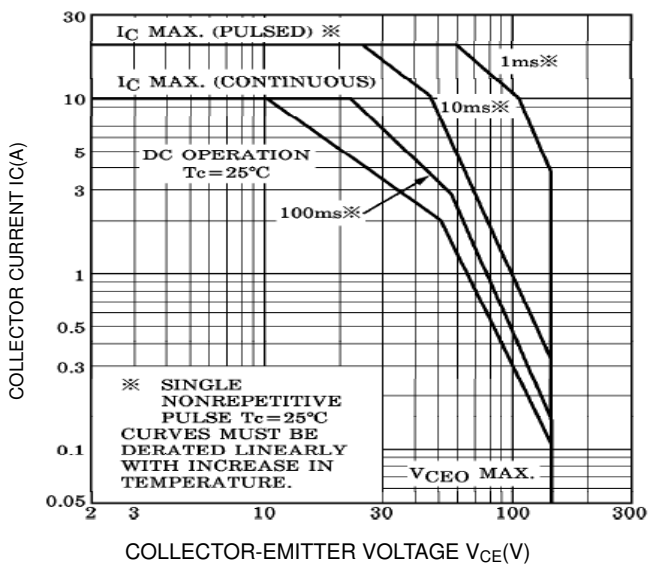
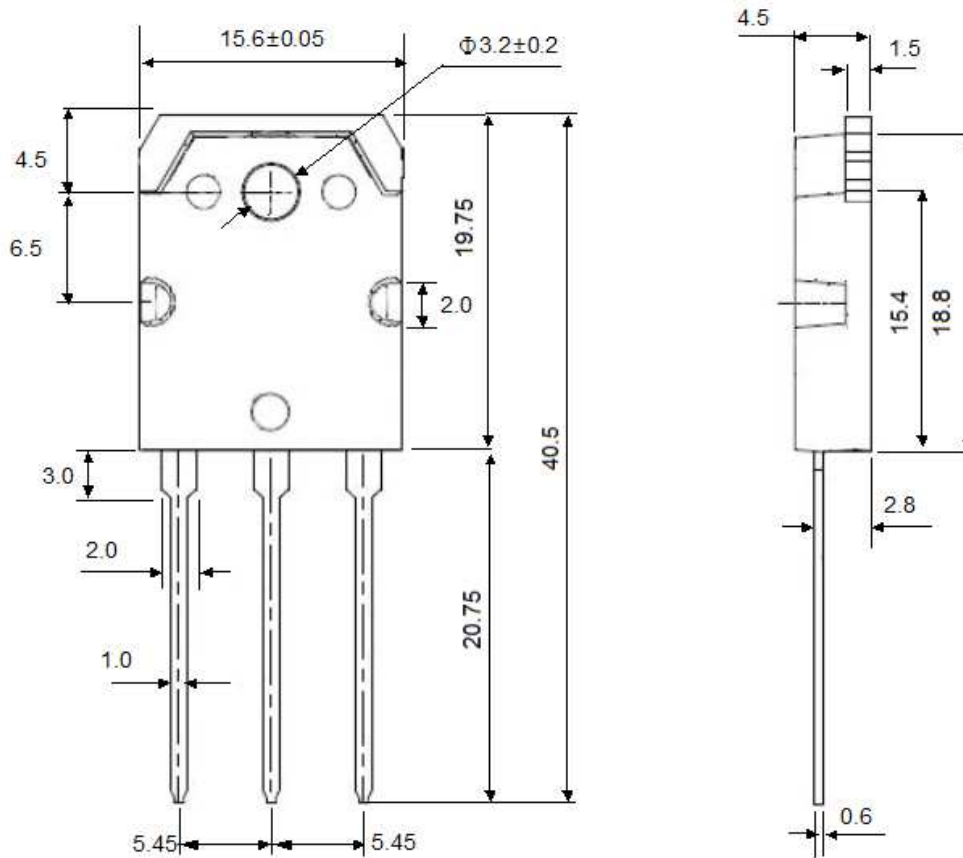


FIG-5 SAFE OPERATING AREA



## PACKAGE OUTLINE DIMENSIONS (Unit in mm)

### TO-3PN



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