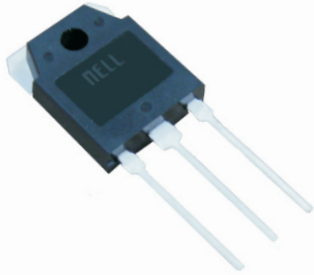


Silicon NPN triple diffusion planar transistor 10A/140V/100W



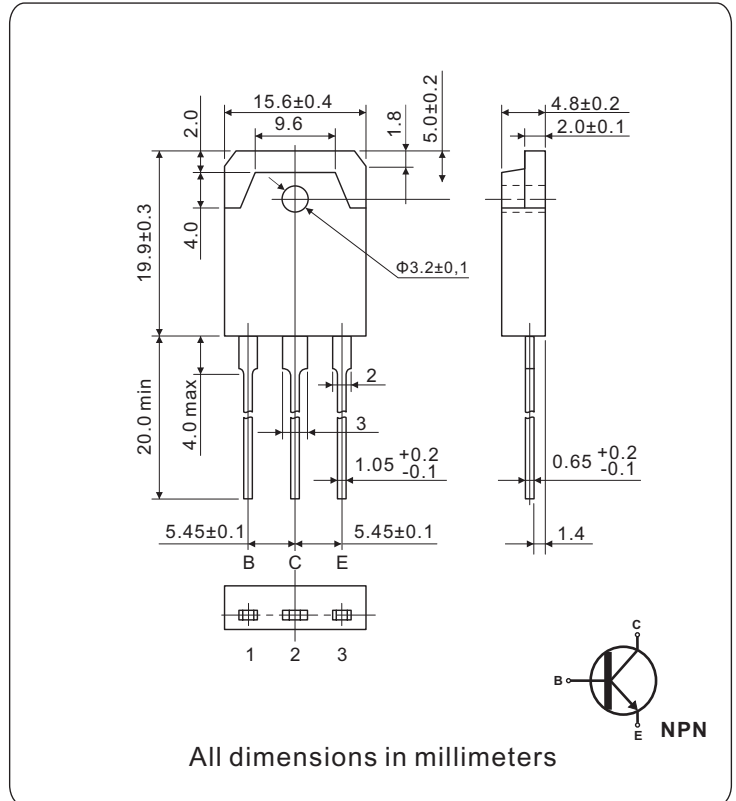
TO-3P(B)

FEATURES

- High breakdown voltage, $V_{CE0} = 140V$ (min)
- Complementary to 2SA1941B
- TO-3P package which can be installed to the heat sink with one screw

APPLICATIONS

- Suitable for use in 70W high fidelity audio amplifier's output stage



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

SYMBOL	PARAMETER	VALUE	UNIT
V_{CBO}	Collector to base voltage	140	V
V_{CEO}	Collector to emitter voltage	140	
V_{EBO}	Emitter to base voltage	5	
I_{CP}	Peak collector current $t_p \leq 5$ ms	20	A
I_C	Collector current	10	
I_B	Base current	1	
P_C	Collector power dissipation	$T_C = 25^\circ C$ 100	W
T_j	Junction temperature	150	$^\circ C$
T_{stg}	Storage temperature	-55 to 150	

THERMAL CHARACTERISTICS ($T_C = 25^\circ C$)

SYMBOL	PARAMETER	VALUE	UNIT
$R_{th(j-c)}$	Thermal resistance, junction to case	1.55	$^\circ C/W$

ELECTRICAL CHARACTERISTICS (T _a = 25°C)						
SYMBOL	PARAMETER	CONDITIONS	VALUE			UNIT
			MIN.	TYP.	MAX.	
I _{CBO}	Collector cutoff current	V _{CB0} = 140V, I _E = 0			5.0	μA
I _{EBO}	Emitter cutoff current	V _{EBO} = 5V, I _C = 0			5.0	
V _{(BR)CEO}	Collector to emitter breakdown voltage	I _{CEO} = 50mA, I _B = 0	140			V
V _{CB0}	Collector to base voltage	I _{CB0} = 5 μA	140			
V _{EBO}	Emitter to base voltage	I _{EBO} = 5.0 μA	5			
h _{FE1}	Forward current transfer ratio (DC current gain)	V _{CE} = 5V, I _C = 1A	Rank-R	55		110
h _{FE2}			Rank-O	80		160
		V _{CE} = 5V, I _C = 5A	35	83		
V _{CE(sat)}	Collector to emitter saturation voltage	I _C = 7A, I _B = 0.7A		0.3	2.0	V
V _{BE}	Base to emitter voltage	V _{CE} = 5V, I _C = 5A		0.9	1.5	
f _T	Transition frequency (Gain-Bandwidth product)	V _{CE} = 5V, I _C = 1A		30		MHz
C _{ob}	Collector output capacitance	V _{CB} = 10V, I _E = 0, f = 1MHz		170		pF

ORDERING INFORMATION SCHEME	
2SC 5198 B - R	<p>Transistor series NPN Type</p> <p>Current & Voltage rating, I_C & V_{CEO} 10A / 140V</p> <p>Package type B = TO-3PB</p> <p>DC current gain rank, h_{FE1} R = 55 ~ 110 O = 80 ~ 160</p>

Fig.1 Collector output characteristics

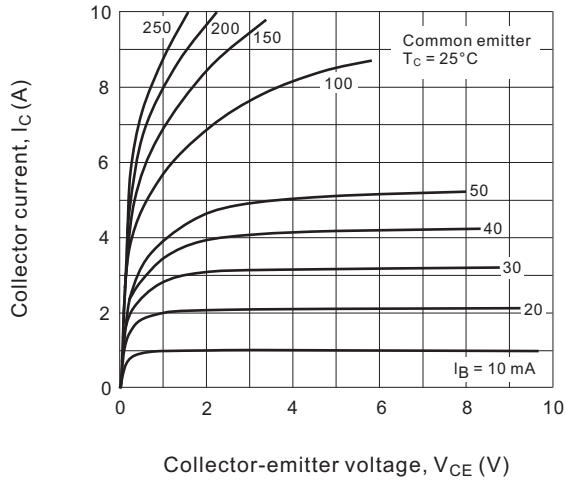


Fig.2 Collector-Emitter saturation voltage

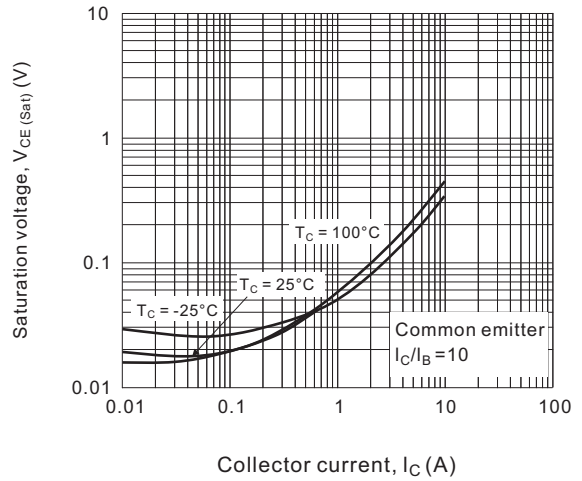


Fig.3 I_C - V_{BE} characteristics

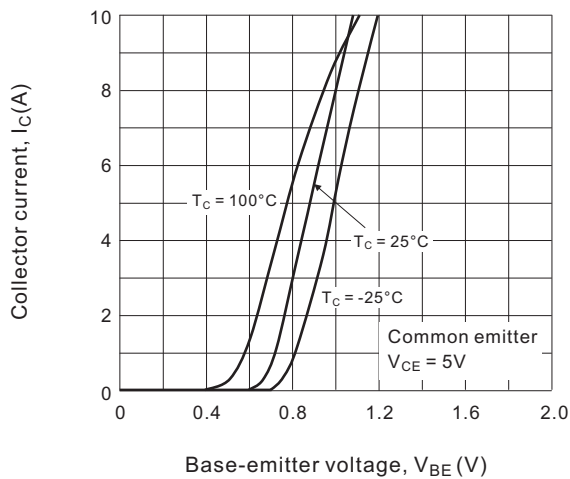


Fig.4 DC current gain

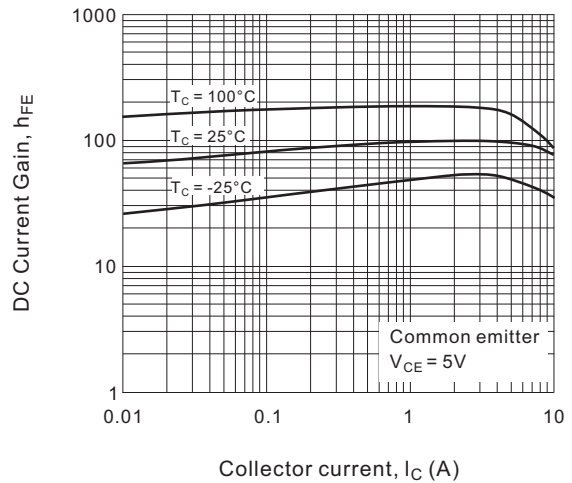


Fig.5 Safe operating area

