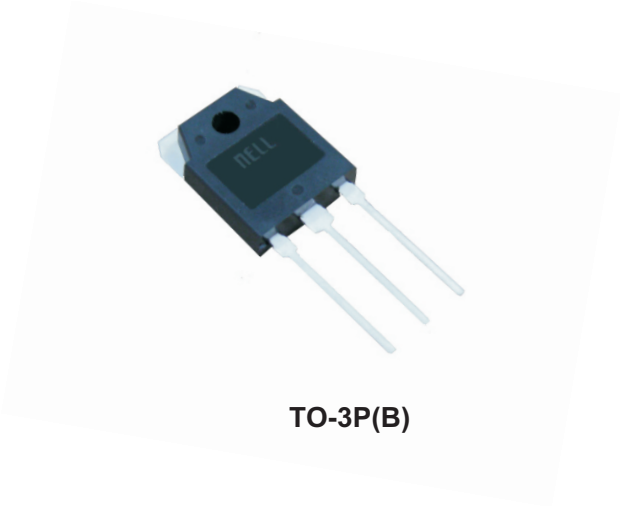
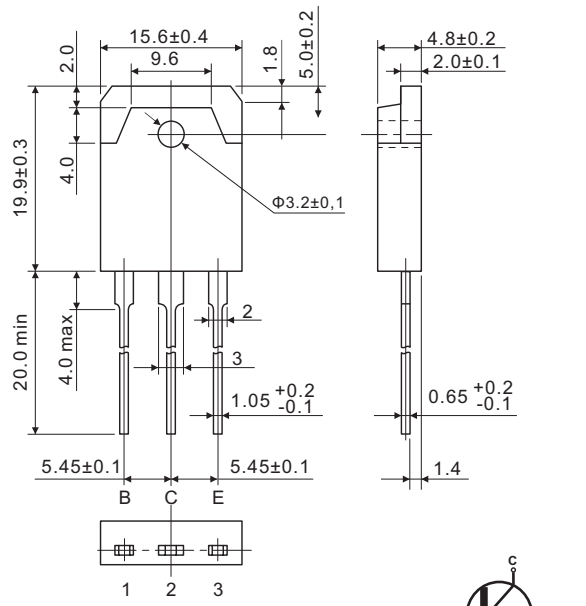
Silicon NPN Epitaxial Planar Transistor
(Complement to type 2SA1386B)
15A/160V, 180V/130W



TO-3P(B)



All dimensions in millimeters

FEATURES

- Recommend for 105W high Fiderity audio frequency amplifier output stage
- Complement to type 2SA1386B & 2SA1386B-A

APPLICATIONS

- Audio and general purpose

ABSOLUTE MAXIMUM RATINGS (T_a = 25°C)					
SYMBOL	PARAMETER		VALUE		UNIT
			2SC3519B	2SC3519B-A	
V_{CBO}	Collector to base voltage		160	180	V
V_{CEO}	Collector to emitter voltage		160	180	
V_{EBO}	Emitter to base voltage		5		
I_{CP} (I_{CM})	Peak collector current		20		A
I_C	Collector current		15		
I_B	Base current		4		
P_C	Collector power dissipation	T_C= 25°C	130		W
	Derate above 25°C		1.04		W/°C
T_j	Junction temperature		150		°C
T_{stg}	Storage temperature		-55 to 150		

THERMAL CHARACTERISTICS (T_C=25°C unless otherwise specified)			
SYMBOL	PARAMETER	VALUE	UNIT
$R_{th(j-c)}$	Maximum thermal resistance, junction to case	0.96	°C/W

ELECTRICAL CHARACTERISTICS (T_a = 25°C)							
SYMBOL	PARAMETER	CONDITIONS		min	typ	max	UNIT
$V_{(BR)CEO}$	Collector to emitter breakdown voltage	I_C = 25mA, I_B = 0	2SC3519B	160			V
			2SC3519B-A	180			
I_{CBO}	Collector cutoff current	V_{CB} = 160V, I_E = 0	2SC3519B			100	μA
		V_{CB} = 180V, I_E = 0	2SC3519B-A			100	
I_{EBO}	Emitter cutoff current	V_{EB} = 5V, I_C = 0				100	
h_{FE}	Forward current transfer ratio(DC Current gain)	V_{CE} = 4V, I_C = 5A		50			
$V_{CE(sat)}$	Collector to emitter saturation voltage	I_C = 5A, I_B = 0.5A				2.0	V
f_T	Transition frequency (Current gain - Bandwidth product)	V_{CE} = 12V, I_C = 2A, f= 1MHz		10	50		MHz
t_{on}	Turn-on time	I_C = 10A, I_{B1} = 1.0A, I_{B2} = -1.0A			0.20		μs
t_{stg}	Storage time	V_{CC} = 40V, R_L = 4Ω, V_{BB1} = 10V, V_{BB2} = -5V			1.30		
t_f	Fall time				0.45		
C_{OB}	Output capacitance	V_{CB} = 10V, I_E = 0, f_{test}=1MHz			250		pF

*Pulse test: Pulse width = 300μs, duty cycle ≤ 2.0%

Fig.1 I_C-V_{CE} Characteristics (Typical)

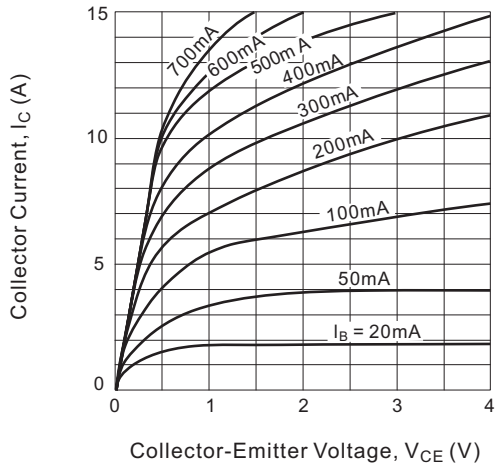


Fig.2 $V_{CE(sat)}$ - I_B Characteristics (Typical)

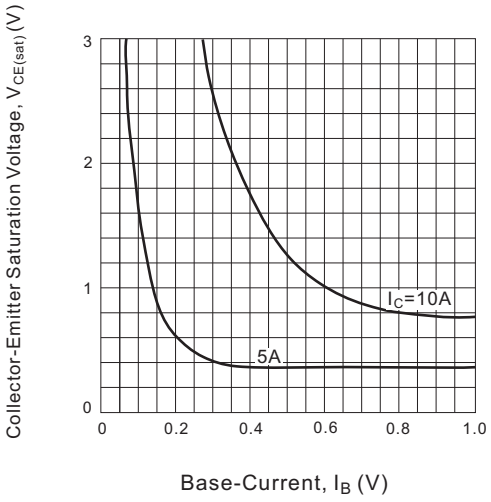


Fig.3 I_C-V_{BE} Temperature Characteristics (Typical)

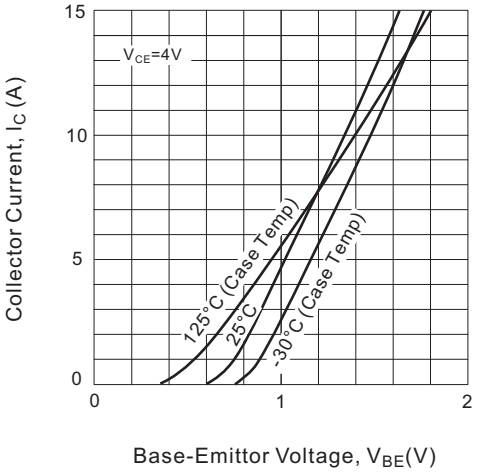


Fig.4 h_{FE}-I_C Characteristics (Typical)

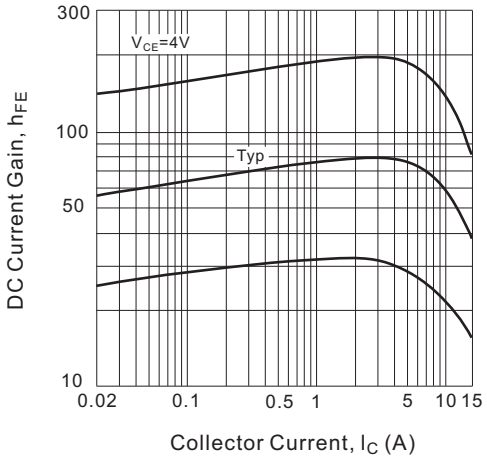


Fig.5 h_{FE}-I_C Temperature Characteristics (Typical)

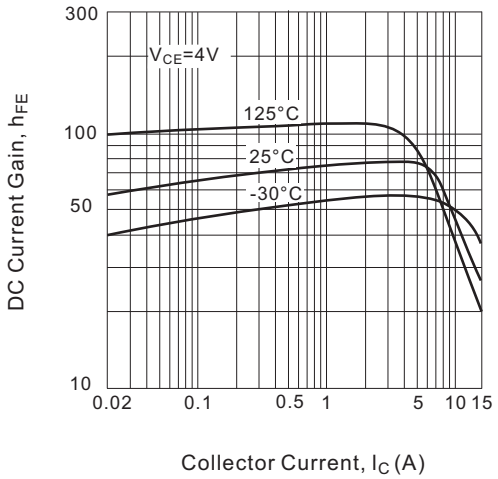


Fig.6 $R_{th(j-a)}$-t Characteristics

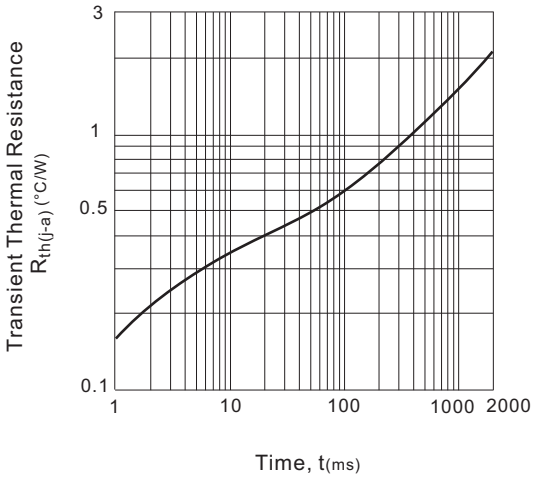


Fig.7 f_T-I_E Characteristics (Typical)

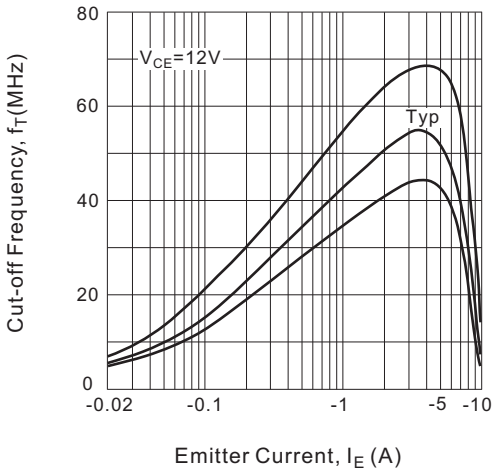


Fig.8 Safe Operating Area (Single Pulse)

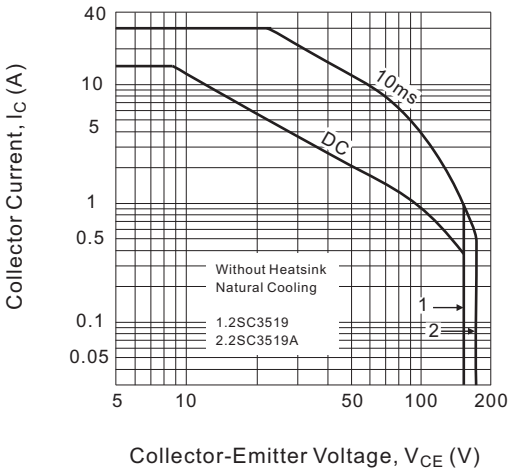


Fig.9 P_C-T_a Derating