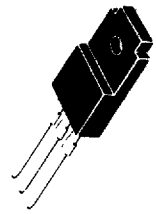
NPN
2SC3298B
PNP
2SA1306B

Complementary Silicon Power Transistors

- Designed for use as High Frequency Drivers in Audio Amplifiers
- High Gain, Identified with h_{FE} Classification Letter
- Excellent Frequency Response — f_T = 100 MHz

SILICON
POWER TRANSISTORS
1.5 AMPERES
200 VOLTS
20 WATTS



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MAXIMUM RATINGS (T_C = 25°C)

Rating	Symbol	Max	Unit
Collector-Base Voltage	V_{CBO}	200	V
Collector-Emitter Voltage	V_{CEO}	200	V
Emitter-Base Voltage	V_{EBO}	5.0	V
Collector Current	I_C	1.5	A
Base Current	I_B	0.15	A
Collector Power Dissipation (T_C = 25°C)	P_D	20	W
Junction Temperature	T_J	150	°C
Storage Temperature Range	T_{stg}	−55 to +150	°C

THERMAL CHARACTERISTICS

Characteristic	Symbol	Max	Unit
Thermal Resistance, Junction to Case	$R_{\theta JC}$	6.25	°C/W

ELECTRICAL CHARACTERISTICS (T_C = 25°C)

Characteristic	Symbol	Test Conditions	Min	Typ	Max	Unit
Collector Cutoff Current	I_{CBO}	V_{CB} = 160 V, I_E = 0	—	—	1.0	μA
Emitter Cutoff Current	I_{EBO}	V_{EB} = 5.0 V, I_C = 0	—	—	1.0	μA
Collector-Emitter Breakdown Voltage	$V_{(BR)CEO}$	I_C = 10 mA, I_B = 0	200	—	—	V
DC Current Gain	h_{FE}	V_{CE} = 5.0 V, I_C = 100 mA	70	—	240	—
Collector-Emitter Saturation Voltage	$V_{CE(sat)}$	I_C = 500 mA, I_B = 50 mA	—	—	1.5	V
Base-Emitter Voltage	V_{BE}	V_{CE} = 5.0 V, I_C = 500 mA	—		1.0	V
Current-Gain Bandwidth Product	f_T	V_{CE} = 10 V, I_C = 100 mA	—	100	—	MHz
Output Capacitance	C_{ob}	V_{CB} = 10 V, I_C = 0, f = 1.0 MHz	—	25	—	pF

NOTE: h_{FE} Classifications; O: 70 to 140 Y: 120 to 240. Units may not be ordered by h_{FE} classification.

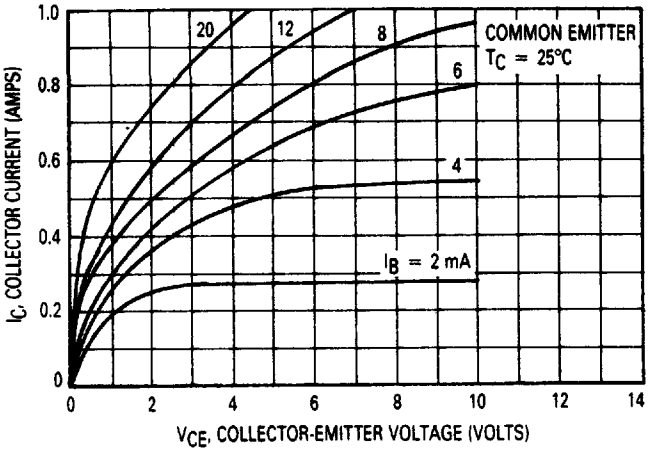


Figure 1. On-Region Characteristics

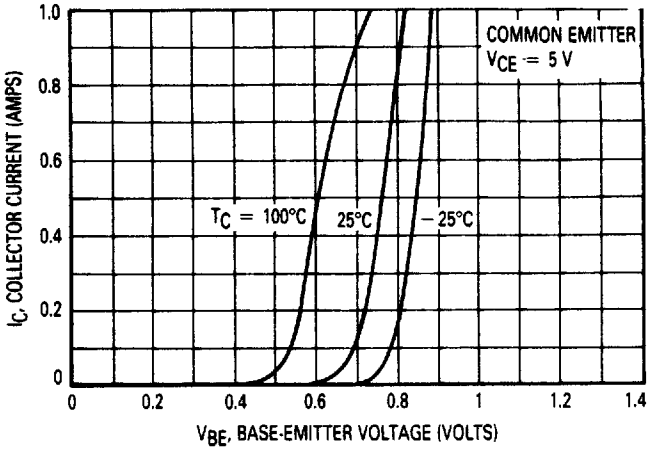


Figure 2. Base-Emitter Voltage

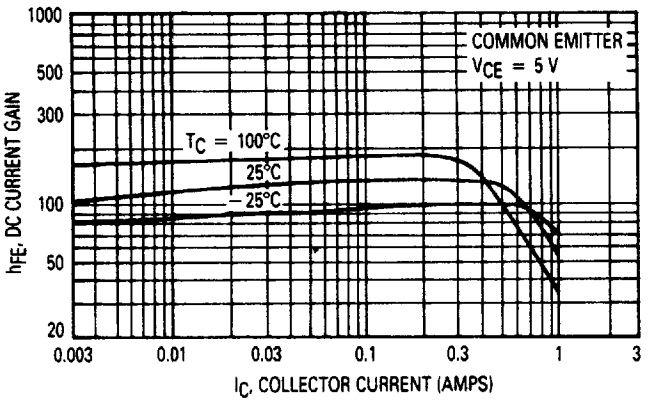


Figure 3. DC Current Gain

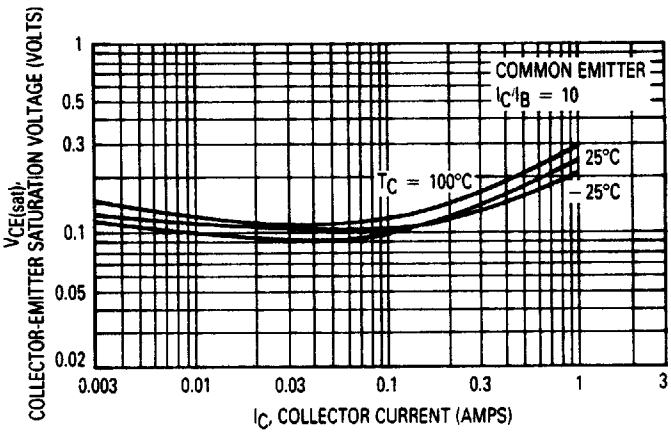


Figure 4. "On" Voltage versus Collector Current

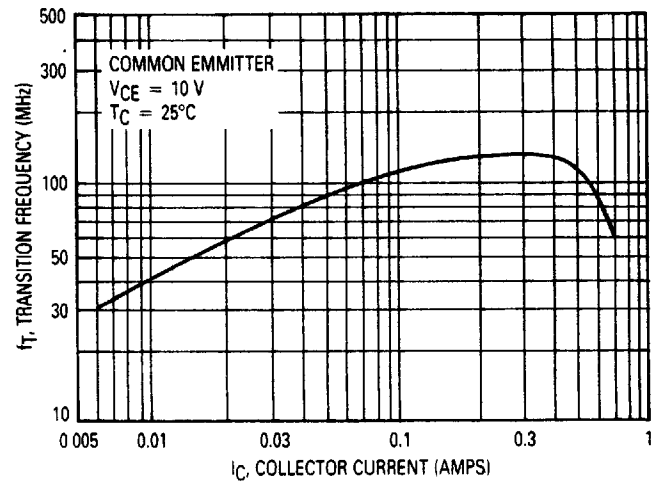


Figure 5. Current-Gain Bandwidth Product

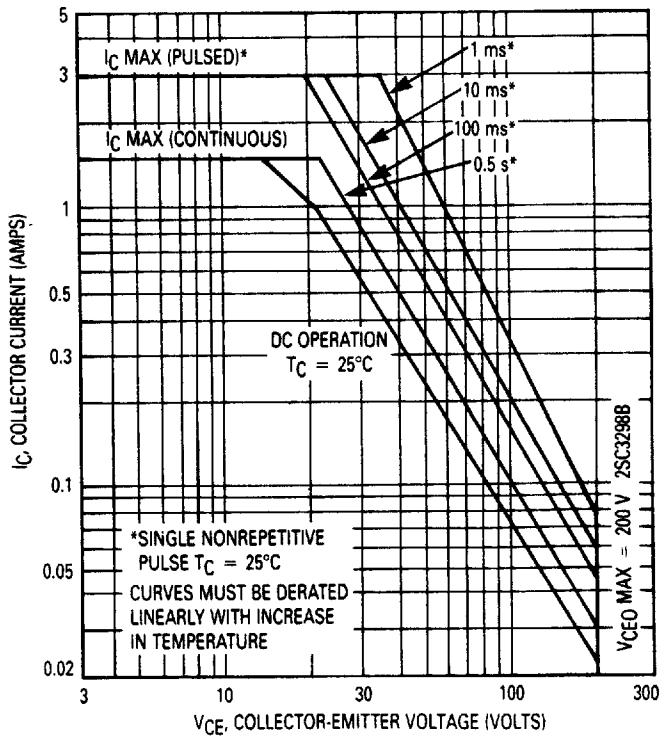


Figure 6. Maximum Forward Bias Safe Operating Area

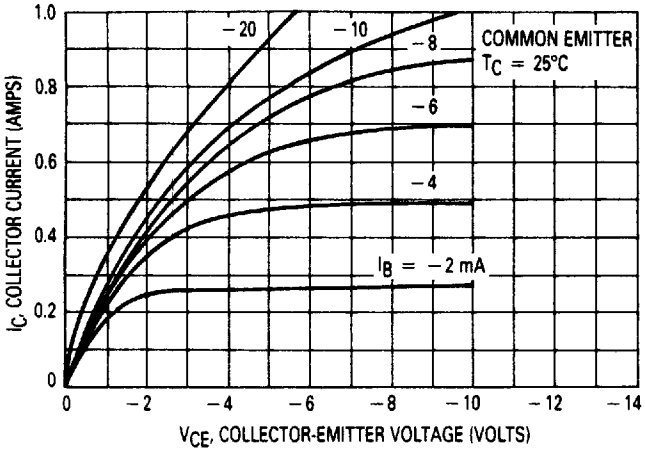


Figure 7. On-Region Characteristics

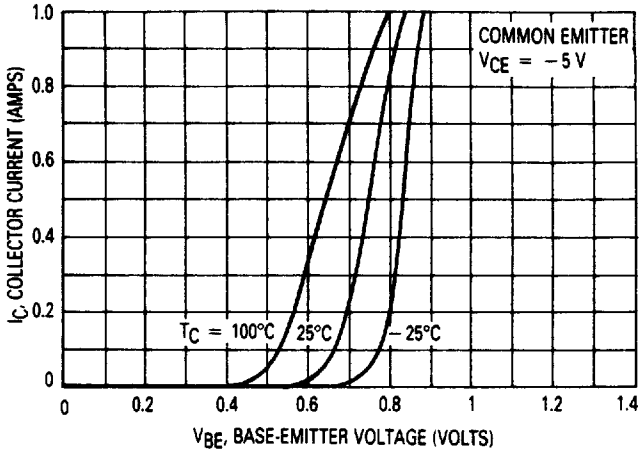


Figure 8. Base-Emitter Voltage

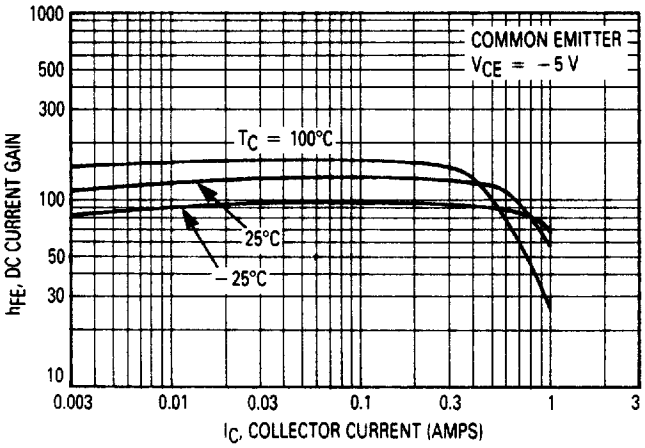


Figure 9. DC Current Gain

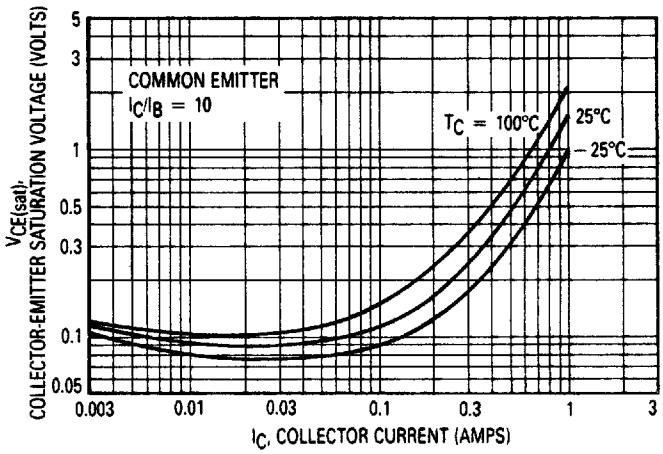


Figure 10. "On" Voltage versus Collector Current

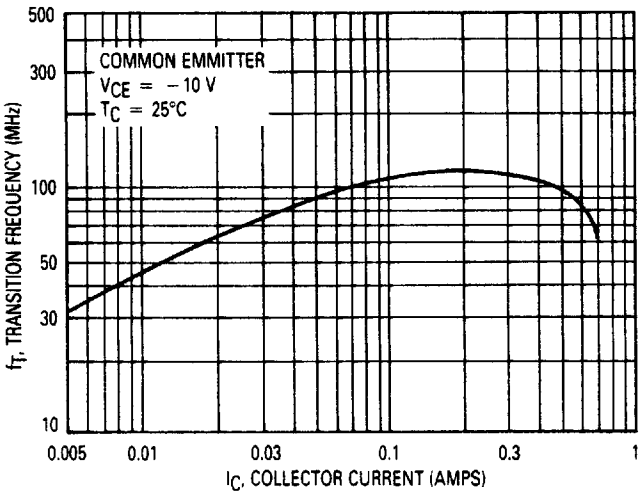


Figure 11. Current-Gain Bandwidth Product

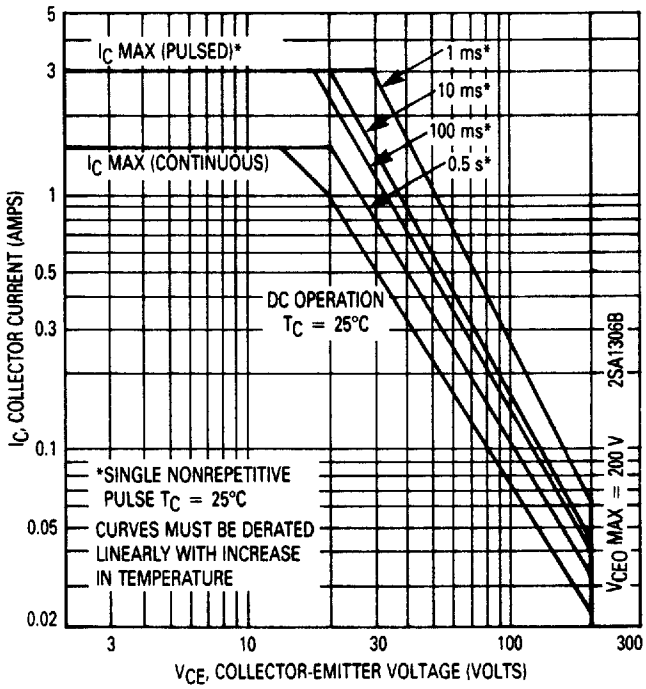
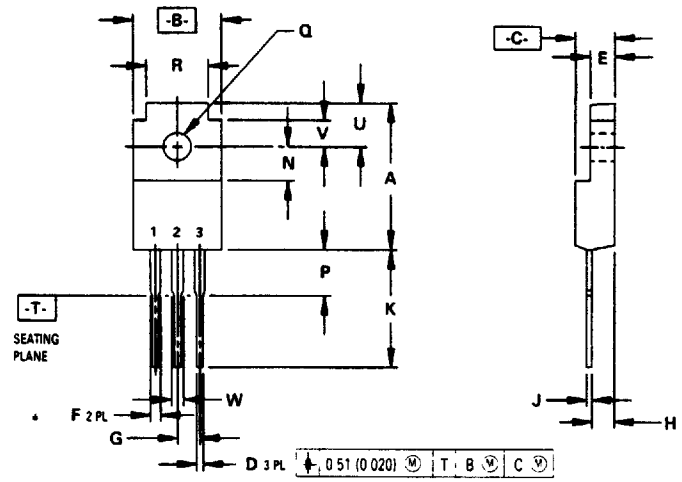


Figure 12. Maximum Forward Bias Safe Operating Area

OUTLINE DIMENSIONS



STYLE 1
PIN 1 BASE
2 COLLECTOR
3. EMITTER

NOTES
1. DIMENSIONING AND TOLERANCING PER ANSI Y14.5M, 1982.
2. CONTROLLING DIMENSION: MILLIMETER.

	MILLIMETERS		INCHES	
DIM	MIN	MAX	MIN	MAX
A	16.7	17.3	0.657	0.681
B	9.7	10.3	0.382	0.406
C	4.3	4.7	0.169	0.185
D	0.61	1.01	0.024	0.040
E	2.6	3.0	0.102	0.118
F	0.9	1.5	0.035	0.059
G	2.54 BSC		0.100 BSC	
H	2.4	2.8	0.094	0.110
J	0.4	0.75	0.015	0.030
K	13.4	—	0.528	—
N	3.7	4.1	0.146	0.161
P	5.0	5.6	0.197	0.220
Q	3.0	3.4	0.118	0.134
R	6.8	7.2	0.267	0.283
U	4.8	5.2	0.189	0.205
V	2.9	3.3	0.114	0.130
W	1.1	1.7	0.043	0.067

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Literature Distribution Centers:

USA: Motorola Literature Distribution; P.O. Box 20912; Phoenix, Arizona 85036.
EUROPE: Motorola Ltd.; European Literature Center; 88 Tanners Drive, Blakelands, Milton Keynes, MK14 5BP, England.
JAPAN: Nippon Motorola Ltd.; 4-32-1, Nishi-Gotanda, Shinagawa-ku, Tokyo 141 Japan.
ASIA-PACIFIC: Motorola Semiconductors H.K. Ltd.; Silicon Harbour Center, No. 2 Dai King Street, Tai Po Industrial Estate, Tai Po, N.T., Hong Kong.