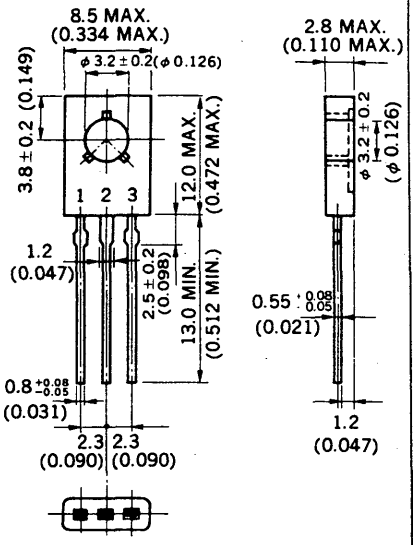
NEC

PNP SILICON POWER TRANSISTOR
2SA1486

DESCRIPTION The 2SA1486 is designed for use in high speed and high voltage switching.
It is suitable for switching regulators, DC-DC converters and ultrasonic appliance applications.

FEATURES
- High speed switching
- High Voltage

PACKAGE DIMENSIONS
in millimeters (inches)



1. Emitter
2. Collector connected to mounting plane
3. Base

ABSOLUTE MAXIMUM RATINGS

Maximum Temperatures
- Storage Temperature . . . . . −55 to +150 °C
- Junction Temperature . . . . . 150 °C Maximum

Maximum Power Dissipation (T_C = 25 °C)
- Total Power Dissipation . . . . . 15 W

Maximum Voltage and Currents (T_a = 25 °C)

V_{CBO}	Collector to Base Voltage	−600	V
V_{CEO}	Collector to Emitter Voltage . .	−600	V
V_{EBO}	Emitter to Base Voltage	−7.0	V
$I_{C(DC)}$	Collector Current (DC)	−1.0	A
$I_{C(pulse)}$	Collector Current (Pulse)* . . .	−2.0	A

*PW ≦ 300 μs, Duty Cycle ≦ 10 %

ELECTRICAL CHARACTERISTICS (T_a = 25 °C)

SYMBOL	CHARACTERISTIC	MIN.	TYP.	MAX.	UNIT	TEST CONDITIONS
t_{on}	Turn On Time		0.1	0.5	μs	I_C = −0.5 A, I_{B1} = −I_{B2} = −0.1 A R_L = 500 Ω, V_{CC} ≒ −250 V
t_{stg}	Storage Time		3.5	5.0	μs	
t_f	Fall Time		0.08	0.5	μs	
h_{FE1}**	DC Current Gain	30		120	−	V_{CE} = −5.0 V, I_C = −0.1 A
h_{FE2}**	DC Current Gain	5			−	V_{CE} = −5.0 V, I_C = −0.5 A
$V_{CE(sat)}$**	Collector Saturation Voltage			−1.0	V	I_C = −0.3 A, I_B = −0.06 A
$V_{BE(sat)}$**	Base Saturation Voltage			−1.2	V	I_C = −0.3 A, I_B = −0.06 A
I_{CBO}	Collector Cutoff Current			−10	μA	V_{CB} = −600 V, I_E = 0
I_{EBO}	Emitter Cutoff Current			−10	μA	V_{EB} = −7.0 V, I_C = 0

** Pulsed: PW ≦ 350 μs, Duty Cycle ≦ 2 %

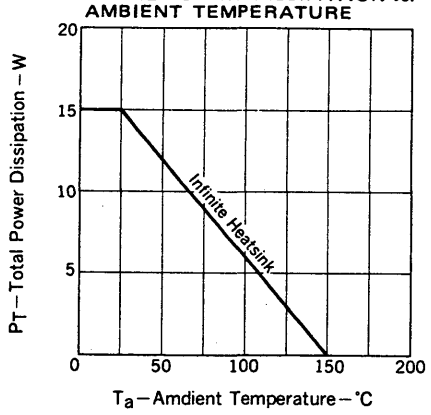
Classification of h_{FE1}

Rank	M	L	K
Range	30 to 60	40 to 80	60 to 120

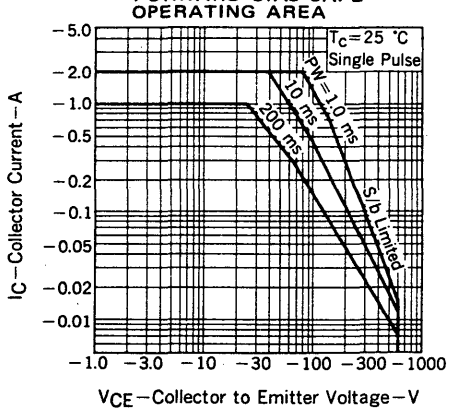
Test Conditions: V_{CE} = −5.0 V, I_C = −0.1 A

TYPICAL CHARACTERISTICS (T_a = 25 °C)

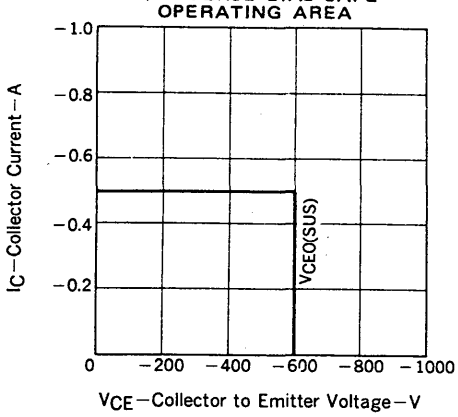
TOTAL POWER DISSIPATION vs. AMBIENT TEMPERATURE



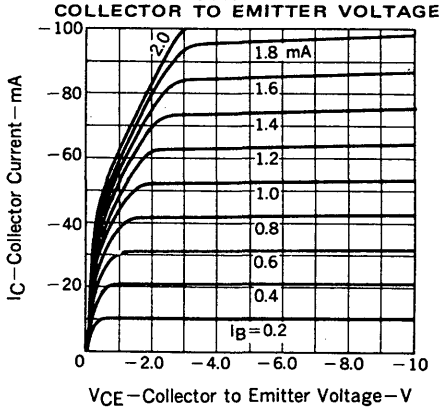
FORWARD BIAS SAFE OPERATING AREA



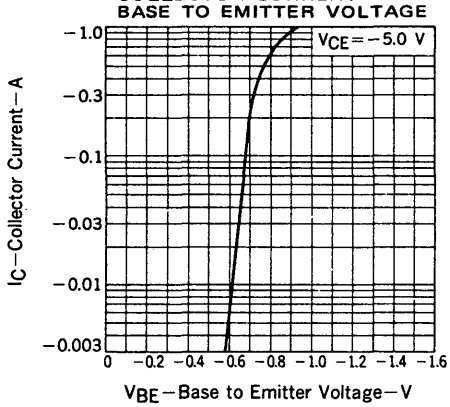
REVERSE BIAS SAFE OPERATING AREA



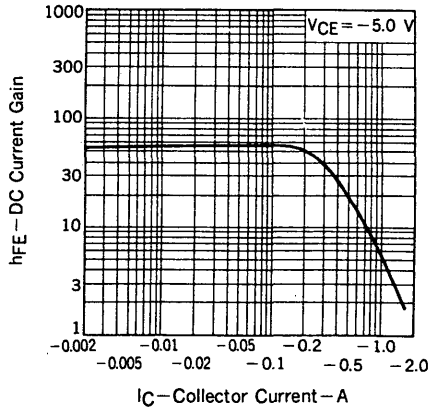
COLLECTOR CURRENT vs. COLLECTOR TO EMITTER VOLTAGE



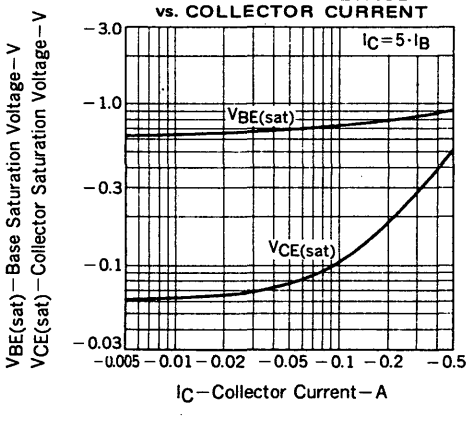
COLLECTOR CURRENT vs. BASE TO EMITTER VOLTAGE



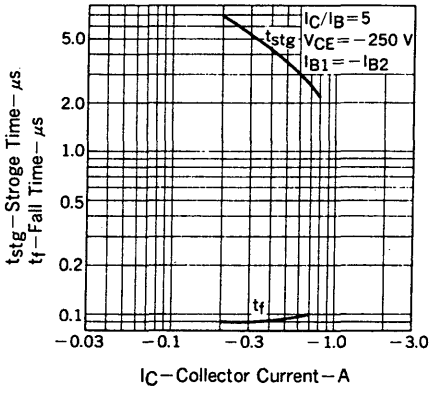
DC CURRENT GAIN vs. COLLECTOR CURRENT



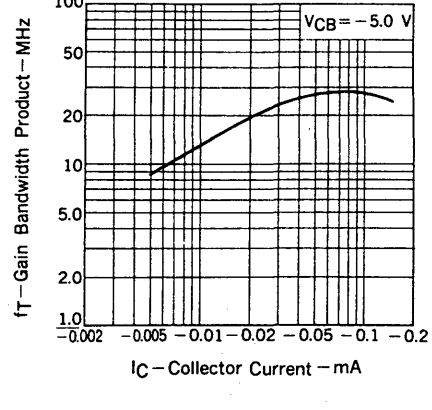
COLLECTOR AND BASE SATURATION VOLTAGE vs. COLLECTOR CURRENT



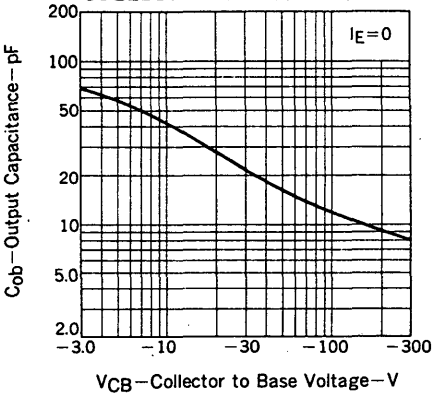
TURN OFF TIME vs. COLLECTOR CURRENT



GAIN BANDWIDTH PRODUCT vs. COLLECTOR CURRENT



OUTPUT CAPACITANCE vs.
COLLECTOR TO BASE VOLTAGE



TRANSIENT THERMAL RESISTANCE