RENESAS

SILICON TRANSISTOR 2SC3618

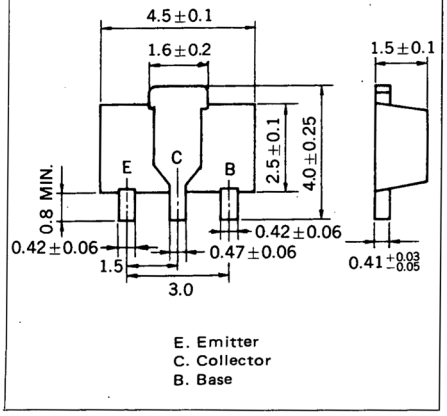
Phase-out/Discontinued

NPN SILICON EPITAXIAL TRANSISTOR POWER MINI MOLD

DESCRIPTION

2SC3618 is designed for audio frequency power amplifier and switching application, especially in Hybrid Integrated Circuits.

PACKAGE DIMENSIONS
in millimeters



FEATURE

- High DC Current Gain h_{FE} = 800 to 3200

ABSOLUTE MAXIMUM RATINGS (T_A = 25 °C)

Collector to Base Voltage	V_{CBO}	25	V
Collector to Emitter Voltage	V_{CEO}	25	V
Emitter to Base Voltage	V_{EBO}	15	V
Collector Current (DC)	$I_{C(DC)}$	0.7	A
Collector Current (Pulse)*	$I_{C(Pulse)}$	1.0	A
Total Power Dissipation**	P_T	2.0	W
Junction Temperature	T_j	150	°C
Storage Temperature Range	T_{stg}	−55 to +150	°C

*PW ≦ 10 ms, Duty Cycle ≦ 50 %
**When mounted on ceramic substrate of 16 cm² x 0.7 mm

ELECTRICAL CHARACTERISTICS (T_A = 25 °C)

CHARACTERISTIC	SYMBOL	MIN.	TYP.	MAX.	UNIT	TEST CONDITIONS
Collector Cutoff Current	I_{CBO}			100	nA	V_{CB} = 25 V, I_E = 0
Emitter Cutoff Current	I_{EBO}			100	nA	V_{EB} = 10 V, I_C = 0
DC Current Gain	h_{FE1} ***	800		3200		V_{CE} = 2.0 V, I_C = 300 mA
DC Current Gain	h_{FE2} ***	640				V_{CE} = 2.0 V, I_C = 500 mA
Collector Saturation Voltage	$V_{CE(sat)}$ ***		0.16	0.3	V	I_C = 300 mA, I_B = 3.0 mA
Base Saturation Voltage	$V_{BE(sat)}$ ***		0.75	1.2	V	I_C = 300 mA, I_B = 3.0 mA
Gain Bandwidth Product	f_T	150	250		MHz	V_{CE} = 5.0 V, I_E = −300 mA
Output Capacitance	C_{ob}		10		pF	V_{CB} = 10 V, I_E = 0, f = 1.0 MHz
Turn-on Time	t_{on}		0.13		μs	V_{CC} = 10 V, $V_{BE(off)}$ ≒ −2.7 V
Turn-off Time	t_{off}		1.1		μs	I_C = 200 mA, I_{B1} = −I_{B2} = 4 mA

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

h_{FE} Classification

MARKING	UM	UL	UK
h_{FE1}	800 to 1600	1200 to 2400	2000 to 3200

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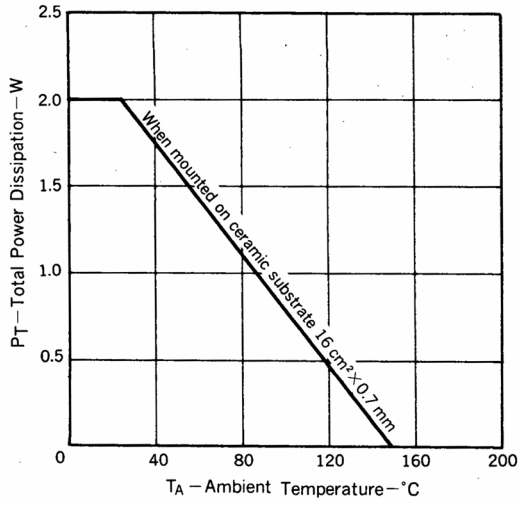
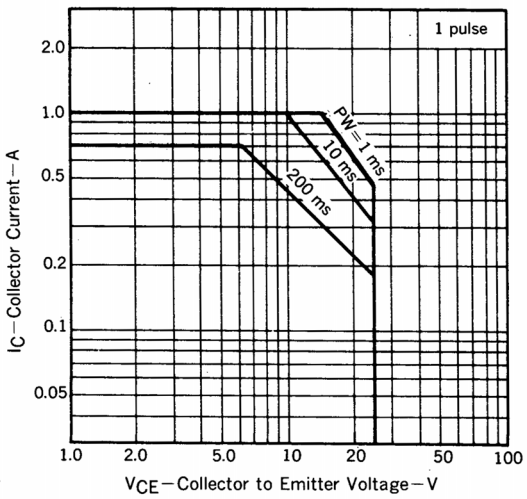
TYPICAL CHARACTERISTICS (T_A = 25°C)

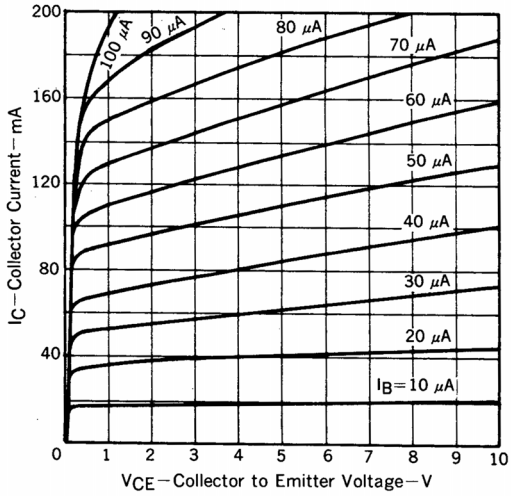
TOTAL POWER DISSIPATION vs. AMBIENT TEMPERATURE



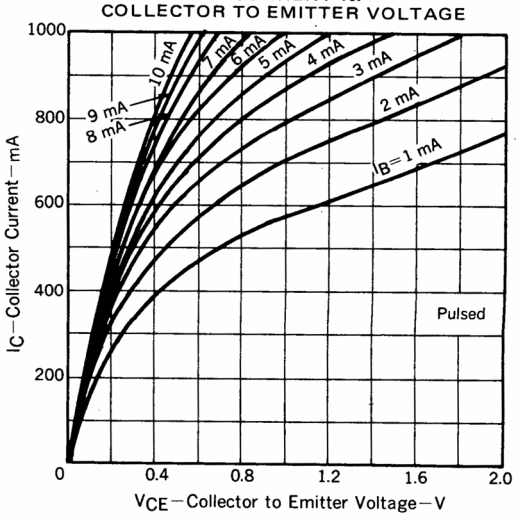
SAFE OPERATING AREA



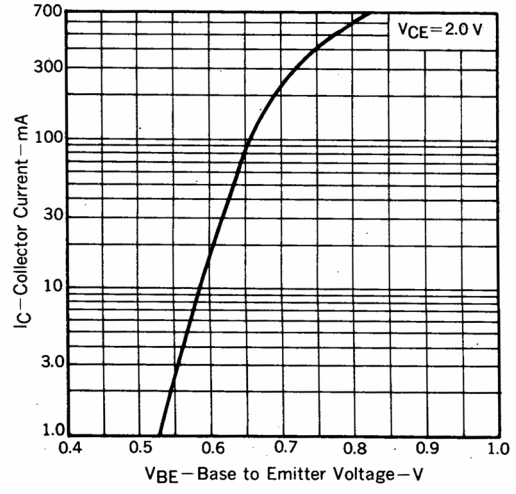
COLLECTOR CURRENT vs. COLLECTOR TO EMITTER VOLTAGE



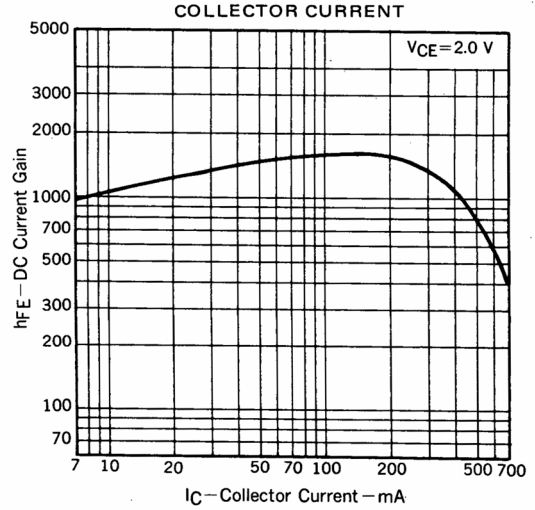
COLLECTOR CURRENT vs. COLLECTOR TO EMITTER VOLTAGE



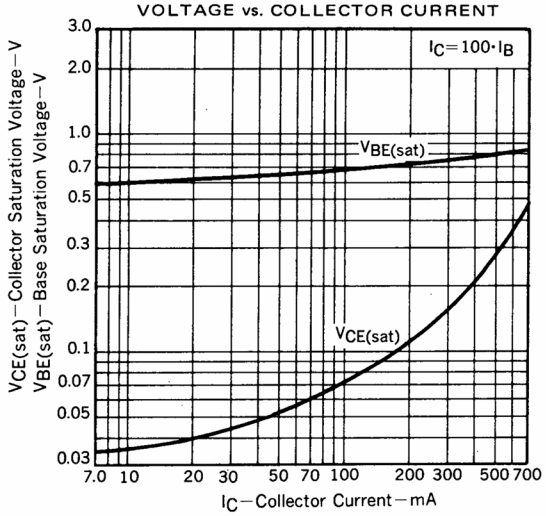
COLLECTOR CURRENT vs. BASE TO EMITTER VOLTAGE



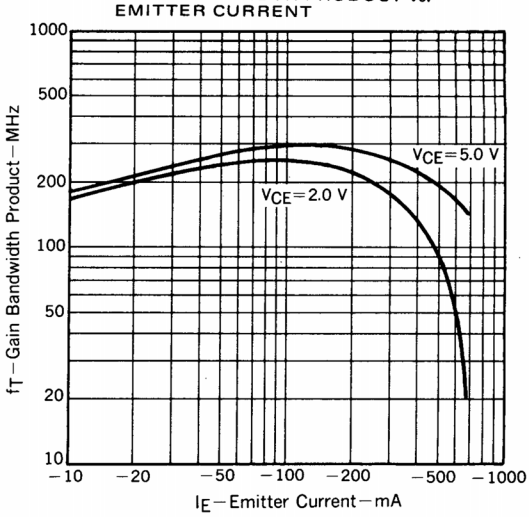
DC CURRENT GAIN vs. COLLECTOR CURRENT



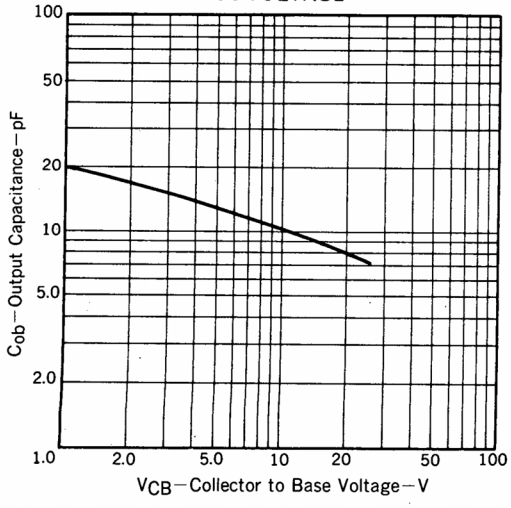
BASE AND COLLECTOR SATURATION VOLTAGE vs. COLLECTOR CURRENT



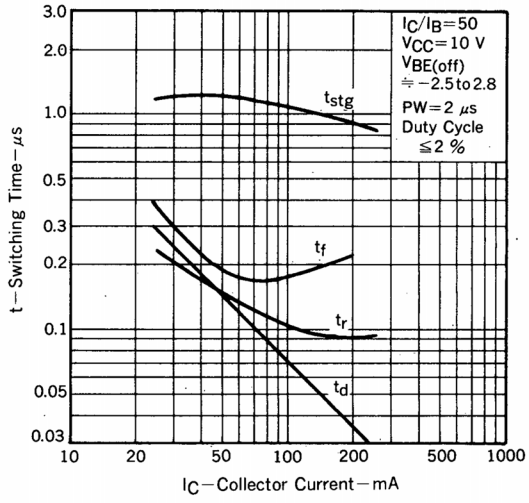
GAIN BANDWIDTH PRODUCT vs. EMITTER CURRENT



OUTPUT CAPACITANCE vs. REVERSE VOLTAGE



SWITCHING TIME vs. COLLECTOR CURRENT



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