

To our customers,

Old Company Name in Catalogs and Other Documents

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Renesas Electronics website: <http://www.renesas.com>

April 1st, 2010
Renesas Electronics Corporation

Issued by: Renesas Electronics Corporation (<http://www.renesas.com>)

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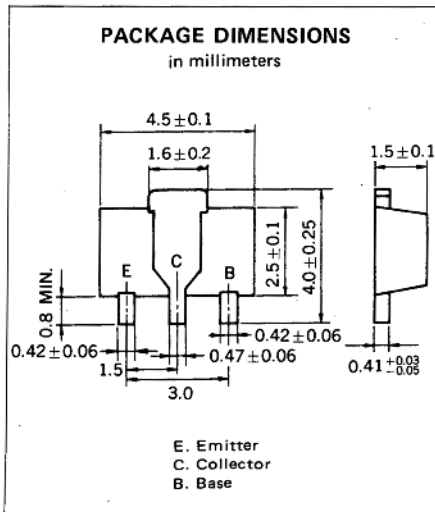
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NPN SILICON EPITAXIAL TRANSISTOR
POWER MINI MOLD

DESCRIPTION

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



FEATURE

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

ABSOLUTE MAXIMUM RATINGS ($T_A = 25^\circ\text{C}$)

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)	$I_C(\text{DC})$	0.7	A
Collector Current (Pulse)*	$I_C(\text{Pulse})$	1.0	A
Total Power Dissipation**	P_T	2.0	W
Junction Temperature	T_j	150	$^\circ\text{C}$
Storage Temperature Range	T_{stg}	-55 to +150	$^\circ\text{C}$

* $PW \leq 10$ ms, Duty Cycle ≤ 50 %

**When mounted on ceramic substrate of $16\text{ cm}^2 \times 0.7$ mm

ELECTRICAL CHARACTERISTICS ($T_A = 25^\circ\text{C}$)

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

***Pulsed: $PW \leq 350\ \mu\text{s}$, Duty Cycle ≤ 2 %

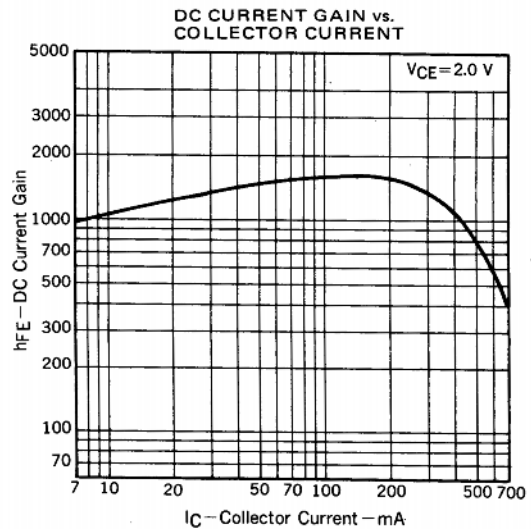
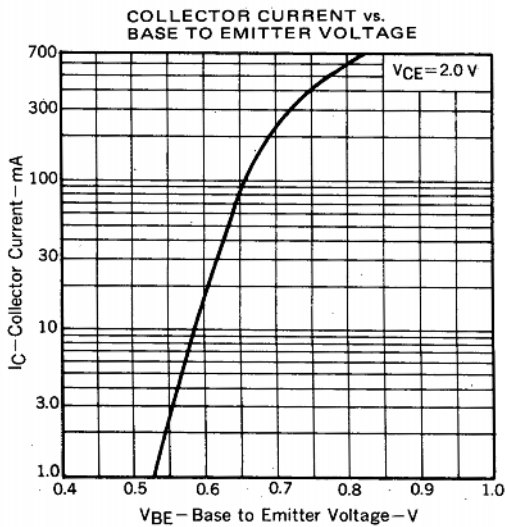
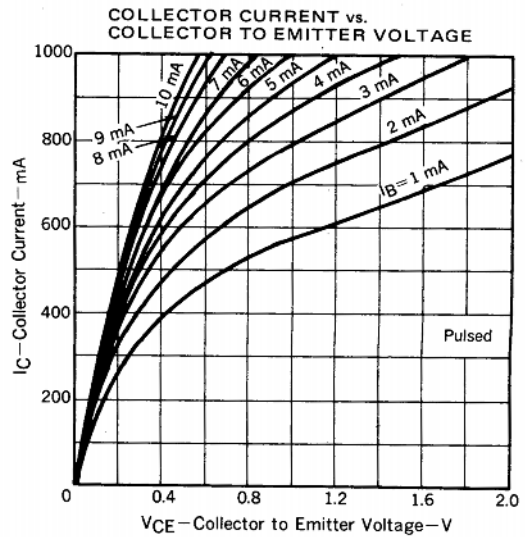
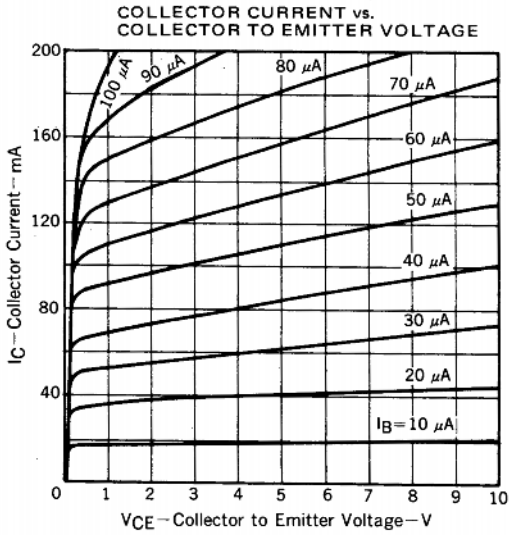
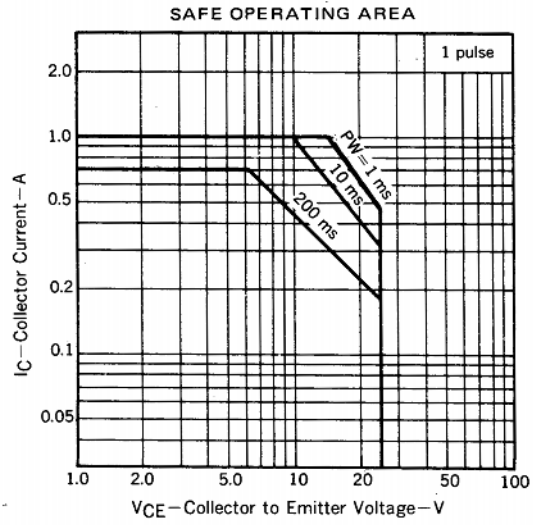
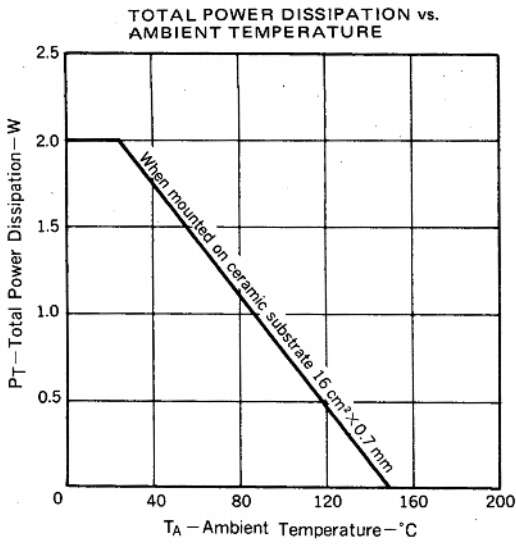
h_{FE} Classification

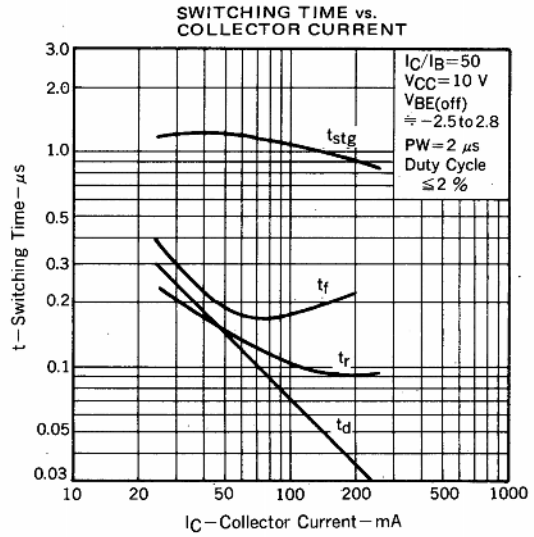
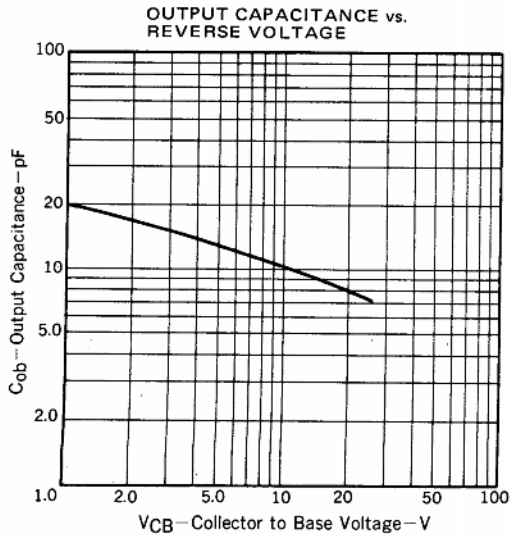
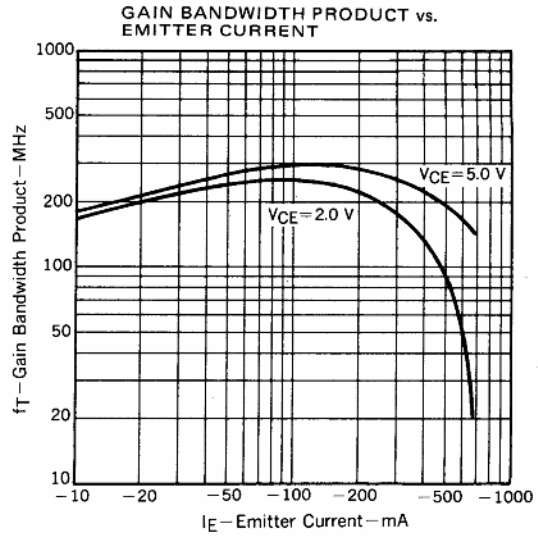
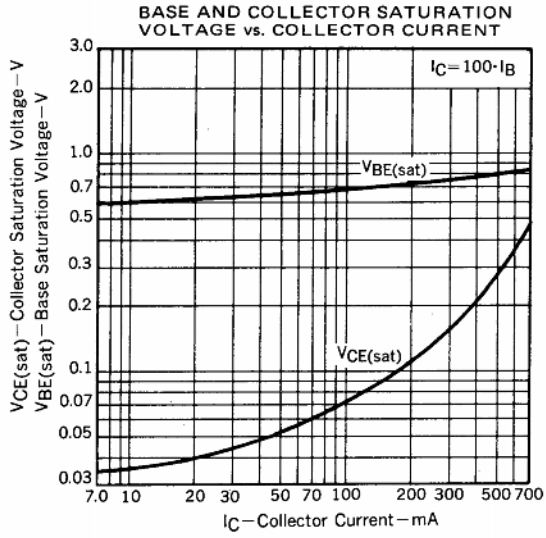
MARKING	UM	UL	UK
h_{FE1}	800 to 1600	1200 to 2400	2000 to 3200

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