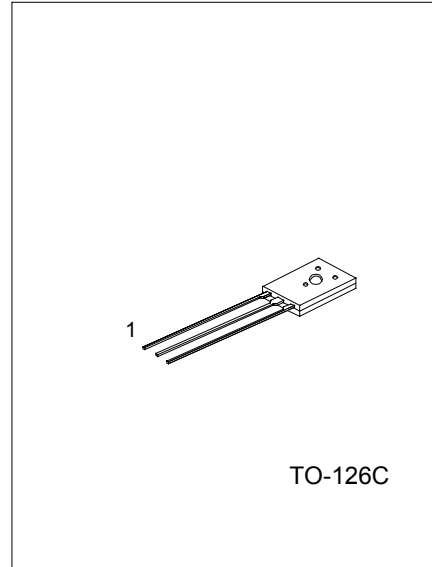


**BIPOLAR POWER GENERAL  
PURPOSE TRANSISTOR**

**APPLICATIONS**

\* Low frequency power amplifier complementary pair with  
UTC 2SB649/A



1:EMITTER 2:COLLECTOR 3:BASE

**ABSOLUTE MAXIMUM RATINGS** (Ta=25°C, unless otherwise specified)

PARAMETER	SYMBOL	RATING	UNIT
Collector-base voltage	V <sub>CB0</sub>	180	V
Collector-emitter voltage	V <sub>CEO</sub>		V
2SD669		120	
2SD669A		160	
Emitter-base voltage	V <sub>EBO</sub>	5	V
Collector current	I <sub>c</sub>	1.5	A
Collector peak current	I <sub>c(peak)</sub>	3	A
Collector power dissipation	P <sub>c</sub>	1	W
Collector power dissipation (T <sub>c</sub> =25°C)	P <sub>c</sub>	20	W
Junction Temperature	T <sub>j</sub>	150	°C
Storage Temperature	T <sub>STG</sub>	-55 ~ +150	°C

**ELECTRICAL CHARACTERISTICS** (Ta=25°C, unless otherwise specified)

PARAMETER	SYMBOL	TEST CONDITIONS	MIN	TYP	MAX	UNIT
Collector to bse breakdown voltage	V <sub>(BR)CBO</sub>	I <sub>c</sub> =1mA, I <sub>E</sub> =0	180			V
Collector to emitter breakdown voltage	V <sub>(BR)CEO</sub>	I <sub>c</sub> =10mA, R <sub>BE</sub> =∞				V
2SD669			120			
2SD669A			160			
Emitter to base breakdown voltage	V <sub>(BR)EBO</sub>	I <sub>E</sub> =1mA, I <sub>c</sub> =0	5			V
Collector cut-off current	I <sub>CBO</sub>	V <sub>CB</sub> =160V, I <sub>E</sub> =0			10	μA
DC current gain	h <sub>FE1</sub> h <sub>FE2</sub>	V <sub>CE</sub> =5V, I <sub>c</sub> =150mA (note) V <sub>CE</sub> =5V, I <sub>c</sub> =500mA (note)	60 30		320	
Collector-emitter saturation voltage	V <sub>CE(sat)</sub>	I <sub>c</sub> =600mA, I <sub>B</sub> =50mA (note)			1	V
Base-emitter voltage	V <sub>BE</sub>	V <sub>CE</sub> =5V, I <sub>c</sub> =150mA (note)			1.5	V

# UTC 2SD669/A

# NPN EPITAXIAL SILICON TRANSISTOR

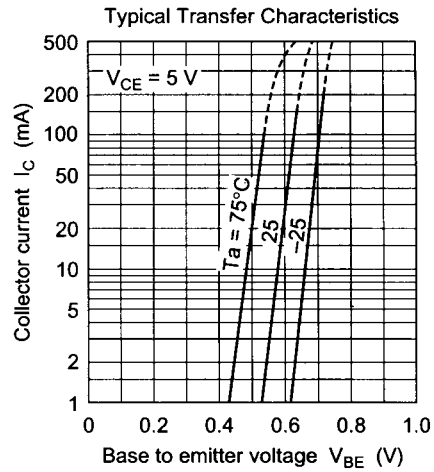
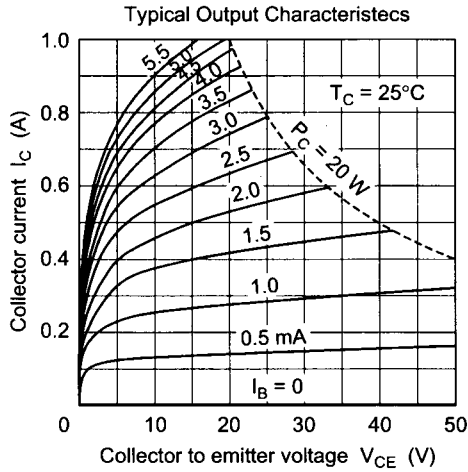
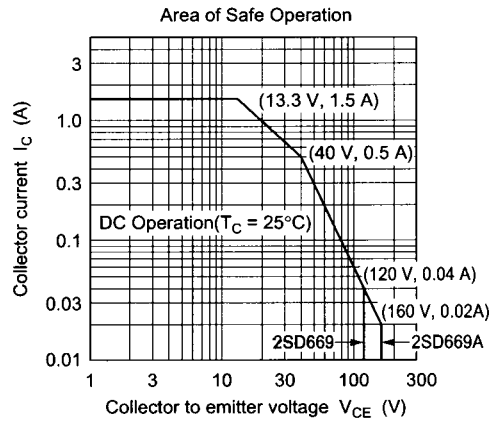
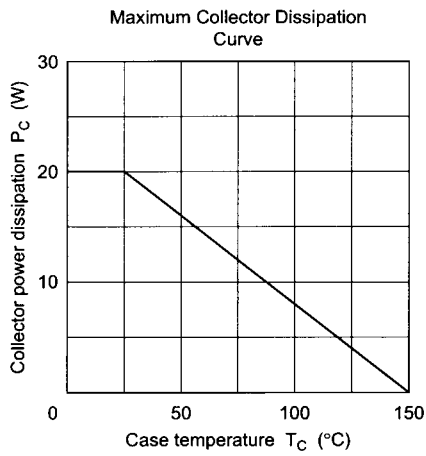
PARAMETER	SYMBOL	TEST CONDITIONS	MIN	TYP	MAX	UNIT
Current gain bandwidth product	$f_T$	$V_{CE}=5V, I_C=150mA$ (note)		140		MHz
Output capacitance	$C_{ob}$	$V_{CB}=10V, I_E=0, f=1MHz$		14		pF

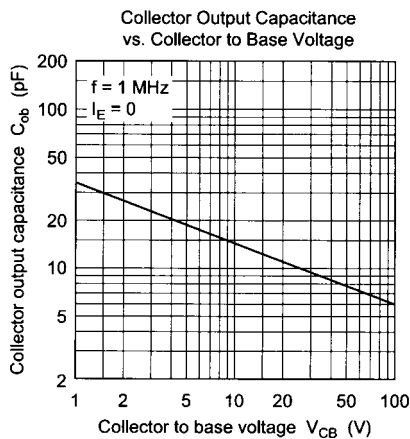
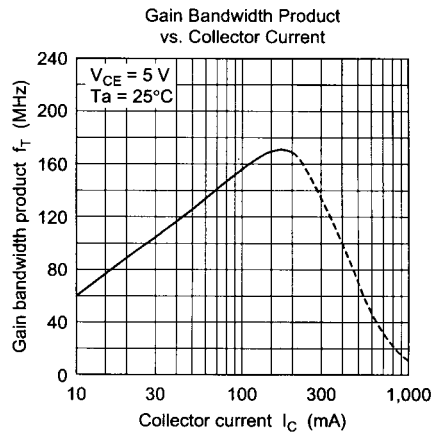
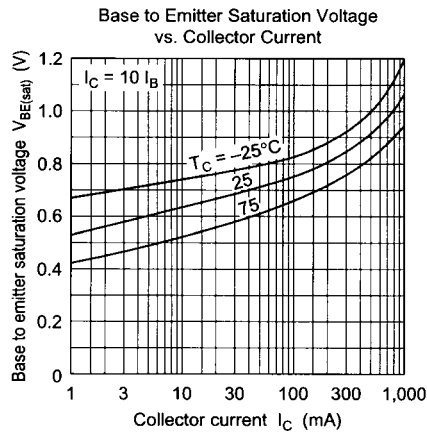
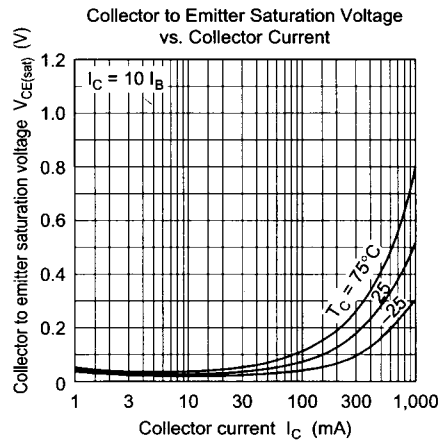
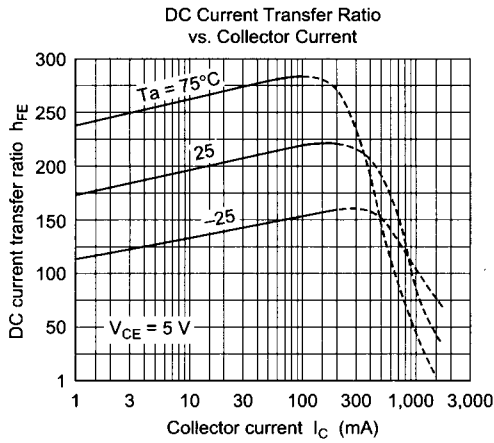
Note: Pulse test.

## CLASSIFICATION OF $h_{FE1}$

RANK	B	C	D
RANGE	60-120	100-200	160-320

## TYPICAL PARAMETERS PERFORMANCE





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