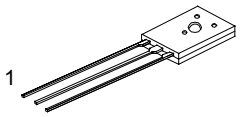
UTC 2SD669/A NPN EPITAXIAL SILICON TRANSISTOR

BIPOLAR POWER GENERAL PURPOSE TRANSISTOR

APPLICATIONS

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



TO-126

1:EMITTER 2:COLLECTOR 3:BASE

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

PARAMETER	SYMBOL	RATING	UNIT
Collector-base voltage	V_{CBO}	180	V
Collector-emitter voltage	V_{CEO}		V
2SD669		120	
2SD669A		160	
Emitter-base voltage	V_{EBO}	5	V
Collector current	Ic	1.5	A
Collector peak current	$I_{C(peak)}$	3	A
Collector power dissipation	Pc	1	W
Collector power dissipation (T_C=25°C)	Pc	20	W
Junction Temperature	T_j	150	°C
Storage Temperature	T_{STG}	-55 ~ +150	°C

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

PARAMETER	SYMBOL	TEST CONDITIONS	MIN	TYP	MAX	UNIT
Collector to bse breakdown voltage	$V_{(BR)CBO}$	I_C=1mA, I_E=0	180			V
Collector to emitter breakdown voltage	$V_{(BR)CEO}$	I_C=10mA, R_{BE}=∞				V
2SD669			120			
2SD669A			160			
Emitter to base breakdown voltage	$V_{(BR)EBO}$	I_E=1mA, I_C=0	5			V
Collector cut-off current	I_{CBO}	V_{CB}=160V, I_E=0			10	μA
DC current gain	h_{FE1}	V_{CE}=5V, Ic=150mA (note)	60		320	
	h_{FE2}	V_{CE}=5V, Ic=500mA (note)	30			
Collector-emitter saturation voltage	V_{CE}(sat)	Ic=600mA, I_B=50mA (note)			1	V
Base-emitter voltage	V_{BE}	V_{CE}=5V, Ic=150mA (note)			1.5	V

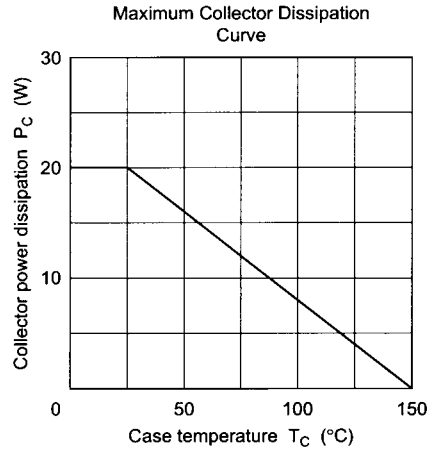
PARAMETER	SYMBOL	TEST CONDITIONS	MIN	TYP	MAX	UNIT
Current gain bandwidth product	f_T	V_{CE}=5V,Ic=150mA (note)		140		MHz
Output capacitance	Cob	V_{CB}=10V, I_E=0, f=1MHz		14		pF

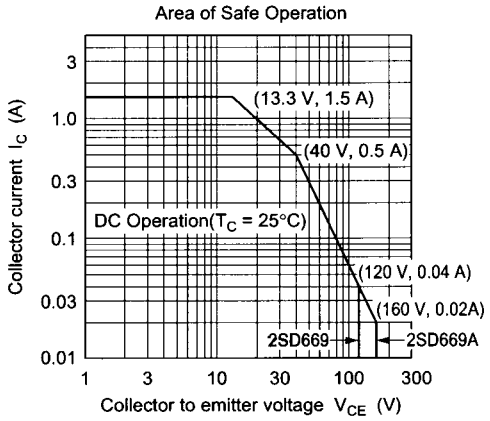
Note: Pulse test.

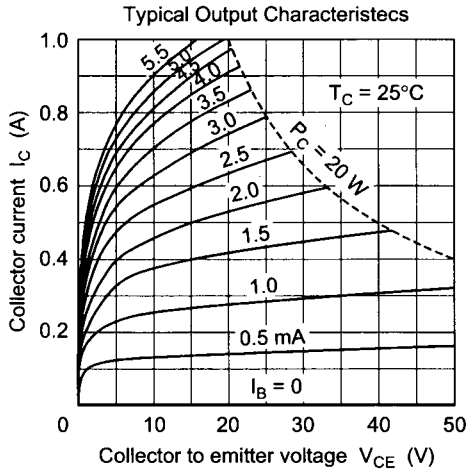
CLASSIFICATION OF h_{FE1}

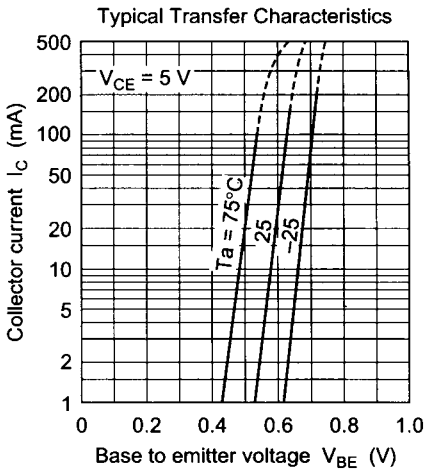
RANK	B	C	D
RANGE	60-120	100-200	160-320

TYPICAL PARAMETERS PERFORMANCE

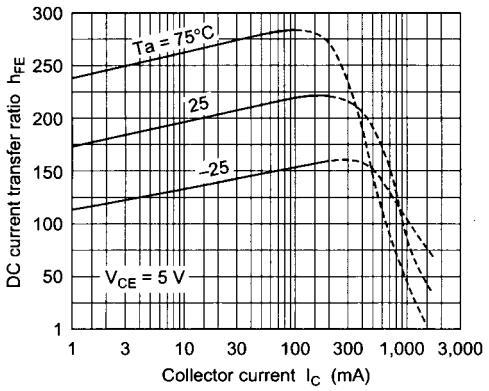




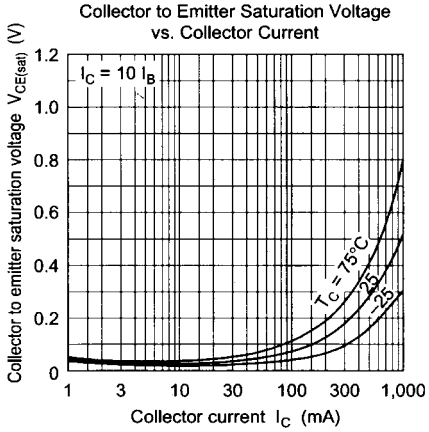




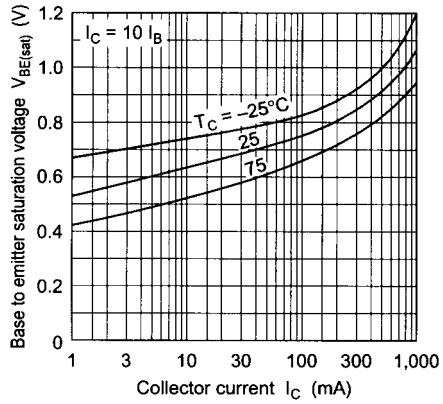
DC Current Transfer Ratio
vs. Collector Current



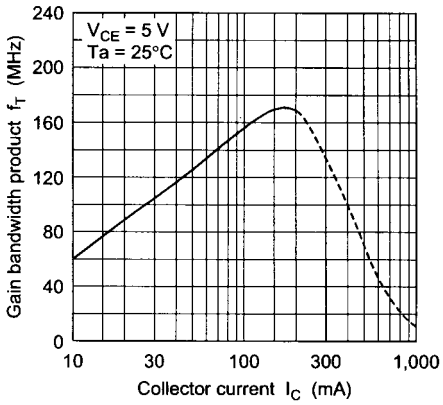
Collector to Emitter Saturation Voltage
vs. Collector Current



Base to Emitter Saturation Voltage
vs. Collector Current



Gain Bandwidth Product
vs. Collector Current



Collector Output Capacitance
vs. Collector to Base Voltage