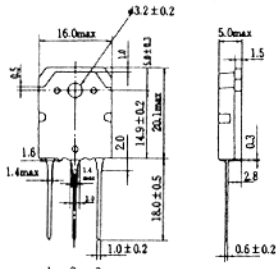
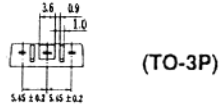
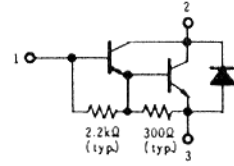


2SD1435 (K)

SILICON NPN EPITAXIAL
 LOW FREQUENCY POWER AMPLIFIER
 HIGH CURRENT SWITCHING
 COMPLEMENTARY PAIR WITH 2SB1031 (K)



- 1. Base
- 2. Collector
(Flange)
- 3. Emitter
(Dimensions in mm)

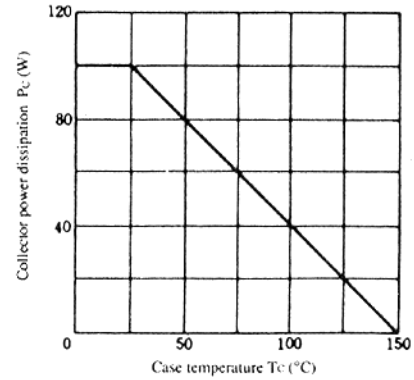


Absolute Maximum Ratings (Ta=25°C)

Item	Symbol	2SD1435 (K)	Unit
Collector to base voltage	V _{CB0}	100	V
Collector to emitter voltage	V _{CE0}	100	V
Emitter to base voltage	V _{EB0}	7	V
Collector current	I _C	15	A
Collector peak current	i _{c(peak)}	20	A
Base current	I _B	3	A
Collector power dissipation	P _{C*}	100	W
Junction temperature	T _j	150	°C
Storage temperature	T _{sig}	-55 to +150	°C

* Value at T_C = 25°C.

Maximum Collector Dissipation Curve



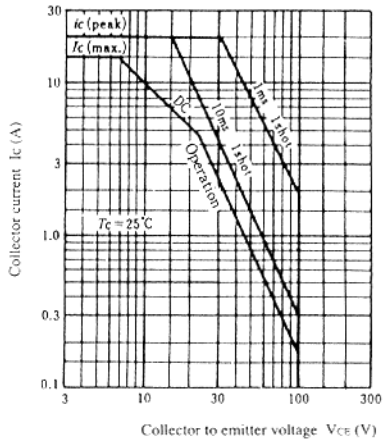
Electrical Characteristics (Ta=25°C)

Item	Symbol	Test Condition	min.	typ.	max.	Unit
Collector to emitter breakdown voltage	V _{(BR)CEO}	I _C = 1mA, R _{BE} = ∞	100	—	—	V
Emitter to base breakdown voltage	V _{(BR)EBO}	I _E = 50mA, I _C = 0	7	—	—	V
Collector to emitter sustain voltage	V _{CE0(sus)}	I _C = 200mA, R _{BE} = ∞*	100	—	—	V
Collector cutoff current	I _{CB0}	V _{CB} = 100V, I _E = 0	—	—	100	μA
	I _{CEO}	V _{CE} = 80V, R _{BE} = ∞	—	—	1.0	μA
DC current transfer ratio	h _{FE}	V _{CE} = 3V, I _C = 8A*	1000	—	20000	
Collector to emitter saturation voltage	V _{CE(sat)1}	I _C = 8A, I _B = 16mA*	—	—	2.0	V
Base to emitter saturation voltage	V _{BE(sat)1}		—	—	2.5	V
Collector to emitter saturation voltage	V _{CE(sat)2}	I _C = 15A, I _B = 150mA*	—	—	3.0	V
Base to emitter saturation voltage	V _{BE(sat)2}		—	—	3.5	V
Turn on time	t _{on}	I _C = 8A, I _{B1} = -I _{B2} = 16mA	—	2	—	μs
Turn off time	t _{off}		—	8	—	μs

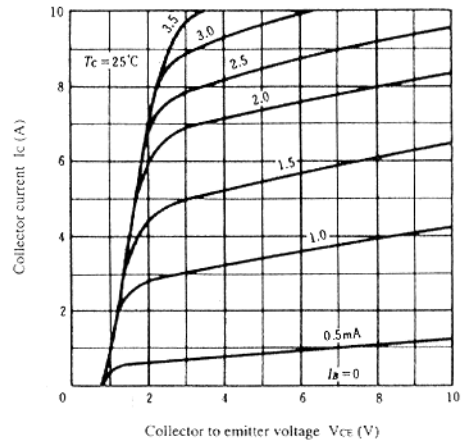
* Pulse Test.

2SD1435 Ⓚ

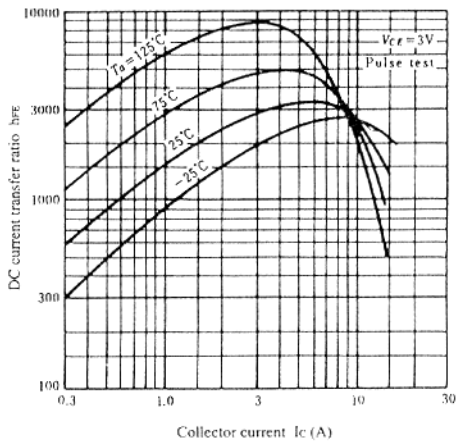
AREA OF SAFE OPERATION



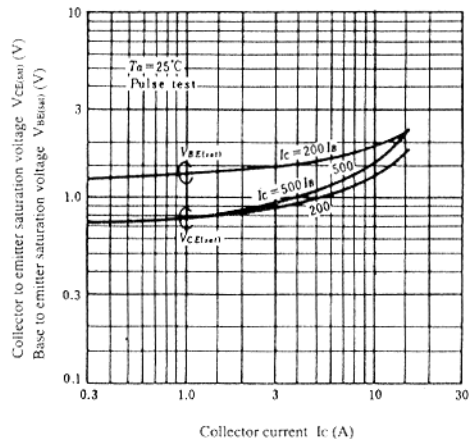
TYPICAL OUTPUT CHARACTERISTICS



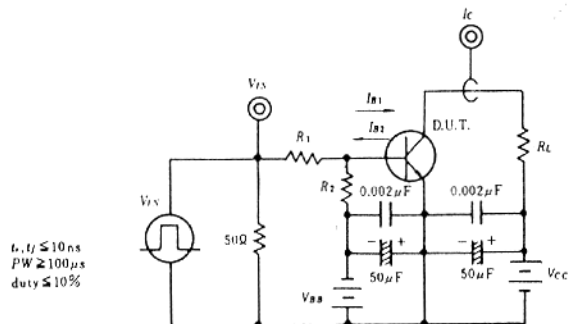
DC CURRENT TRANSFER RATIO VS. COLLECTOR CURRENT



SATURATION VOLTAGE VS. COLLECTOR CURRENT



SWITCHING TIME TEST CIRCUIT



$t_r, t_f \leq 10\text{ns}$
 $PW \geq 100\mu\text{s}$
 duty $\leq 10\%$

I_C	I_{B1}	I_{B2}	V_{CC}	V_{BE}	V_{IN}	R_L	R_1	R_2
A	mA	mA	V	V	V	Ω	Ω	Ω
R	16	-16	20	-8	10	2	400	1k

RESPONSE WAVEFORM

