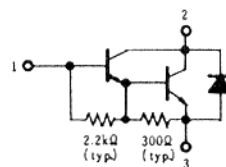
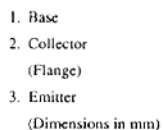


SILICON NPN EPITAXIAL

LOW FREQUENCY POWER AMPLIFIER

HIGH CURRENT SWITCHING

COMPLEMENTARY PAIR WITH 2SB1031(K)

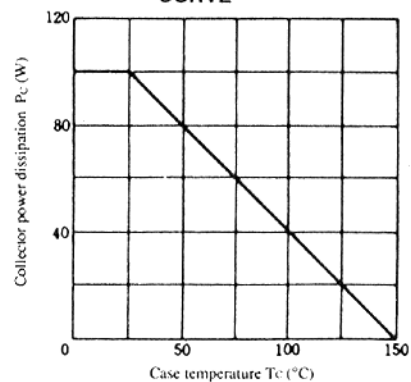


■ **ABSOLUTE MAXIMUM RATINGS** (Ta=25°C)

Item	Symbol	2SD1435K	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 _{stg}	-55 to +150	°C

* Value at $T_c = 25^\circ\text{C}$.

MAXIMUM COLLECTOR DISSIPATION CURVE



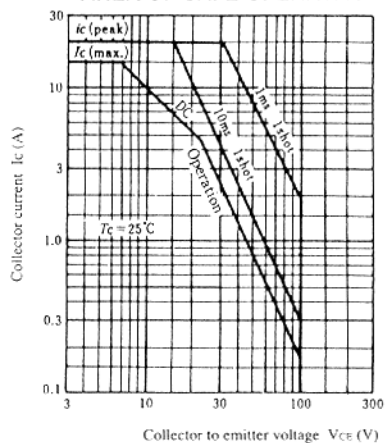
■ ELECTRICAL CHARACTERISTICS (Ta=25°C)

Item	Symbol	Test Condition	min.	typ.	max.	Unit
Collector to emitter breakdown voltage	$V_{(BR)CEO}$	$I_C = 1\text{mA}, R_{BE} = \infty$	100	—	—	V
Emitter to base breakdown voltage	$V_{(BR)EBO}$	$I_E = 50\text{mA}, I_C = 0$	7	—	—	V
Collector to emitter sustain voltage	$V_{CEO(sus)}$	$I_C = 200\text{mA}, R_{BE} = \infty^*$	100	—	—	V
Collector cutoff current	I_{CBO}	$V_{CB} = 100\text{V}, I_E = 0$	—	—	100	μA
	I_{CEO}	$V_{CE} = 80\text{V}, R_{BE} = \infty$	—	—	1.0	μA
DC current transfer ratio	h_{FE}	$V_{CE} = 3\text{V}, I_C = 8\text{A}^*$	1000	—	20000	
Collector to emitter saturation voltage	$V_{CE(sat)1}$	$I_C = 8\text{A}, I_B = 16\text{mA}^*$	—	—	2.0	V
Base to emitter saturation voltage	$V_{BE(sat)1}$		—	—	2.5	V
Collector to emitter saturation voltage	$V_{CE(sat)2}$	$I_C = 15\text{A}, I_B = 150\text{mA}^*$	—	—	3.0	V
Base to emitter saturation voltage	$V_{BE(sat)2}$		—	—	3.5	V
Turn on time	t_{on}	$I_C = 8\text{A}, I_{B1} = -I_{B2} = 16\text{mA}$	—	2	—	μs
Turn off time	t_{off}		—	8	—	μs

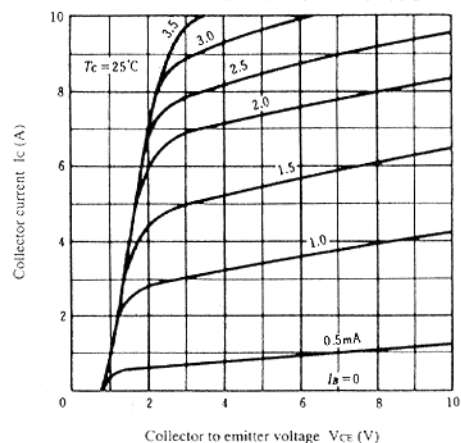
* Pulse Test.

2SD1435

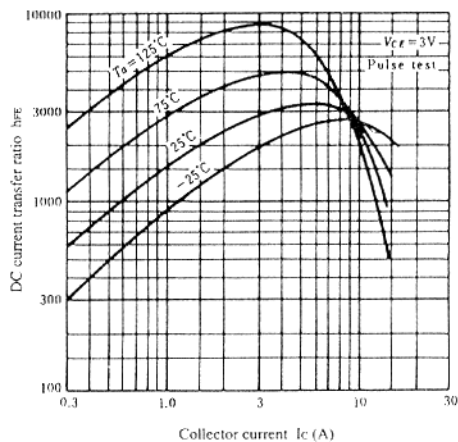
AREA OF SAFE OPERATION



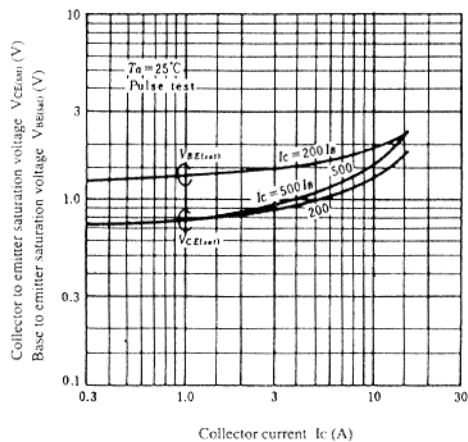
TYPICAL OUTPUT CHARACTERISTICS



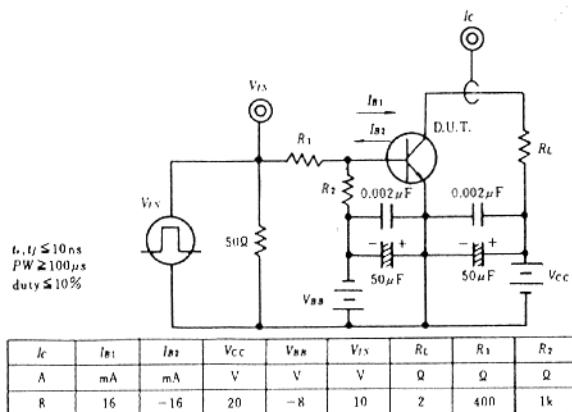
DC CURRENT TRANSFER RATIO VS. COLLECTOR CURRENT



SATURATION VOLTAGE VS. COLLECTOR CURRENT



SWITCHING TIME TEST CIRCUIT



RESPONSE WAVEFORM

