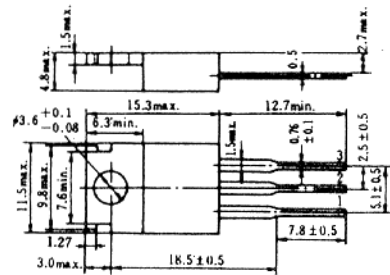


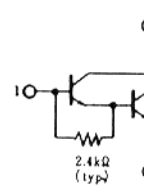
2SD1377 (K)

SILICON NPN EPITAXIAL

LOW FREQUENCY POWER AMPLIFIER



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



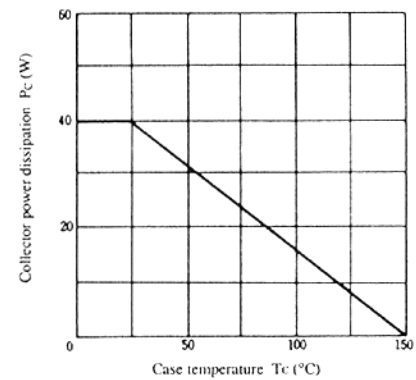
(JEDEC TO-220AB)

■ ABSOLUTE MAXIMUM RATINGS (Ta=25°C)

Item	Symbol	2SD1377(K)	Unit
Collector to base voltage	V _{CB0}	120	V
Collector to emitter voltage	V _{CE0}	120	V
Emitter to base voltage	V _{EB0}	7	V
Collector current	I _C	8	A
Collector peak current	i _{C(peak)}	12	A
Collector power dissipation	P _C *	40	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



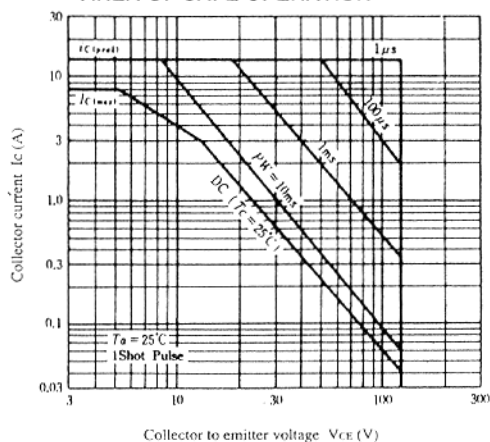
■ ELECTRICAL CHARACTERISTICS (Ta=25°C)

Item	Symbol	Test Condition	min.	typ.	max.	Unit
Collector to emitter breakdown voltage	$V_{(BR)CEO}$	$I_C = 25mA, R_{BE} = \infty$	120	—	—	V
Emitter to base breakdown voltage	$V_{(BR)EBO}$	$I_E = 50mA, I_C = 0$	7	—	—	V
Collector cutoff current	I_{CBO}	$V_{CB} = 120V, I_E = 0$	—	—	100	μA
	I_{CEO}	$V_{CE} = 100V, R_{BE} = \infty$	—	—	10	μA
DC current transfer ratio	h_{FE}	$V_{CE} = 3V, I_C = 4A^*$	1000	—	20000	
Collector to emitter saturation voltage	$V_{CE(sat)1}$	$I_C = 4A, I_B = 8mA^*$	—	—	1.5	V
	$V_{CE(sat)2}$	$I_C = 8A, I_B = 80mA^*$	—	—	3.0	V
Base to emitter saturation voltage	$V_{BE(sat)1}$	$I_C = 4A, I_B = 8mA^*$	—	—	2.0	V
	$V_{BE(sat)2}$	$I_C = 8A, I_B = 80mA^*$	—	—	3.5	V
Turn on time	t_{on}	$I_C = 4A, I_{B1} = -I_{B2} = 8mA$	—	0.5	—	μs
Storage time	t_{stg}		—	5.4	—	μs
Fall time	t_f		—	1.1	—	μs

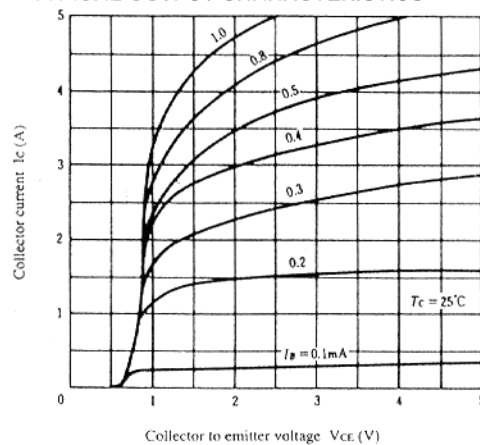
* Pulse Test.

2SD1377K

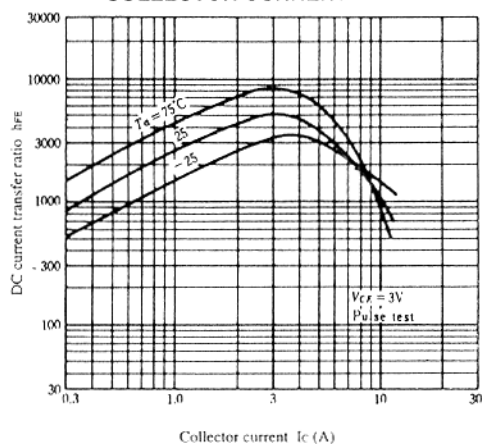
AREA OF SAFE OPERATION



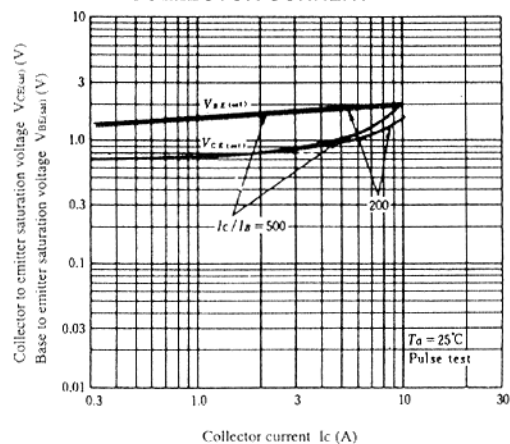
TYPICAL OUTPUT CHARACTERISTICS



DC CURRENT TRANSFER RATIO VS. COLLECTOR CURRENT



SATURATION VOLTAGE VS. COLLECTOR CURRENT



SWITCHING TIME VS. COLLECTOR CURRENT

