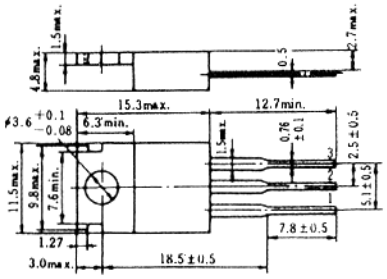
HITACHI

2SD1163, 2SD1163A

SILICON NPN TRIPLE DIFFUSED

TV HORIZONTAL DEFLECTION OUTPUT



1. Emitter
2. Collector (Flange)
3. Base

(Dimensions in mm)

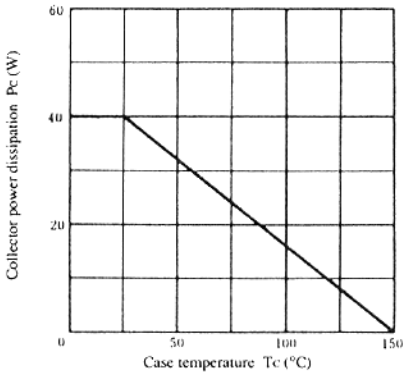
(JEDEC TO-220 AB)

■ ABSOLUTE MAXIMUM RATINGS (Ta=25°C)

Item	Symbol	2SD1163	2SD1163A	Unit
Collector to base voltage	V_{CBO}	300	350	V
Collector to emitter voltage	V_{CEO}	120	150	V
Emitter to base voltage	V_{EBO}	6	6	V
Collector current	I_C	7	7	A
Collector peak current	$i_{C(peak)}$	10	10	A
Collector surge current	$i_{C(surge)}$	20	20	A
Collector power dissipation	P_C*	40	40	W
Junction temperature	T_j	150	150	°C
Storage temperature	T_{stg}	−55 to +150	−55 to +150	°C

* Value at T_C = 25°C.

MAXIMUM COLLECTOR DISSIPATION CURVE



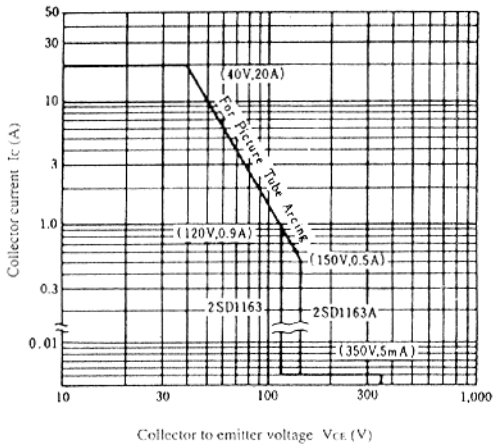
■ ELECTRICAL CHARACTERISTICS (Ta=25°C)

Item	Symbol	Test Condition	2SD1163			2SD1163A			Unit
			min.	typ.	max.	min.	typ.	max.	
Collector cutoff current	I_{CBO}	V_{CB} = 300V, I_E = 0	—	—	5	—	—	—	mA
		V_{CB} = 350V, I_E = 0	—	—	—	—	—	5	mA
Collector to emitter breakdown voltage	$V_{(BR)CEO}$	I_C = 10mA, R_{BE} = ∞	120	—	—	150	—	—	V
Emitter to base breakdown voltage	$V_{(BR)EBO}$	I_E = 10mA, I_C = 0	6	—	—	6	—	—	V
DC current transfer ratio	h_{FE}	V_{CE} = 5V, I_C = 5A*	25	—	—	25	—	—	
Collector to emitter saturation voltage	$V_{CE(sat)}$	I_C = 5A, I_B = 0.5A*	—	—	2.0	—	—	1.0	V
Base to emitter saturation voltage	$V_{BE(sat)}$	I_C = 5A, I_B = 0.5A*	—	—	1.2	—	—	1.2	V
Fall time	t_f	I_{CP} = 3.5A, I_{B1} = 0.45A	—	—	0.5	—	—	0.5	μs

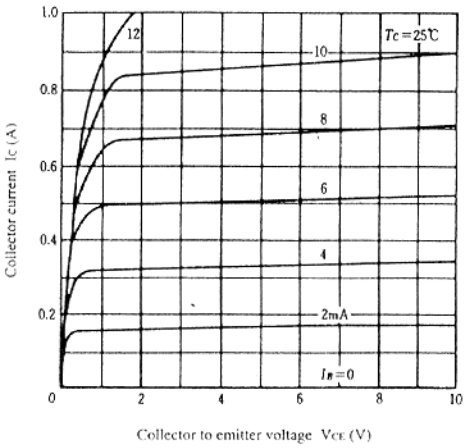
* Pulse Test.

2SD1163, 2SD1163A

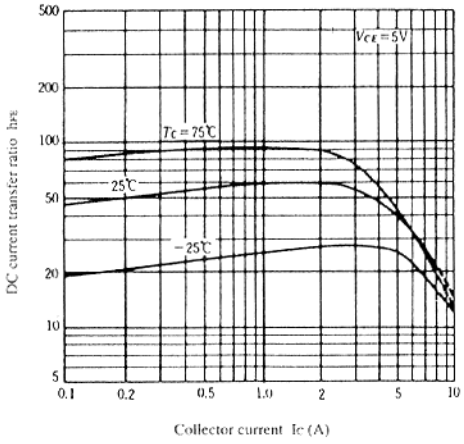
AREA OF SAFE OPERATION



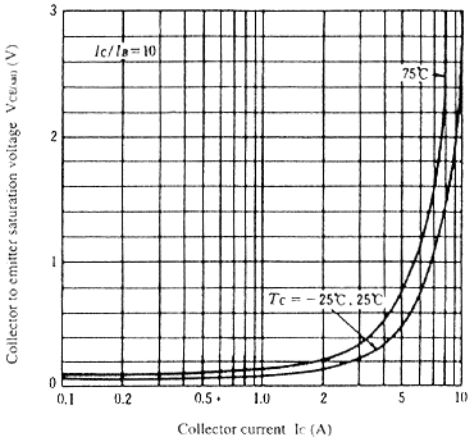
TYPICAL OUTPUT CHARACTERISTICS



DC CURRENT TRANSFER RATIO VS. COLLECTOR CURRENT



COLLECTOR TO EMITTER SATURATION VOLTAGE VS. COLLECTOR CURRENT



BASE TO EMITTER SATURATION VOLTAGE VS. COLLECTOR CURRENT