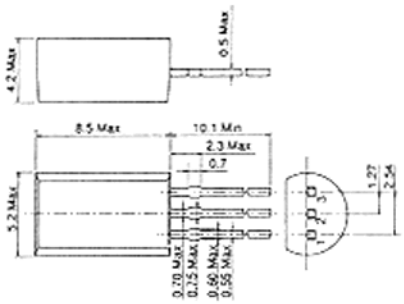
HITACHI

2SD974

SILICON NPN EPITAXIAL

POWER SWITCHING
TV HORIZONTAL DEFLECTION OUTPUT



1. Emitter
2. Collector
3. Base

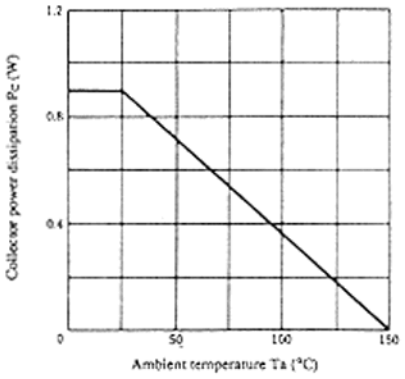
(Dimensions in mm)

(JEDEC TO-92 MOD.)

■ ABSOLUTE MAXIMUM RATINGS (Ta=25°C)

Item	Symbol	2SD974	Unit
Collector to base voltage	V_{CBO}	120	V
Collector to emitter voltage	V_{CEO}	60	V
Emitter to base voltage	V_{EBO}	5	V
Collector current	I_C	1	A
Collector peak current	$i_{C(peak)}$	1.5	A
Surge collector current	$I_{C(surge)}$	4	A
Collector power dissipation	P_C	0.9	W
Junction temperature	T_j	150	°C
Storage temperature	T_{stg}	–45 to +150	°C

MAXIMUM COLLECTOR DISSIPATION CURVE



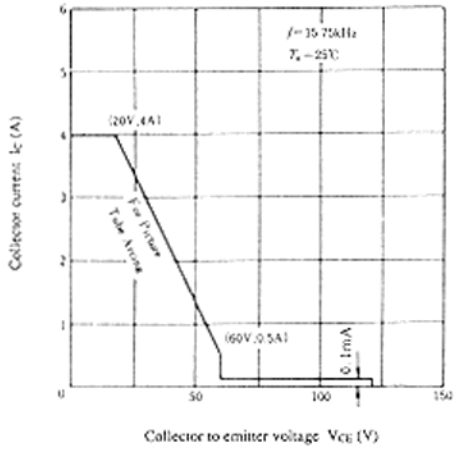
■ ELECTRICAL CHARACTERISTICS (Ta=25°C)

Item	Symbol	Test Condition	min.	typ.	max.	Unit
Collector to base breakdown voltage	$V_{(BR)CBO}$	I_C = 10μA, I_E = 0	120	—	—	V
Collector to emitter breakdown voltage	$V_{(BR)CEO}$	I_C = 1mA, R_{BE} = ∞	60	—	—	V
Emitter to base breakdown voltage	$V_{(BR)EBO}$	I_E = 10μA, I_C = 0	5	—	—	V
Collector cutoff current	I_{CBO}	V_{CB} = 100V, I_E = 0	—	—	1.0	μA
DC current transfer ratio	h_{FE}	V_{CE} = 5V, I_C = 1A*	150	—	—	
Collector to emitter saturation voltage	$V_{CE(sat)}$	I_C = 1A, I_B = 0.05A*	—	—	0.3	V
Base to emitter saturation voltage	$V_{BE(sat)}$		—	—	1.2	V
Fall time	t_f	I_{CP} = 1A, I_{B1} = $-I_{B2}$ = 50mA	—	0.4	—	μs

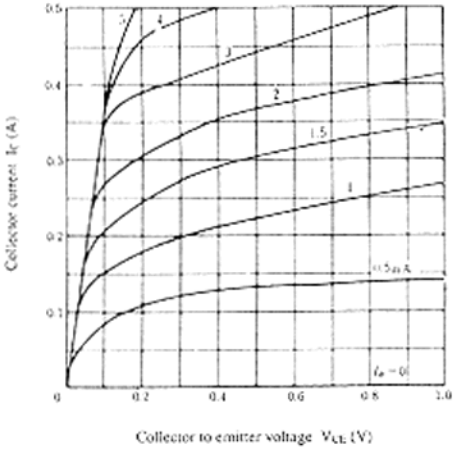
* Pulse Test

2SD974

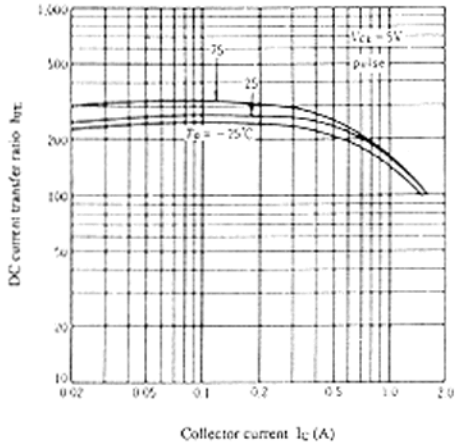
AREA OF SAFE OPERATION



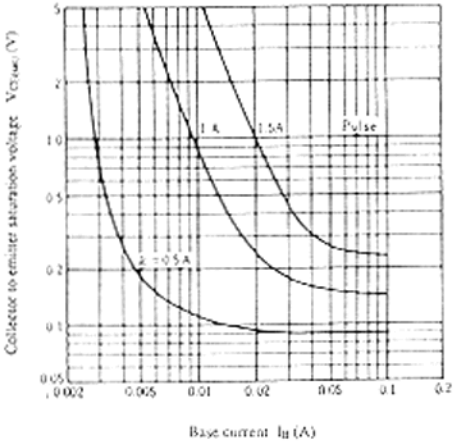
TYPICAL OUTPUT CHARACTERISTICS



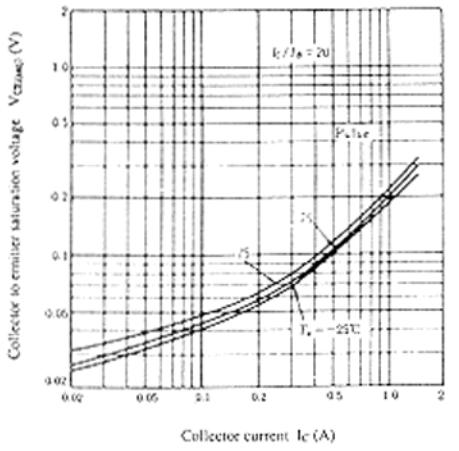
DC CURRENT TRANSFER RATIO VS. COLLECTOR CURRENT



COLLECTOR TO EMITTER SATURATION VOLTAGE VS. BASE CURRENT



COLLECTOR TO EMITTER SATURATION VOLTAGE VS. COLLECTOR CURRENT



BASE TO EMITTER SATURATION VOLTAGE VS. COLLECTOR CURRENT