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# 2SD974

Silicon NPN Epitaxial

# HITACHI

ADE-208-1141 (Z)  
1st. Edition  
Mar. 2001

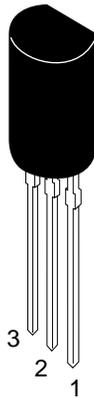
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## Application

- Power switching
- TV horizontal deflection output

## Outline

TO-92MOD



1. Emitter
2. Collector
3. Base

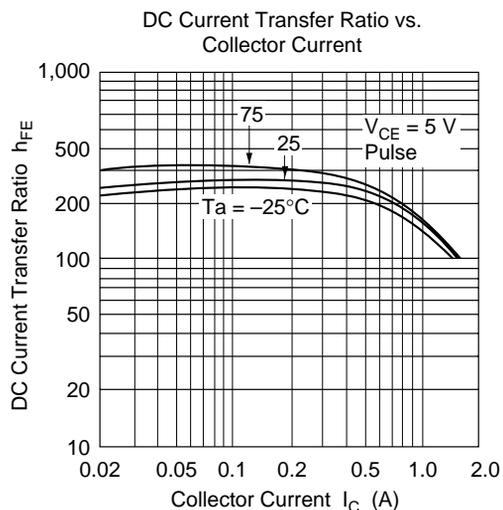
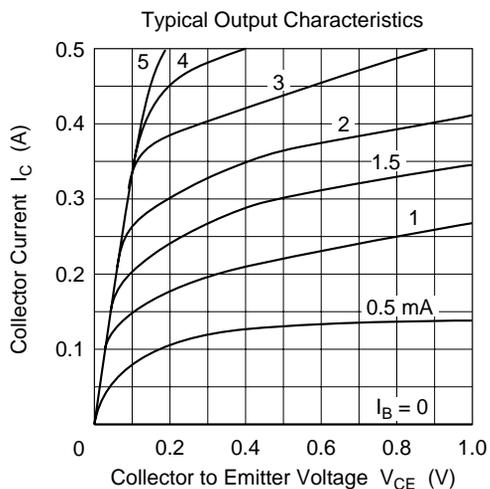
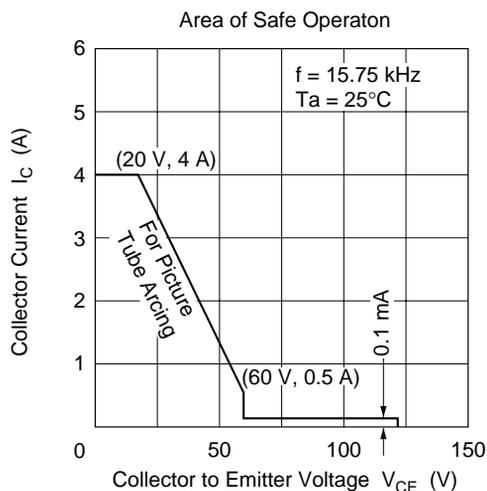
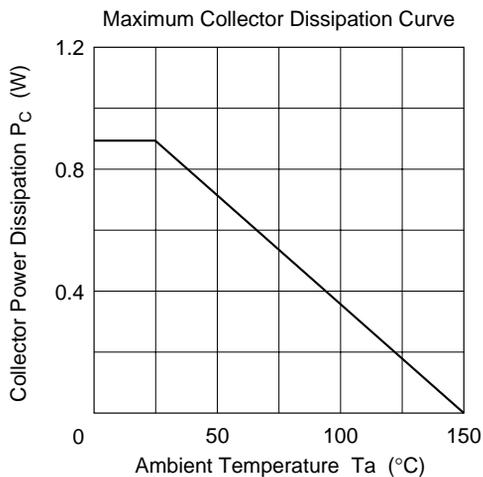
## Absolute Maximum Ratings (Ta = 25°C)

Item	Symbol	Ratings	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	$T_{stg}$	-55 to +150	°C

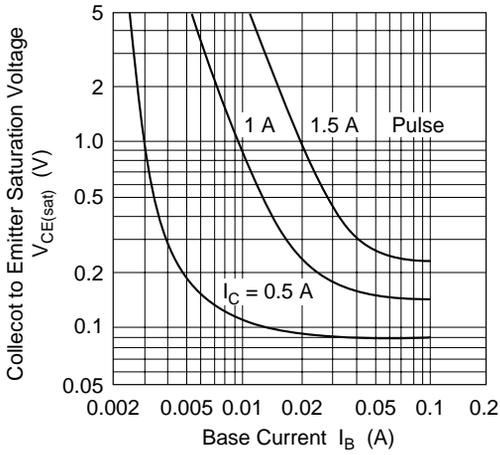
## Electrical Characteristics (Ta = 25°C)

Item	Symbol	Min	Typ	Max	Unit	Test conditions
Collector to base breakdown voltage	$V_{(BR)CBO}$	120	—	—	V	$I_C = 10 \mu A, I_E = 0$
Collector to emitter breakdown voltage	$V_{(BR)CEO}$	60	—	—	V	$I_C = 1 mA, R_{BE} = \infty$
Emitter to base breakdown voltage	$V_{(BR)EBO}$	5	—	—	V	$I_E = 10 \mu A, I_C = 0$
Collector cutoff current	$I_{CBO}$	—	—	1.0	$\mu A$	$V_{CB} = 100 V, I_E = 0$
DC current transfer ratio	$h_{FE}$	150	—	—		$V_{CE} = 5 V, I_C = 1 A^{*1}$
Collector to emitter saturation voltage	$V_{CE(sat)}$	—	—	0.3	V	$I_C = 1 A, I_B = 0.05 A^{*1}$
Base to emitter saturation voltage	$V_{BE(sat)}$	—	—	1.2	MHz	
Fall time	$t_f$	—	0.4	—	pF	$I_{CP} = 1 A, I_{B1} = -I_{B2} = 50 mA^{*1}$

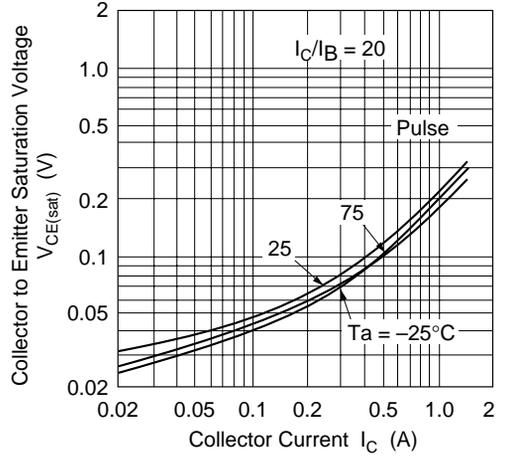
Note: 1. Pulse test



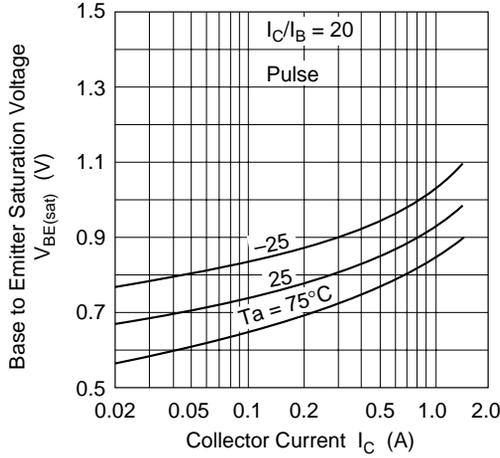
Collector to Emitter Saturation Voltage vs. Base Current



Collector to Emitter Saturation Voltage vs. Collector Current

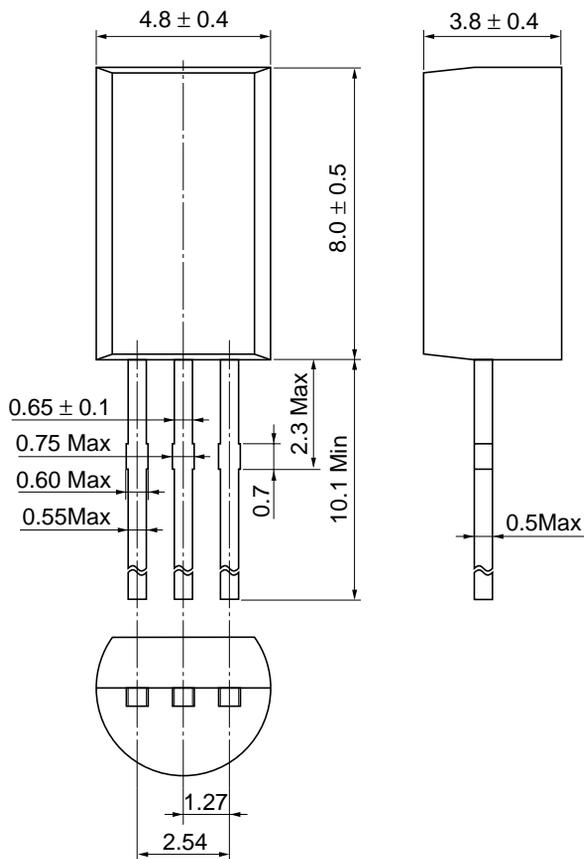


Base to Emitter Saturation Voltage vs. Collector Current



Package Dimensions

As of January, 2001  
Unit: mm



Hitachi Code	TO-92 Mod
JEDEC	—
EIAJ	Conforms
Mass (reference value)	0.35 g

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