2SD975

Silicon NPN Epitaxial

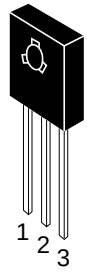
HITACHI

Application

Power switching / TV horizontal deflection output

Outline

TO-126 MOD



1. Emitter
2. Collector
3. Base

Absolute Maximum Ratings (Ta = 25°C)

Item	Symbol	Ratings	Unit
Collector to base voltage	V_{CBO}	150	V
Collector to emitter voltage	V_{CEO}	60	V
Emitter to base voltage	V_{EBO}	5	V
Collector current	I_C	2	A
Collector peak current	$I_{C(peak)}$	2.5	A
Collector surge current	$I_{C(surge)}$	5	A
Collector power dissipation	P_C	1.0	W
Junction temperature	Tj	150	°C
Storage temperature	Tstg	–55 to +150	°C

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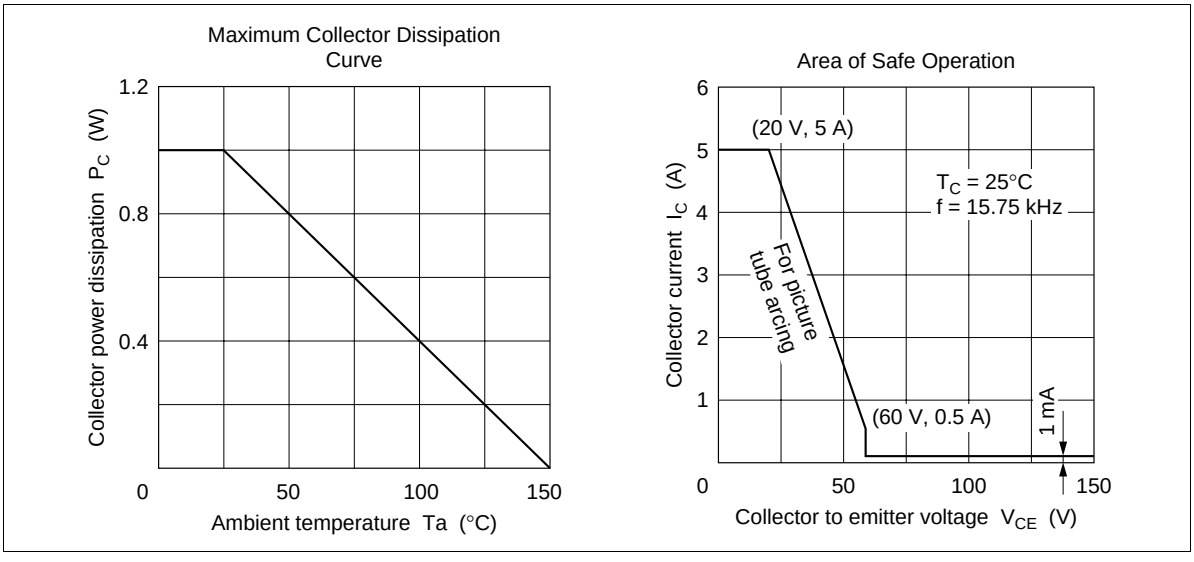
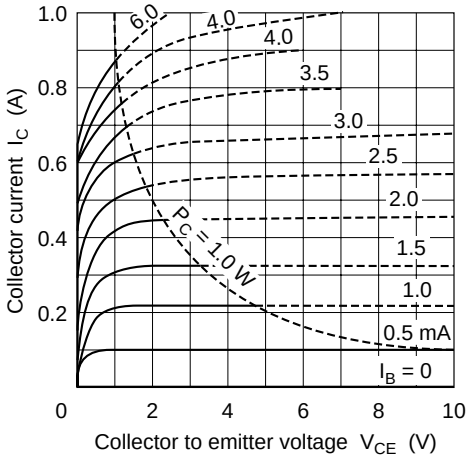
Electrical Characteristics (Ta = 25°C)

Item	Symbol	Min	Typ	Max	Unit	Test conditions
Collector to base breakdown voltage	$V_{(BR)CBO}$	150	—	—	V	I_C = 1 mA, I_E = 0
Collector to emitter breakdown voltage	$V_{(BR)CEO}$	60	—	—	V	I_C = 10 mA, R_{BE} = ∞
Emitter to base breakdown voltage	$V_{(BR)EBO}$	5	—	—	V	I_E = 1 mA, I_C = 0
Collector cutoff current	I_{CBO}	—	—	1.0	µA	V_{CB} = 100 V, I_E = 0
DC current transfer ratio	h_{FE}	150	—	—		V_{CE} = 5 V, I_C = 1.5 A*[1]
Collector to emitter saturation voltage	$V_{CE(sat)}$	—	—	0.5	V	I_C = 1.5 A, I_B = 0.05 A*[1]
Base to emitter saturation voltage	$V_{BE(sat)}$	—	—	1.3	V	
Fall time	t_f	—	—	0.6	µs	I_C = 1.5 A, I_{B1} = $-I_{B2}$ = 50 mA

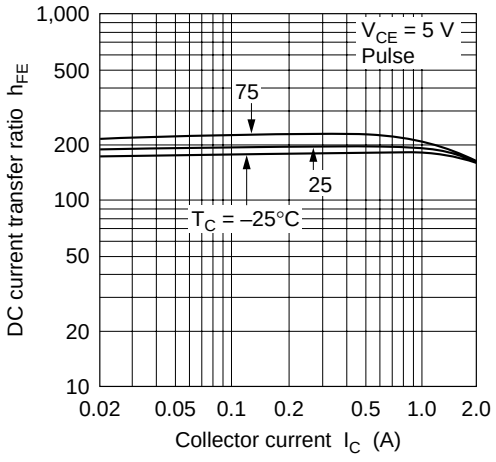
Note: 1. Pulse test.



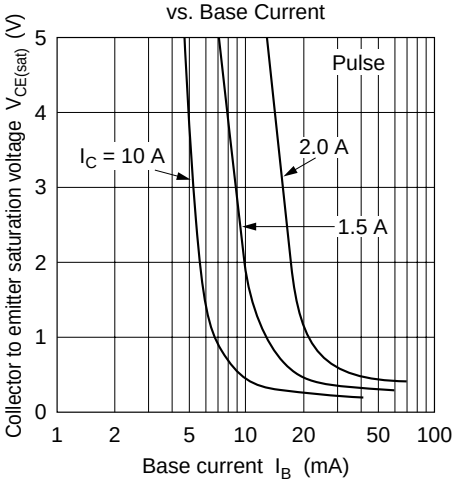
Typical Output Characteristecs



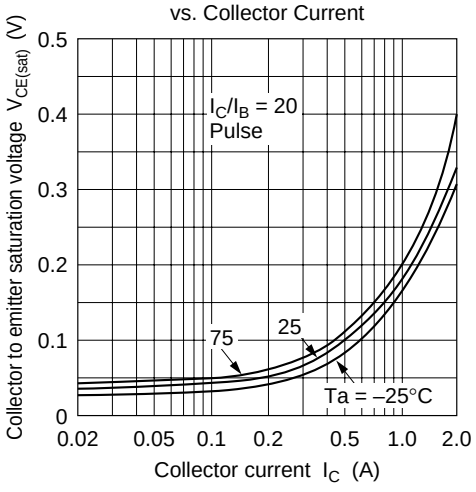
DC Current Transfer Ratio
vs. Collector Current

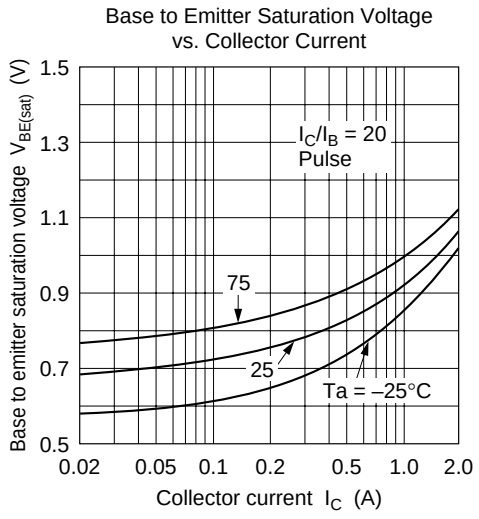


Collector to Emitter Saturation Voltage
vs. Base Current

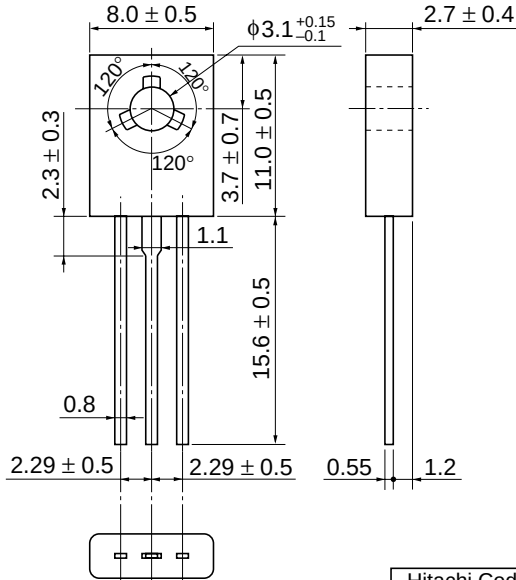


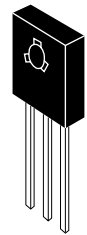
Collector to Emitter Saturation Voltage
vs. Collector Current




Base to Emitter Saturation Voltage
vs. Collector Current
Base to emitter saturation voltage $V_{BE(sat)}$ (V)
1.5
1.3
1.1
0.9
0.7
0.5
I_C/I_B = 20
Pulse
75
25
Ta = –25°C
0.02
0.05
0.1
0.2
0.5
1.0
2.0
Collector current I_C (A)

Unit: mm





Hitachi Code	TO-126 Mod
JEDEC	—
EIAJ	—
Weight (reference value)	0.67 g

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