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# 2SC3336

Silicon NPN Triple Diffused

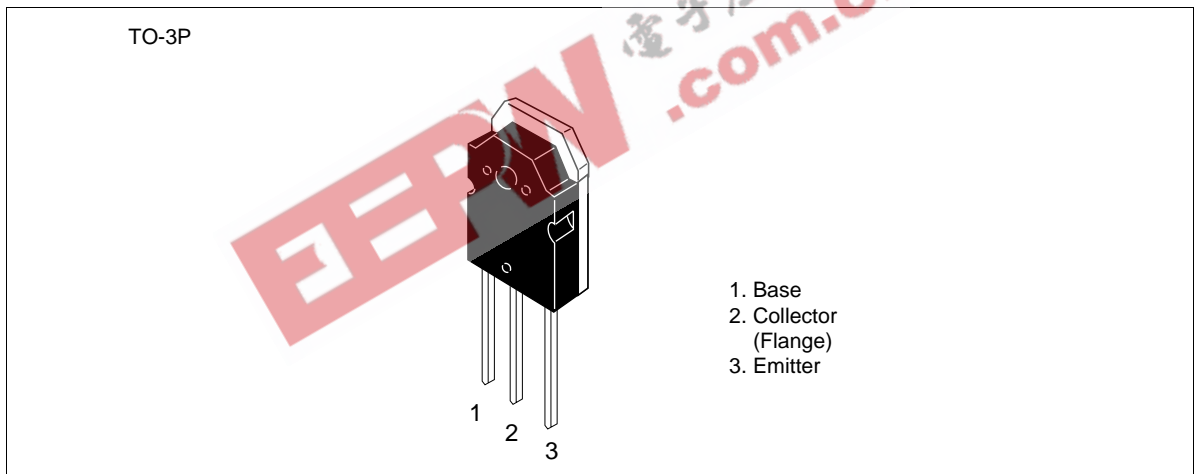
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## Application

High voltage, high speed and high power switching

## Outline



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

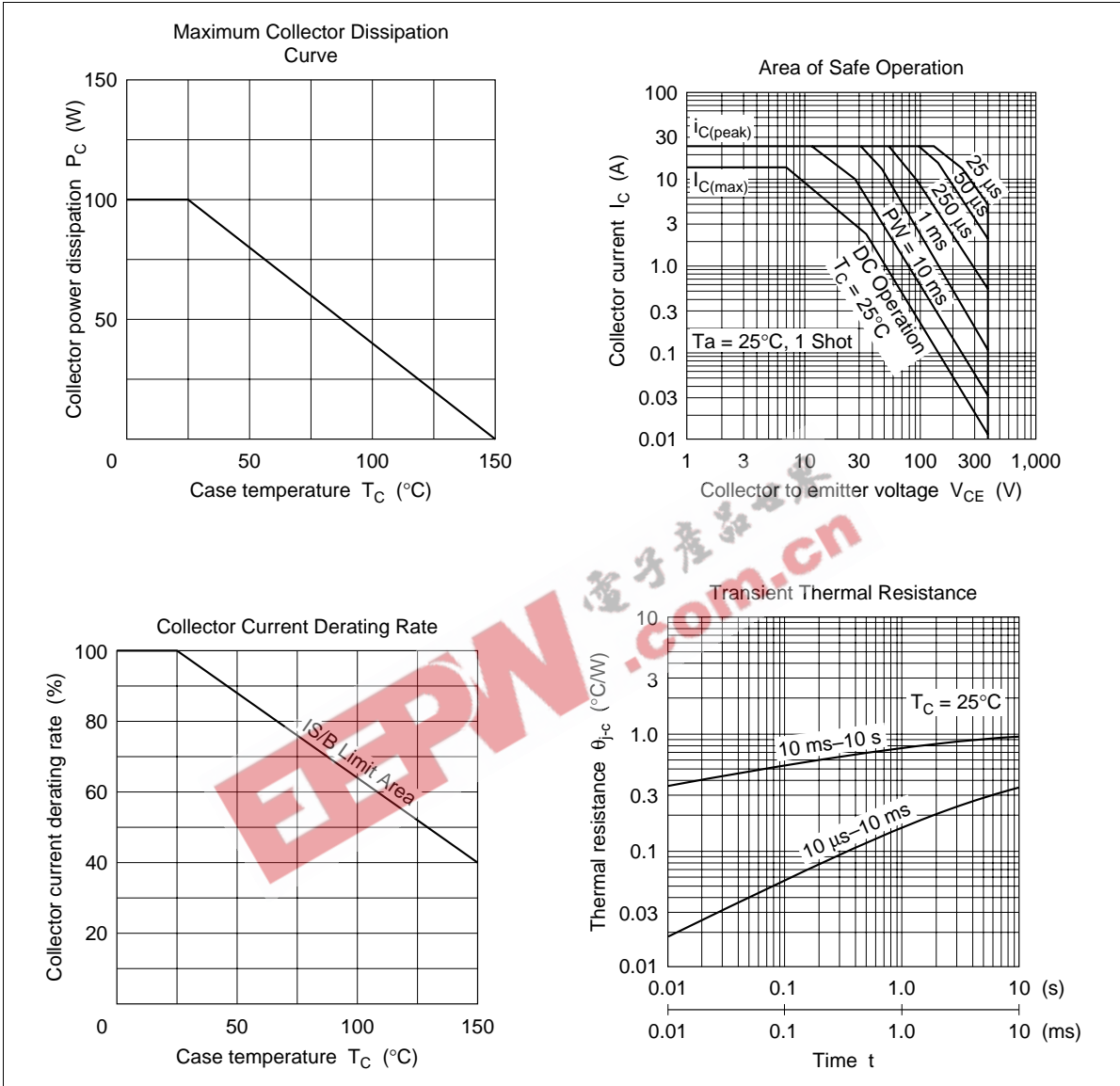
Item	Symbol	Ratings	Unit
Collector to base voltage	$V_{CBO}$	500	V
Collector to emitter voltage	$V_{CEO}$	400	V
Emitter to base voltage	$V_{EBO}$	10	V
Collector current	$I_C$	15	A
Collector peak current	$I_{C(peak)}$	25	A
Base current	$I_B$	7.5	A
Collector power dissipation	$P_C^{*1}$	100	W
Junction temperature	$T_j$	150	°C
Storage temperature	$T_{stg}$	-55 to +150	°C

Note: 1. Value at  $T_C = 25^\circ\text{C}$

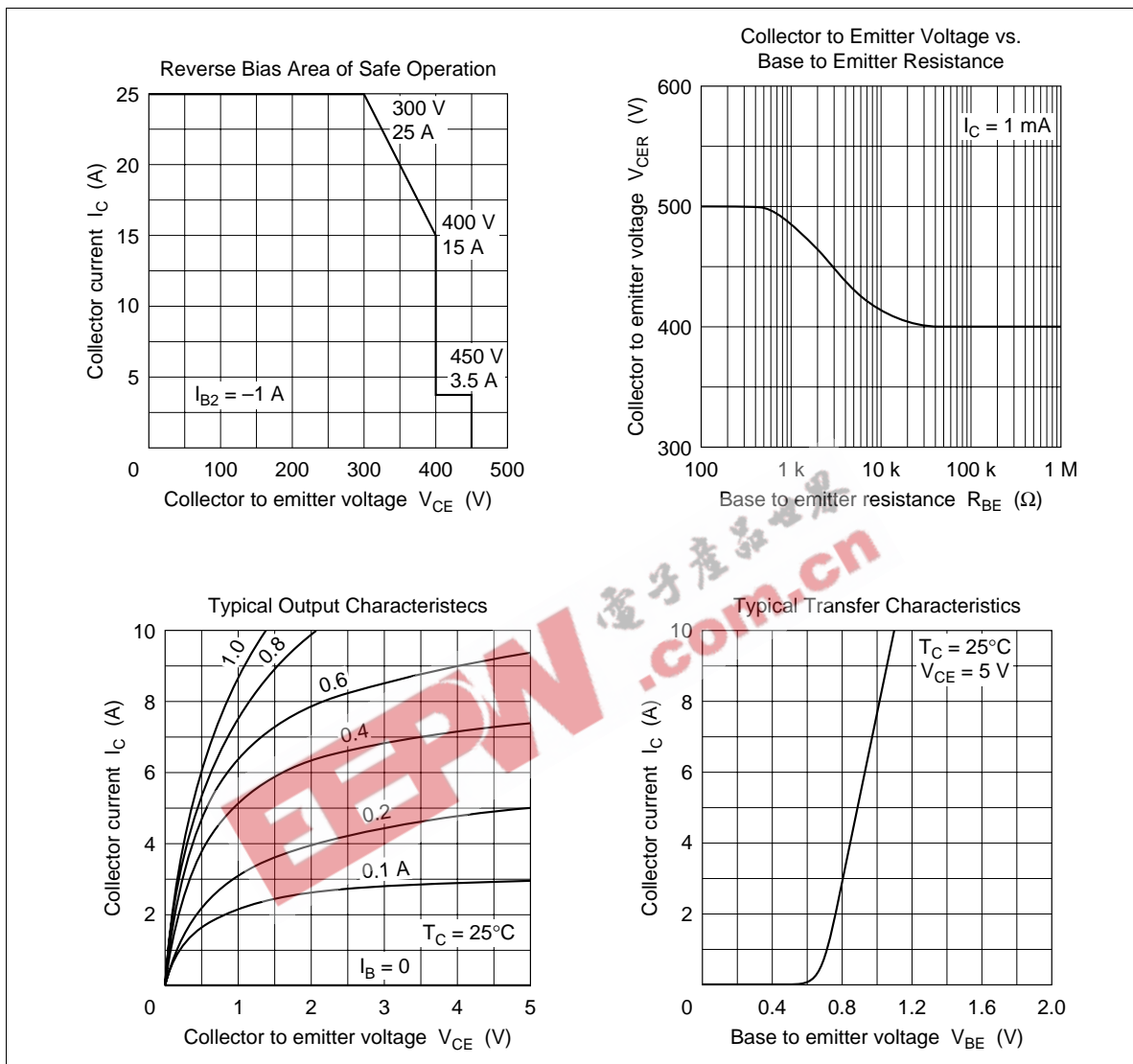
### Electrical Characteristics (Ta = 25°C)

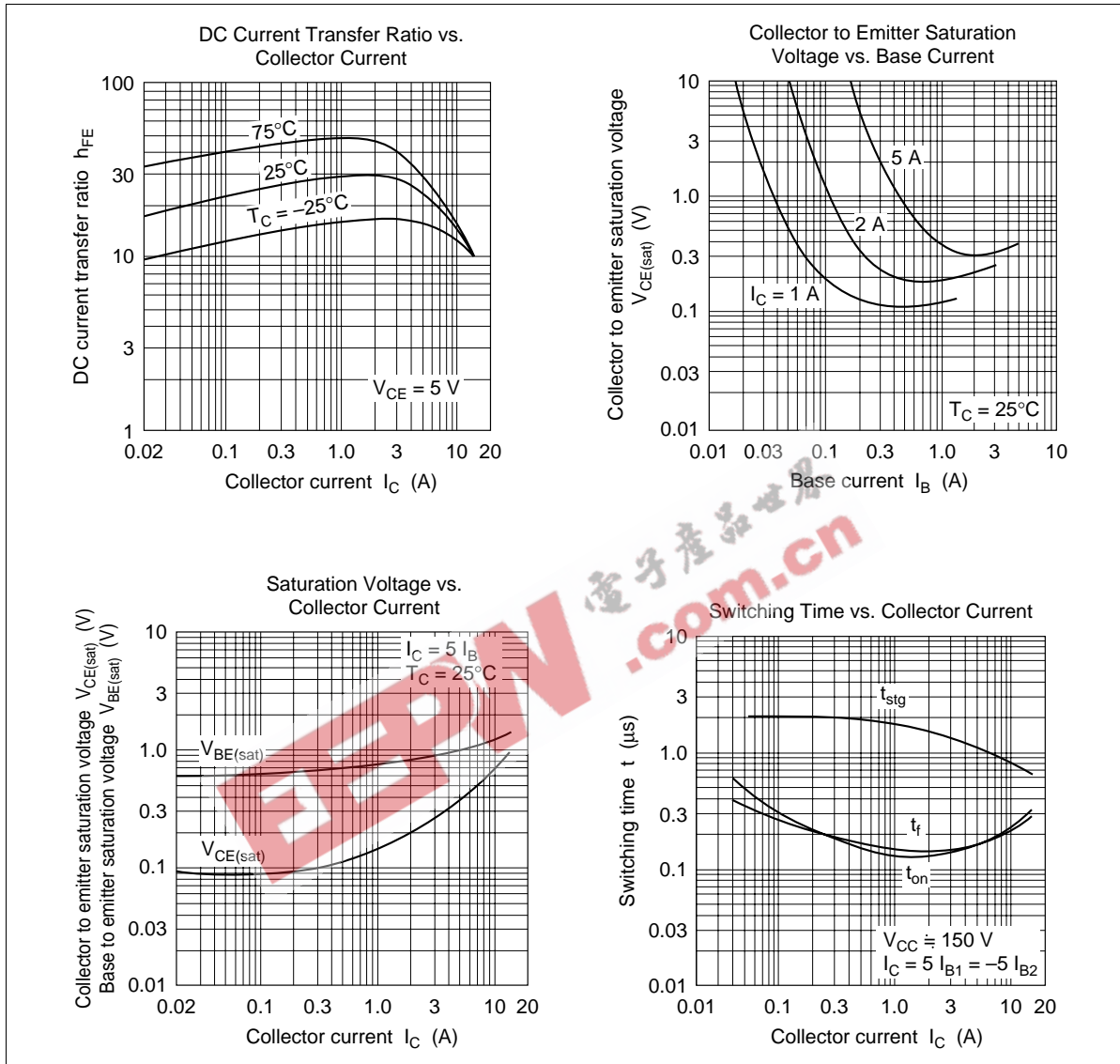
Item	Symbol	Min	Typ	Max	Unit	Test conditions
Collector to emitter sustain voltage	$V_{CEO(sus)}$	400	—	—	V	$I_C = 0.2\text{ A}$ , $R_{BE} = \infty$ , $L = 100\text{ mH}$
	$V_{CEX(sus)}$	400	—	—	V	$I_C = 15\text{ A}$ , $I_{B1} = 3.0\text{ A}$ , $I_{B2} = -1\text{ A}$ , $V_{BE} = -5.0\text{ V}$ , $L = 180\text{ }\mu\text{H}$ , Clamped
Emitter to base breakdown voltage	$V_{(BR)EBO}$	10	—	—	V	$I_E = 10\text{ mA}$ , $I_C = 0$
Collector cutoff current	$I_{CBO}$	—	—	50	$\mu\text{A}$	$V_{CB} = 400\text{ V}$ , $I_E = 0$
	$I_{CEO}$	—	—	50	$\mu\text{A}$	$V_{CE} = 350\text{ V}$ , $R_{BE} = \infty$
DC current transfer ratio	$h_{FE1}$	12	—	—		$V_{CE} = 5.0\text{ V}$ , $I_C = 7.5\text{ A}^{*1}$
	$h_{FE2}$	5	—	—		$V_{CE} = 5.0\text{ V}$ , $I_C = 15\text{ A}^{*1}$
Collector to emitter saturation voltage	$V_{CE(sat)}$	—	—	1.0	V	$I_C = 7.5\text{ A}$ , $I_B = 1.5\text{ A}^{*1}$
Base to emitter saturation voltage	$V_{BE(sat)}$	—	—	1.5	V	
Turn on time	$t_{on}$	—	—	0.5	$\mu\text{s}$	$I_C = 15\text{ A}$ , $I_{B1} = -I_{B2} = 3.0\text{ A}$
Storage time	$t_{stg}$	—	—	1.5	$\mu\text{s}$	$V_{CC} \cong 150\text{ V}$
Fall time	$t_f$	—	0.3	0.5	$\mu\text{s}$	

Note: 1. Pulse test

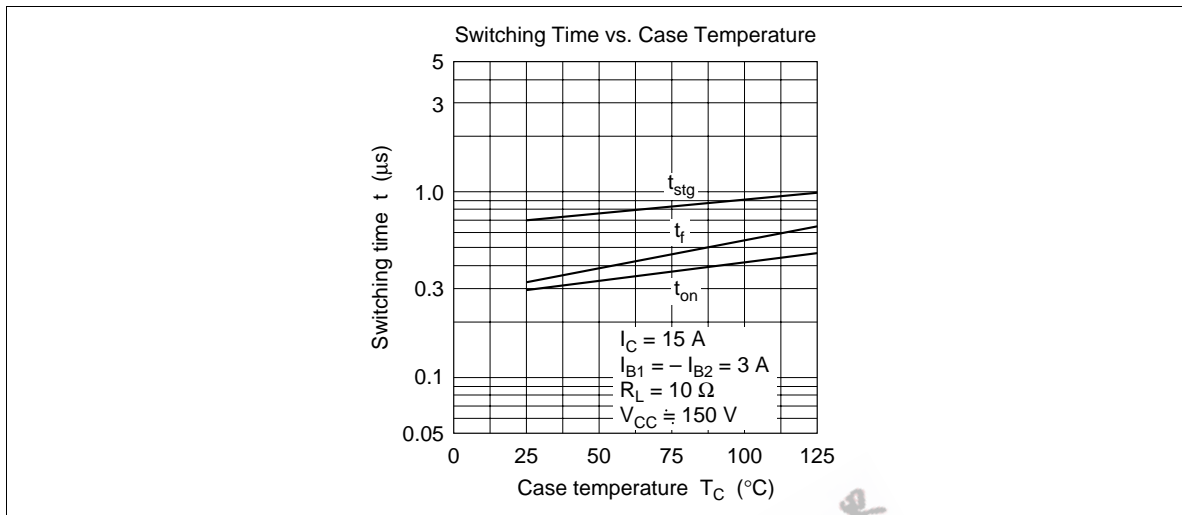


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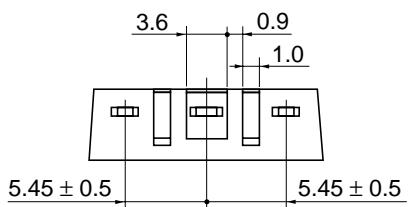
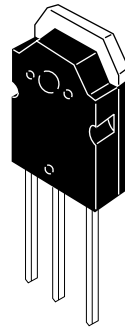
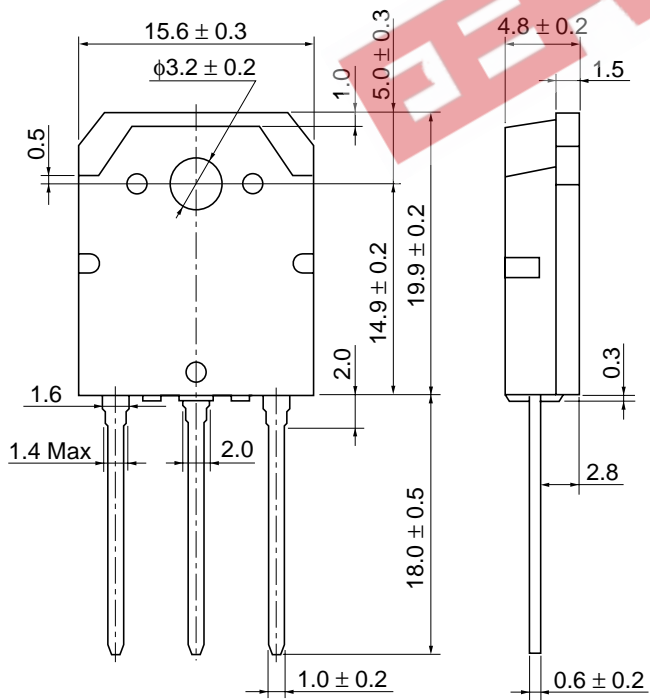
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Unit: mm



Hitachi Code	TO-3P
JEDEC	—
EIAJ	Conforms
Weight (reference value)	5.0 g

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