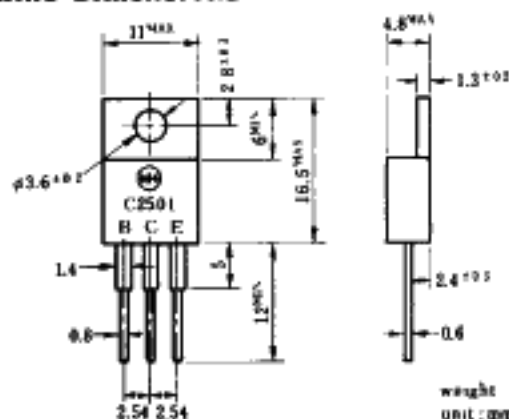


# 40W T3V<sub>F1</sub>

## ● Outline Dimensions

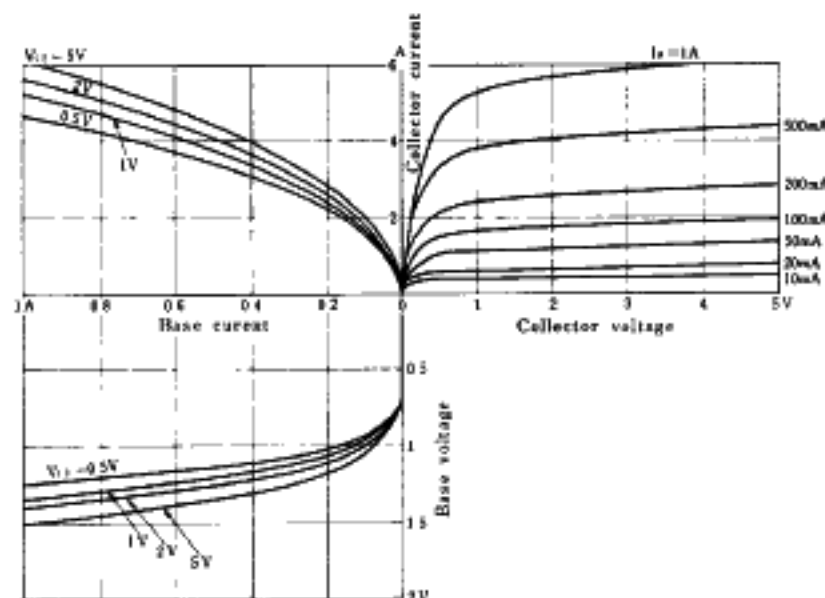


weight 22g  
unit : mm

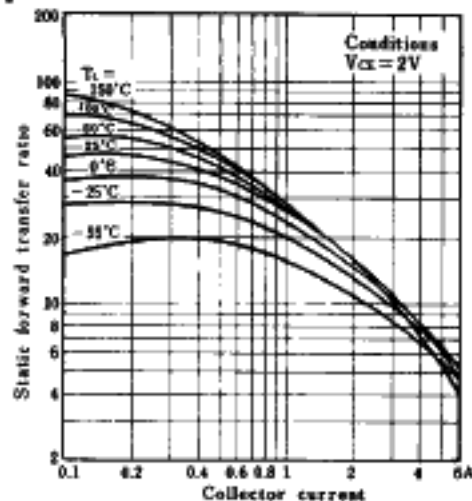
## ● Ratings

Item	Symbol	EIAJ.No. House. No. Conditions		Unit
		2SD2501	T3V40F1	
Storage Temperature	T <sub>stg</sub>			-55 ~ +150 °C
Junction Temperature	T <sub>j</sub>			+150 °C
Collector to Base Voltage	V <sub>CB0</sub>			500 V
Collector to Emitter Voltage	V <sub>CE0</sub>			400 V
Emitter to Base Voltage	V <sub>EB0</sub>			7 V
Collector Current	DC	I <sub>c</sub>		3 A
	Peak	I <sub>CP</sub>		6 A
Base Current	DC	I <sub>b</sub>		1 A
	Peak	I <sub>BP</sub>		2 A
Transistor Dissipation	P <sub>T</sub>	T <sub>c</sub> = 25°C		40 W
Collector to Emitter Sustaining Voltage	V <sub>CE0(sus)</sub>	I <sub>c</sub> = 0.1A		MIN 400 V
Collector Cut-off Current	I <sub>CB0</sub>	At Rated Voltage		MAX 0.1 mA
	I <sub>CE0</sub>	At Rated Voltage × 0.8		MAX 0.1 mA
Emitter Cut-off Current	I <sub>EB0</sub>	At Rated Voltage		MAX 1 mA
		V <sub>CE</sub> = 2V		MIN 15
Static Forward Transfer Ratio		I <sub>c</sub> = 1.5A		STD 20
		V <sub>CE</sub> = 2V		MIN 8
		I <sub>c</sub> = 3A		STD 10
Collector to Emitter Saturation Voltage	V <sub>CE(sat)</sub>	I <sub>c</sub> = 1.5A		STD 0.32 V
		I <sub>b</sub> = 0.15A		MAX 0.7 V
Base to Emitter Saturation Voltage	V <sub>BE(sat)</sub>			STD 1 V
				MAX 1.5 V
Junction to Case Thermal Resistance	θ <sub>JC</sub>	Between Junction and Case		MAX 3.12 °C/W
Gain Bandwidth Product	f <sub>T</sub>	V <sub>CE</sub> = 10V I <sub>c</sub> = 0.3A		STD 20 MHz
Turn on Time	t <sub>on</sub>	I <sub>b1</sub> = I <sub>b2</sub> = 0.3A		STD 0.55 μs
		I <sub>c</sub> = 1.5A		MAX 1 μs
Storage Time	t <sub>s</sub>	R <sub>L</sub> = 20Ω		STD 2.3 μs
		V <sub>BE2</sub> = 4V		MAX 3 μs
Fall Time	t <sub>f</sub>			STD 0.5 μs
				MAX 0.7 μs

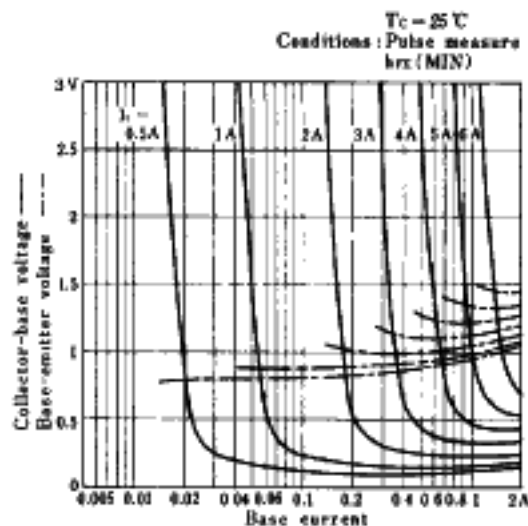
## ● Input Output transmission characteristics



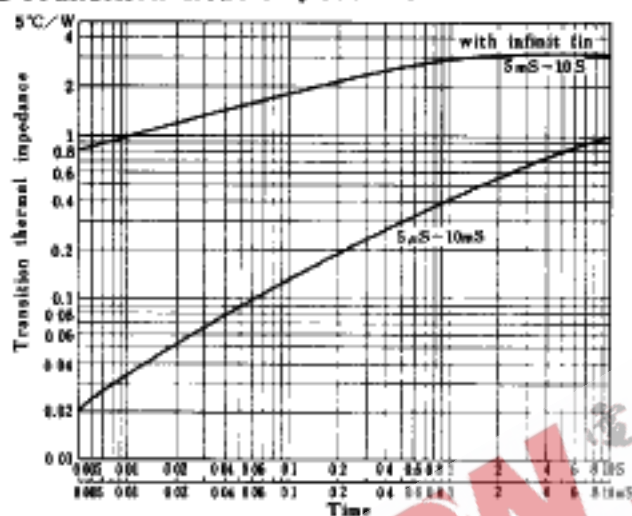
● Static forward transfer ratio vs temp. characteristics



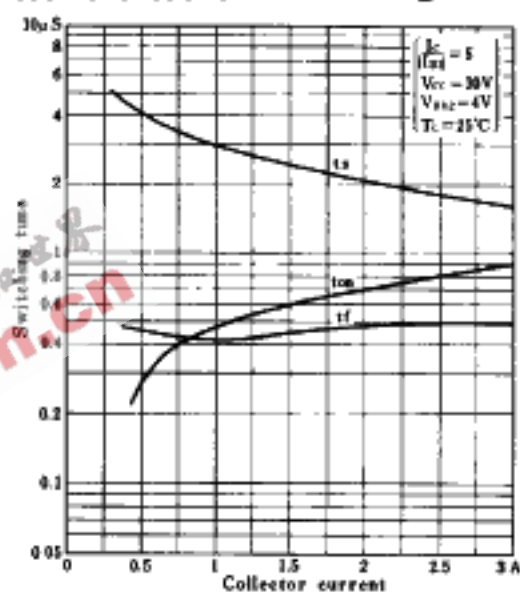
● Saturation voltage characteristics



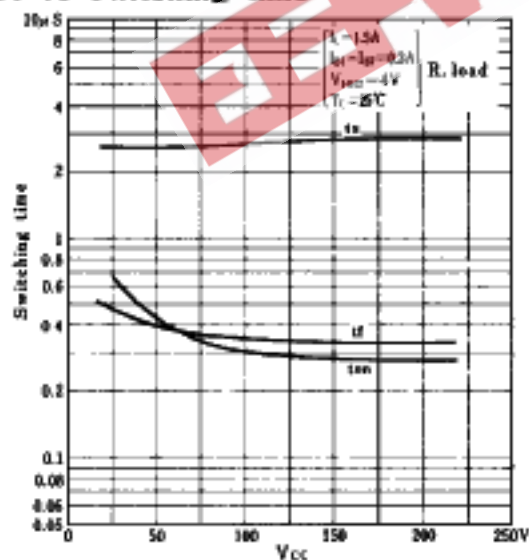
● Transition heat impedance



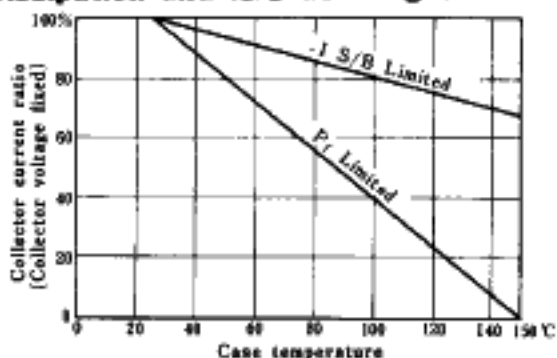
● Collector current vs Switching time



● Vcc vs Switching time



● Dissipation and Is/B derating curve



● Safe operating zone

