

# 2SD2524

## Silicon NPN triple diffusion mesa type

For horizontal deflection output

### ■ Features

- Incorporating a built-in damper diode
- High breakdown voltage, and high reliability through the use of a glass passivation layer
- High-speed switching
- Wide area of safe operation (ASO)
- Full-pack package with outstanding insulation, which can be installed to the heat sink with one screw

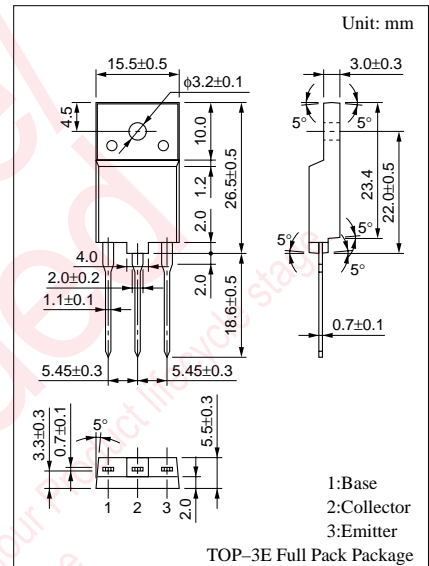
### ■ Absolute Maximum Ratings (T<sub>C</sub>=25°C)

Parameter	Symbol	Ratings	Unit
Collector to base voltage	V <sub>CBO</sub>	1700	V
Collector to emitter voltage	V <sub>CES</sub>	1700	V
Emitter to base voltage	V <sub>EBO</sub>	5	V
Collector current	I <sub>C</sub>	8	A
Peak collector current	I <sub>CP</sub> *	20	A
Peak base current	I <sub>BP</sub>	5	A
Reverse peak base current	I <sub>BP</sub>	-4.5	A
Collector power dissipation	P <sub>C</sub>	T <sub>C</sub> =25°C	100
		T <sub>a</sub> =25°C	3
Junction temperature	T <sub>j</sub>	150	°C
Storage temperature	T <sub>stg</sub>	-55 to +150	°C

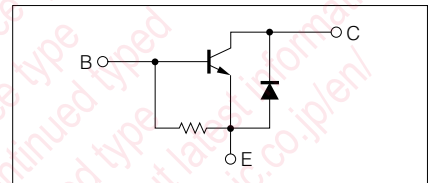
\*Non-repetitive peak

### ■ Electrical Characteristics (T<sub>C</sub>=25°C)

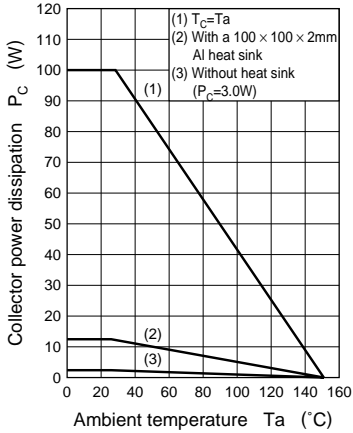
Parameter	Symbol	Conditions	min	typ	max	Unit
Collector cutoff current	I <sub>CBO</sub>	V <sub>CB</sub> = 1000V, I <sub>E</sub> = 0			50	μA
		V <sub>CB</sub> = 1700V, I <sub>E</sub> = 0			1	mA
Emitter to base voltage	V <sub>EBO</sub>	I <sub>E</sub> = 500mA, I <sub>C</sub> = 0	5			V
Forward current transfer ratio	h <sub>FE</sub>	V <sub>CE</sub> = 5V, I <sub>C</sub> = 6A	4		10	
Collector to emitter saturation voltage	V <sub>CE(sat)</sub>	I <sub>C</sub> = 6A, I <sub>B</sub> = 2A			3	V
Base to emitter saturation voltage	V <sub>BE(sat)</sub>	I <sub>C</sub> = 6A, I <sub>B</sub> = 2A			1.5	V
Transition frequency	f <sub>T</sub>	V <sub>CE</sub> = 10V, I <sub>C</sub> = 0.1A, f = 0.5MHz		3		MHz
Storage time	t <sub>stg</sub>	I <sub>C</sub> = 6A, I <sub>Bend</sub> = 2A, L <sub>leak</sub> = 5μH			12	μs
Fall time	t <sub>f</sub>				0.8	μs
Diode forward voltage	V <sub>F</sub>	I <sub>C</sub> = 8A, I <sub>B</sub> = 0			-2	V



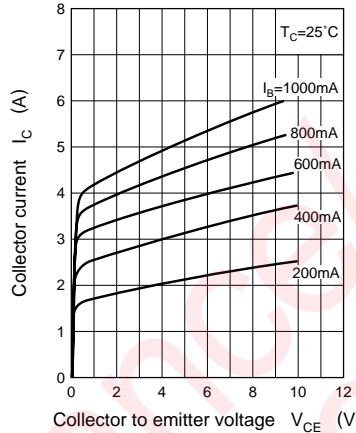
### Internal Connection



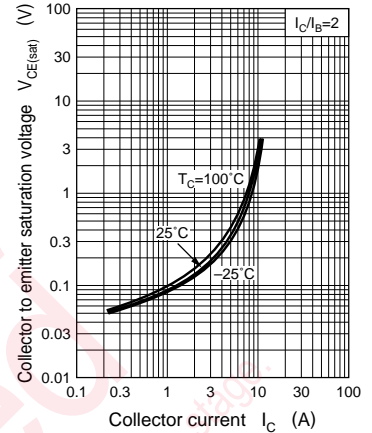
$P_C - T_a$



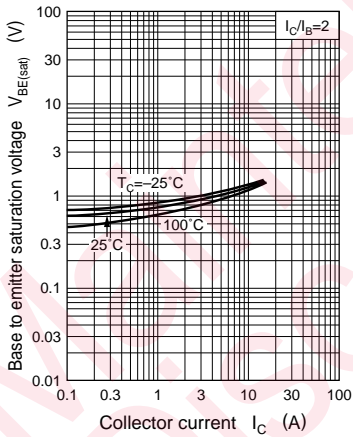
$I_C - V_{CE}$



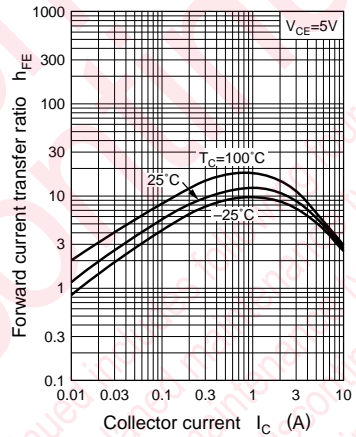
$V_{CE(sat)} - I_C$



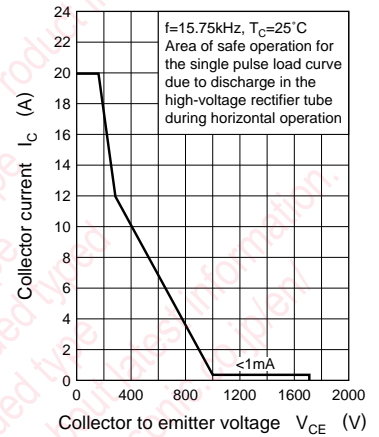
$V_{BE(sat)} - I_C$



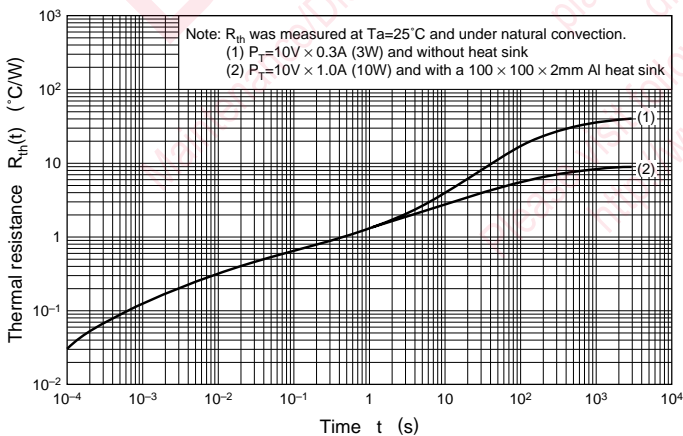
$h_{FE} - I_C$



Area of safe operation, horizontal operation ASO



$R_{th(t)} - t$



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