

# 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

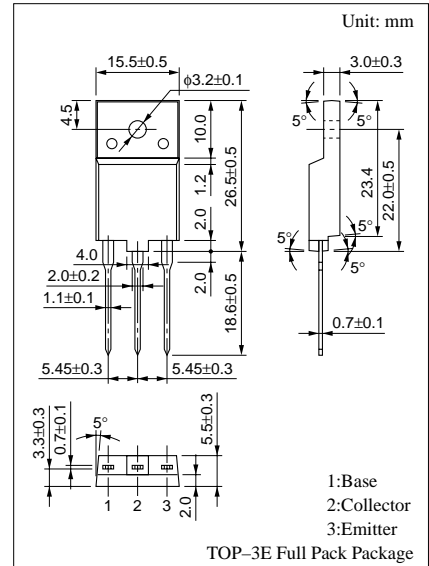
### Absolute Maximum Ratings ( $T_C=25^\circ\text{C}$ )

Parameter	Symbol	Ratings	Unit	
Collector to base voltage	$V_{CBO}$	1700	V	
Collector to emitter voltage	$V_{CES}$	1700	V	
Emitter to base voltage	$V_{EBO}$	5	V	
Collector current	$I_C$	8	A	
Peak collector current	$I_{CP}^*$	20	A	
Peak base current	$I_{BP}$	5	A	
Reverse peak base current	$I_{BP}$	-4.5	A	
Collector power dissipation	$P_C$	$T_C=25^\circ\text{C}$	100	W
		$T_a=25^\circ\text{C}$	3	
Junction temperature	$T_j$	150	$^\circ\text{C}$	
Storage temperature	$T_{stg}$	-55 to +150	$^\circ\text{C}$	

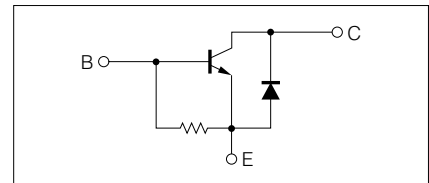
\*Non-repetitive peak

### Electrical Characteristics ( $T_C=25^\circ\text{C}$ )

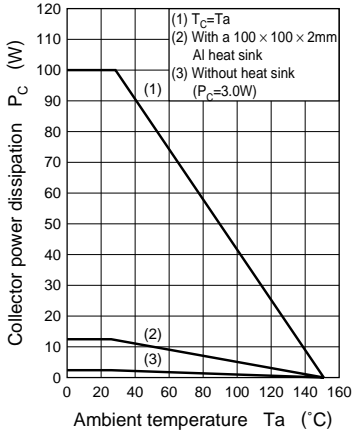
Parameter	Symbol	Conditions	min	typ	max	Unit
Collector cutoff current	$I_{CBO}$	$V_{CB} = 1000\text{V}, I_E = 0$			50	$\mu\text{A}$
		$V_{CB} = 1700\text{V}, I_E = 0$			1	mA
Emitter to base voltage	$V_{EBO}$	$I_E = 500\text{mA}, I_C = 0$	5			V
Forward current transfer ratio	$h_{FE}$	$V_{CE} = 5\text{V}, I_C = 6\text{A}$	4		10	
Collector to emitter saturation voltage	$V_{CE(sat)}$	$I_C = 6\text{A}, I_B = 2\text{A}$			3	V
Base to emitter saturation voltage	$V_{BE(sat)}$	$I_C = 6\text{A}, I_B = 2\text{A}$			1.5	V
Transition frequency	$f_T$	$V_{CE} = 10\text{V}, I_C = 0.1\text{A}, f = 0.5\text{MHz}$		3		MHz
Storage time	$t_{stg}$	$I_C = 6\text{A}, I_{Bend} = 2\text{A}, L_{leak} = 5\mu\text{H}$			12	$\mu\text{s}$
Fall time	$t_f$				0.8	$\mu\text{s}$
Diode forward voltage	$V_F$	$I_C = 8\text{A}, I_B = 0$			-2	V



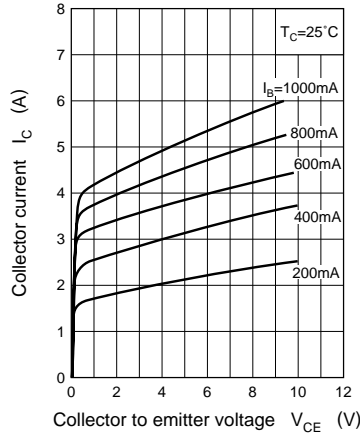
### Internal Connection



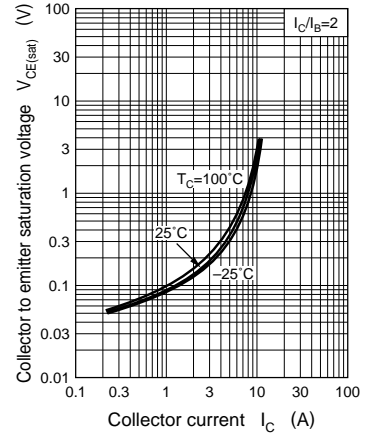
$P_C - T_a$



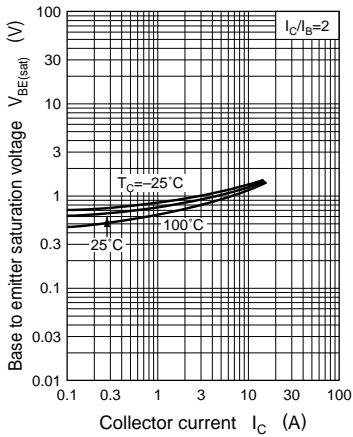
$I_C - V_{CE}$



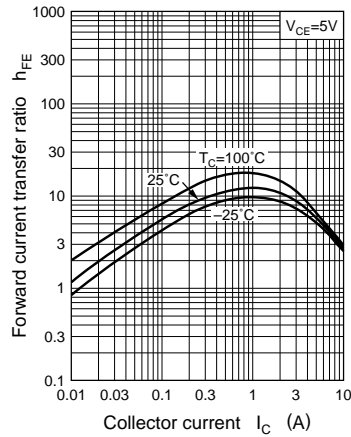
$V_{CE(sat)} - I_C$



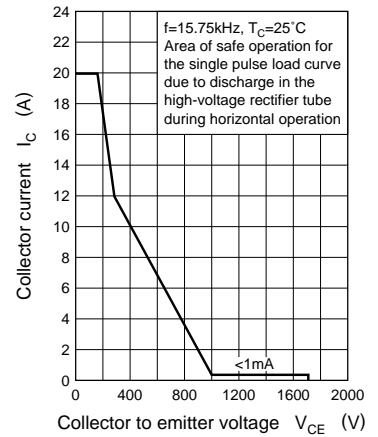
$V_{BE(sat)} - I_C$



$h_{FE} - I_C$



Area of safe operation, horizontal operation ASO



$R_{th(t)} - t$

