

# 2SC5440

## Silicon NPN triple diffusion mesa type

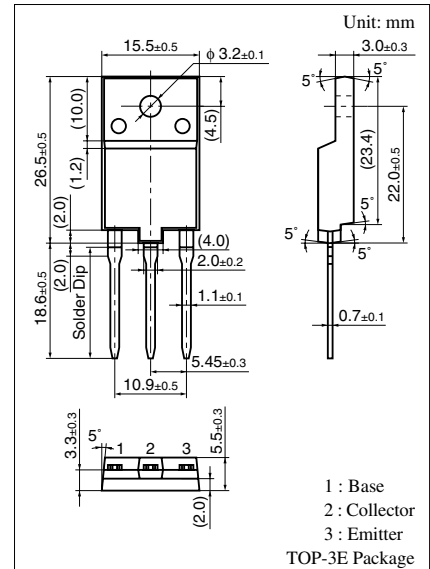
For horizontal deflection output

### ■ Features

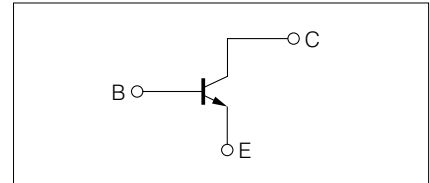
- High breakdown voltage, and high reliability through the use of a glass passivation layer
- High-speed switching
- Wide area of safe operation (ASO)

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

Parameter	Symbol	Rating	Unit	
Collector to base voltage	$V_{CBO}$	1 500	V	
Collector to emitter voltage	$V_{CES}$	1 500	V	
	$V_{CEO}$	600	V	
Emitter to base voltage	$V_{EBO}$	7	V	
Peak collector current	$I_{CP}$	25	A	
Collector current	$I_C$	15	A	
Base current	$I_B$	7.5	A	
Collector power dissipation	$P_C$	$T_C = 25^\circ\text{C}$	60	W
		$T_a = 25^\circ\text{C}$	3.0	
Junction temperature	$T_j$	150	$^\circ\text{C}$	
Storage temperature	$T_{stg}$	-55 to +150	$^\circ\text{C}$	



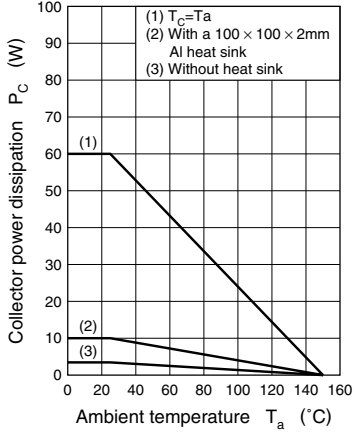
### Internal Connection



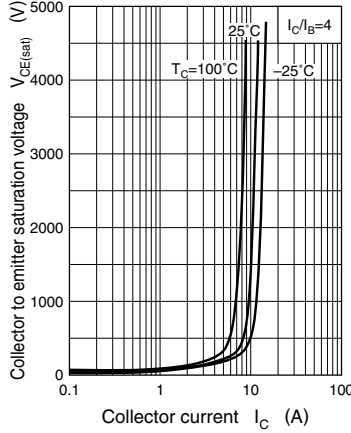
### ■ Electrical Characteristics $T_C = 25^\circ\text{C}$

Parameter	Symbol	Conditions	Min	Typ	Max	Unit
Collector cutoff current	$I_{CBO}$	$V_{CB} = 1\ 000\ \text{V}, I_E = 0$			50	$\mu\text{A}$
		$V_{CB} = 1\ 500\ \text{V}, I_E = 0$			1	mA
Emitter cutoff current	$I_{EBO}$	$V_{EB} = 7\ \text{V}, I_C = 0$			50	$\mu\text{A}$
Forward current transfer ratio	$h_{FE}$	$V_{CE} = 5\ \text{V}, I_C = 7.5\ \text{A}$	5		9	
Collector to emitter saturation voltage	$V_{CE(sat)}$	$I_C = 7.5\ \text{A}, I_B = 1.88\ \text{A}$			3	V
Base to emitter saturation voltage	$V_{BE(sat)}$	$I_C = 7.5\ \text{A}, I_B = 1.88\ \text{A}$			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	$t_{stg}$	$I_C = 7.5\ \text{A}, I_{B1} = 1.88\ \text{A}, I_{B2} = -3.76\ \text{A}$			2.7	$\mu\text{s}$
Fall time	$t_f$				0.2	$\mu\text{s}$

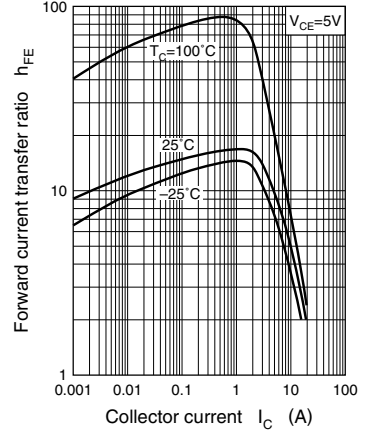
$P_C - T_a$



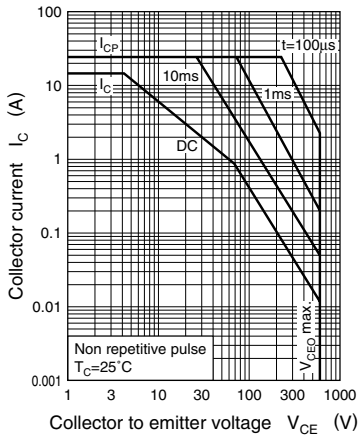
$V_{CE(sat)} - I_C$



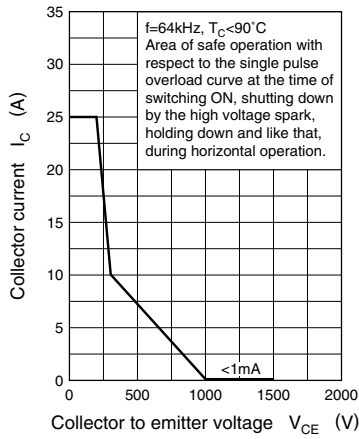
$h_{FE} - I_C$



Area of safe operation (ASO)



Area of safe operation, horizontal operation ASO



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