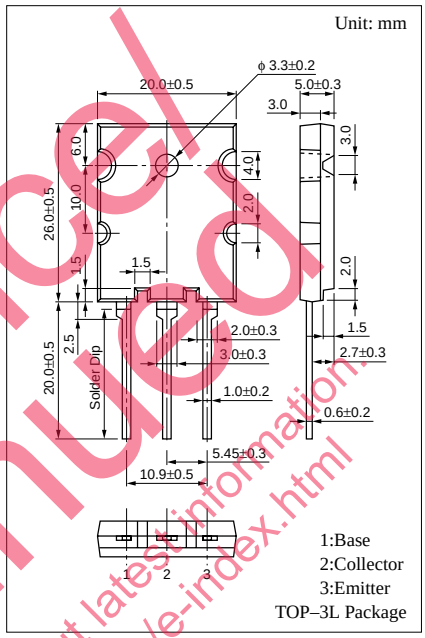
2SC5442, 2SC5442A

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)

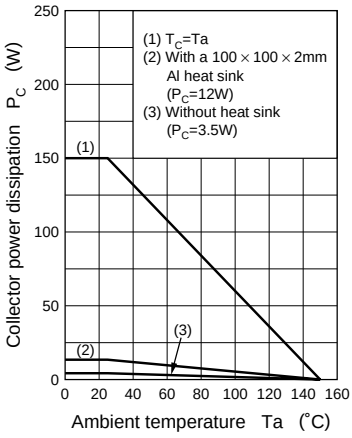
Absolute Maximum Ratings (T_C=25˚C)

Parameter		Symbol	Ratings	Unit
Collector to base voltage		V_{CBO}	1500	V
Collector to emitter voltage		V_{CES}	1500	V
		V_{CEO}	600	V
Emitter to base voltage		V_{EBO}	5	V
Peak collector current		I_{CP}	20	A
Collector current		I_C	15	A
Base current		I_B	8	A
Collector power dissipation	T_C=25°C	P_C	100	W
	Ta=25°C		3.5	
Junction temperature		T_j	150	˚C
Storage temperature		T_{stg}	–55 to +150	˚C

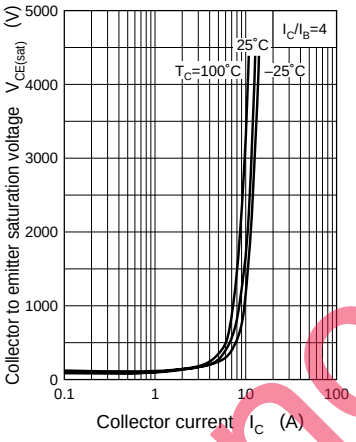
Electrical Characteristics (T_C=25˚C)

Parameter		Symbol	Conditions	min	typ	max	Unit
Collector cutoff current	2SC5442	I_{CBO}	V_{CB} = 1000V, I_E = 0			50	μA
	2SC5442A		V_{CB} = 1500V, I_E = 0			1	mA
Emitter cutoff current		I_{EBO}	V_{EB} = 5V, I_C = 0			50	μA
Forward current transfer ratio		h_{FE}	V_{CE} = 5V, I_C = 7.5A	5		12	
Collector to emitter saturation voltage		$V_{CE(sat)}$	I_C = 7.5A, I_B = 1.88A			3	V
Base to emitter saturation voltage		$V_{BE(sat)}$	I_C = 7.5A, I_B = 1.88A			1.5	V
Transition frequency		f_T	V_{CE} = 10V, I_C = 0.1A, f = 0.5MHz		3		MHz
Storage time		t_{stg}	I_C = 7.5A, I_{B1} = 1.88A, I_{B2} = –3.76A			3.0	μs
Fall time		t_f				0.2	μs

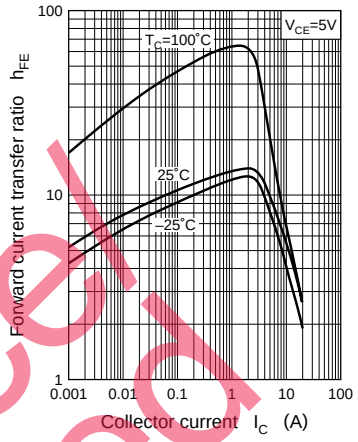
P_C — Ta



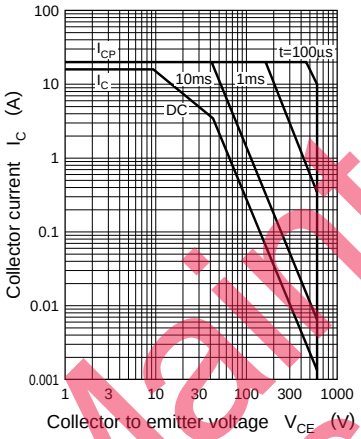
$V_{CE(sat)}$ — I_C



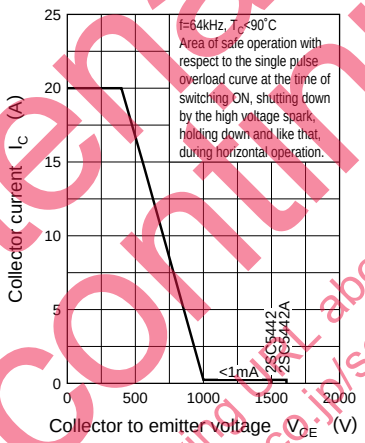
h_{FE} — I_C



Area of safe operation (ASO)



Area of safe operation, horizontal operation ASO



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