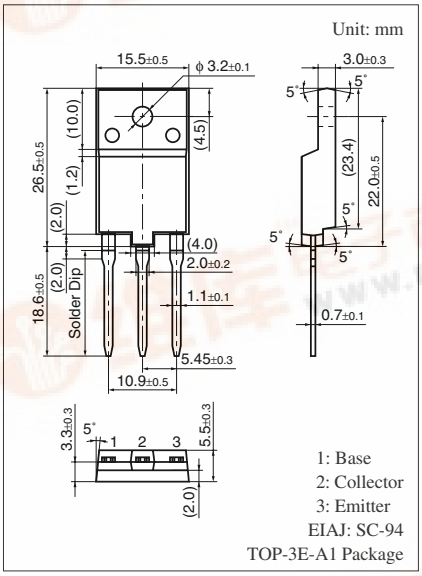
2SC6012

Silicon NPN triple diffusion mesa type

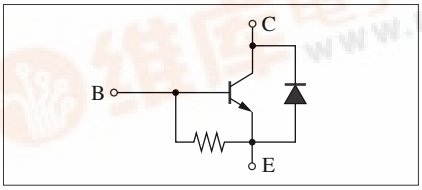
For horizontal deflection output



■ Features

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

Internal Connection



■ Absolute Maximum Ratings $T_C = 25°C$

Parameter	Symbol	Rating	Unit
Collector-base voltage (Emitter open)	V_{CBO}	1 700	V
Collector-emitter voltage (E-B short)	V_{CES}	1 700	V
Emitter-base voltage (Collector open)	V_{EBO}	7	V
Base current	I_B	3	A
Collector current	I_C	15	A
Peak collector current *	I_{CP}	24	A
Collector power dissipation	P_C	60	W
$T_a = 25°C$		3	
Junction temperature	T_j	150	°C
Storage temperature	T_{stg}	−55 to +150	°C

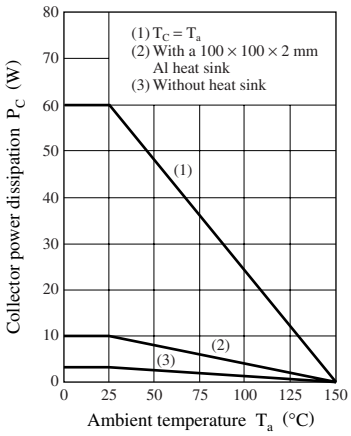
Note) *: Non-repetitive peak collector current

■ Electrical Characteristics $T_C = 25°C \pm 3°C$

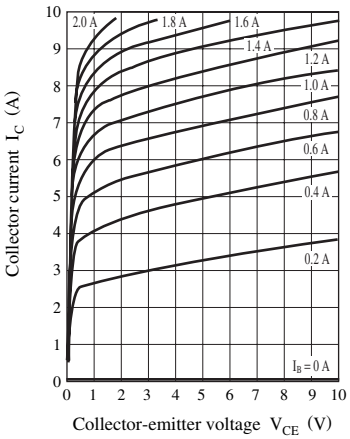
Parameter	Symbol	Conditions	Min	Typ	Max	Unit
Emitter-base voltage (Collector open) *	V_{EBO}	I_E = 750 mA, I_C = 0	7			V
Forward voltage *	V_F	I_F = 7.0 A			−2	V
Collector-base cutoff current (Emitter open)	I_{CBO}	V_{CB} = 1 000 V, I_E = 0			50	μA
		V_{CB} = 1 700 V, I_E = 0			1	mA
Forward current transfer ratio *	h_{FE}	V_{CE} = 5 V, I_C = 7.0 A	7		12	—
Collector-emitter saturation voltage *	$V_{CE(sat)}$	I_C = 7.0 A, I_B = 1.75 A			3.0	V
Base-emitter saturation voltage *	$V_{BE(sat)}$	I_C = 7.0 A, I_B = 1.75 A			1.5	V
Transition frequency	f_T	V_{CE} = 10 V, I_C = 0.5 A, f = 0.5 MHz		2.1		MHz
Storage time	t_{stg}	I_C = 7.0 A, Resistance loaded			5.0	μs
Fall time	t_f	I_{B1} = 1.75 A, I_{B2} = −3.5 A			0.5	μs

Note) 1. Measuring methods are based on JAPANESE INDUSTRIAL STANDARD JIS C 7030 measuring methods for transistors.
2. *: Pulse measurement

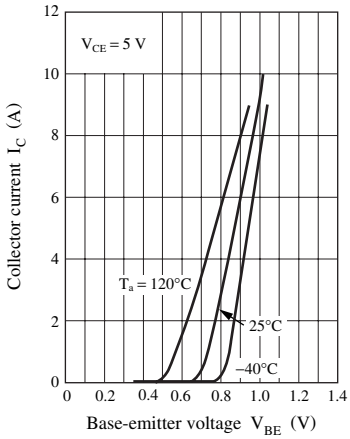
P_C — T_a



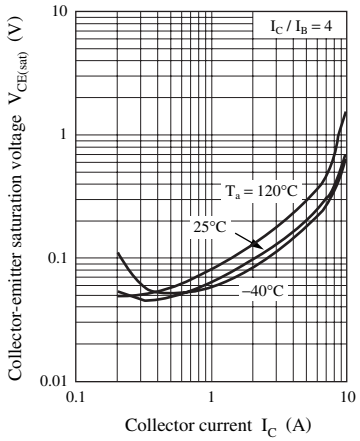
I_C — V_{CE}



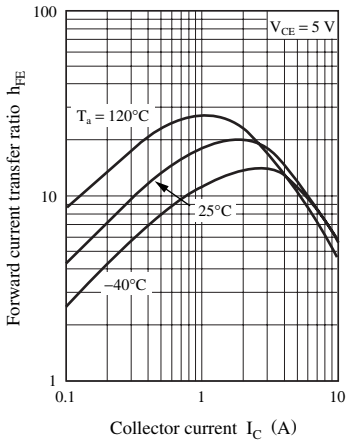
I_C — V_{BE}



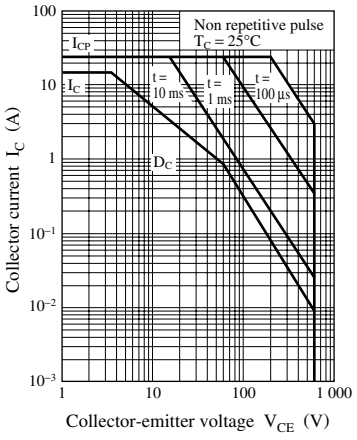
$V_{CE(sat)}$ — I_C



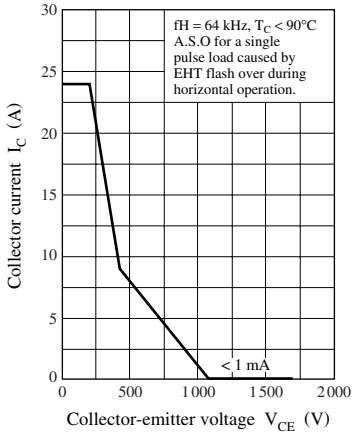
h_{FE} — I_C



Safe operation area



Safe operation area (Horizontal operation)



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