TOSHIBA Transistor Silicon NPN Epitaxial Type

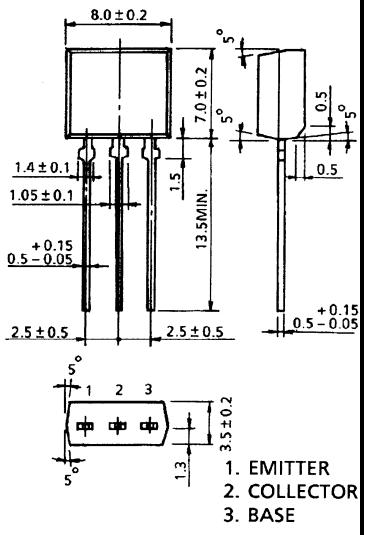
2SC5030

Strobe Flash Applications

Medium Power Amplifier Applications

- High DC current gain : $h_{FE\ (1)}$ = 800 to 3200 (V_{CE} = 2 V, I_C = 0.5 A)
  : $h_{FE\ (2)}$ = 250 (min) (V_{CE} = 2 V, I_C = 4 A)
- Low saturation voltage: $V_{CE\ (sat)}$ = 0.5 V (max)
  (I_C = 4 A, I_B = 40 mA)
- High collector power dissipation: P_C = 1.3 W

Unit: mm



JEDEC	—
JEITA	—
TOSHIBA 2-	8M1A

Weight: 0.55 g (typ.)

Maximum Ratings (Ta = 25°C)

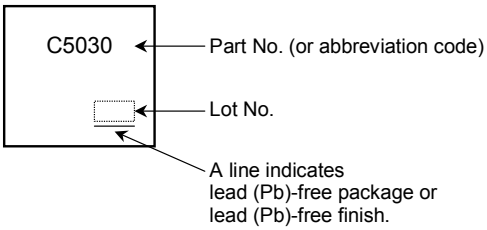
Characteristics	Sy mbol		Rating	Unit
Collector-base voltage		V_{CBO}	50	V
Collector-emitter voltage		V_{CES}	40	V
		V_{CEO} 20		
Emitter-base voltage		V_{EBO}	8	V
Collector current	DC I	C	5	A
	Pulse (Note)	I_{CP}	8	
Base current		I_B	0.5	A
Collector power dissipation		P_C 1.	3	W
Junction temperature		T_j	150	°C
Storage temperature range		T_{stg}	−55 to 150	°C

Note: Conditions: Pulse width = 10 ms (max), duty cycle = 30% (max)

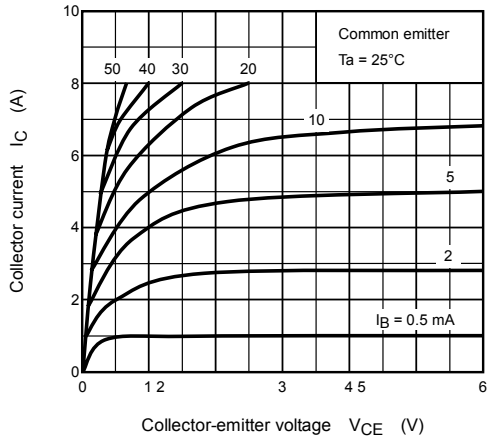
Electrical Characteristics (Ta = 25°C)

Characteristics	Sy mbol	Test Condition	Min	Typ.	Max	Unit
Collector cut-off current	I_{CBO}	V_{CB} = 50 V, I_E = 0	—	— 100		nA
Emitter cut-off current	I_{EBO}	V_{EB} = 8 V, I_C = 0	—	— 100		nA
Collector-emitter breakdown voltage	$V_{(BR)\ CEO}$	I_C = 10 mA, I_B = 0	20	—	— V	
DC current gain	$h_{FE\ (1)}$	V_{CE} = 2 V, I_C = 0.5 A	800	— 3200		
	$h_{FE\ (2)}$	V_{CE} = 2 V, I_C = 4 A	250	—	—	
Collector-emitter saturation voltage	$V_{CE\ (sat)}$	I_C = 4 A, I_B = 40 mA	—	— 0.	5	V
Base-emitter voltage	V_{BE}	V_{CE} = 2 V, I_C = 4 A	—	— 1.	2	V
Transition frequency	f_T	V_{CE} = 2 V, I_C = 0.5 A	— 150		— MH	z
Collector output capacitance	C_{ob}	V_{CB} = 10 V, I_E = 0, f = 1 MHz	— 45		— pF	

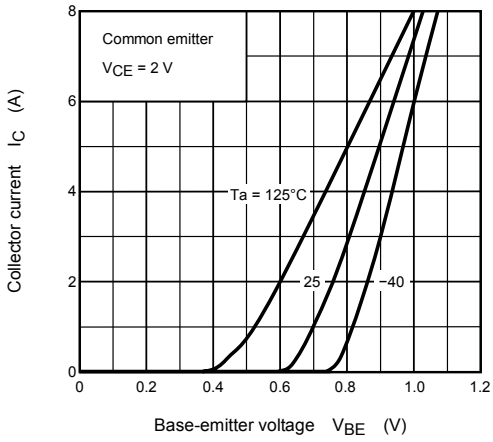
Marking


C5030
Part No. (or abbreviation code)
Lot No.
A line indicates
lead (Pb)-free package or
lead (Pb)-free finish.

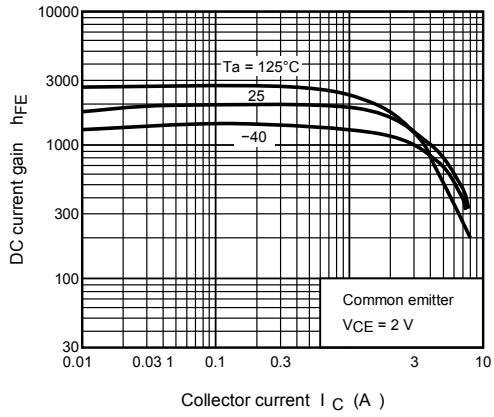
$I_C - V_{CE}$



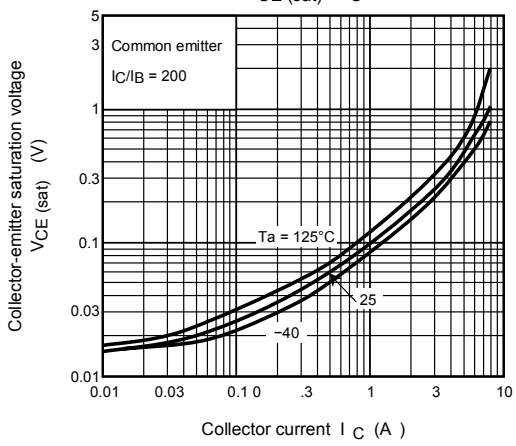
$I_C - V_{BE}$



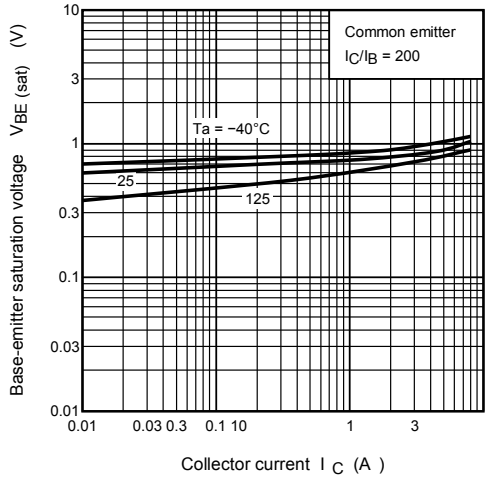
$h_{FE} - I_C$



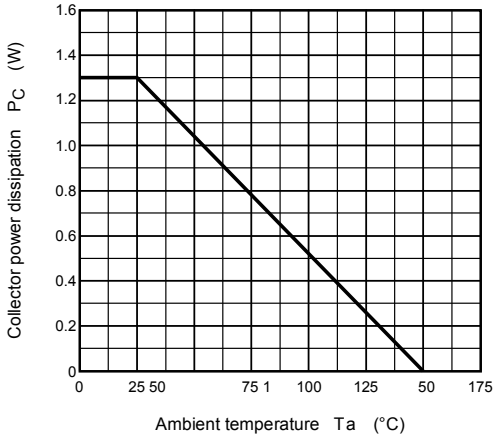
$V_{CE\ (sat)} - I_C$



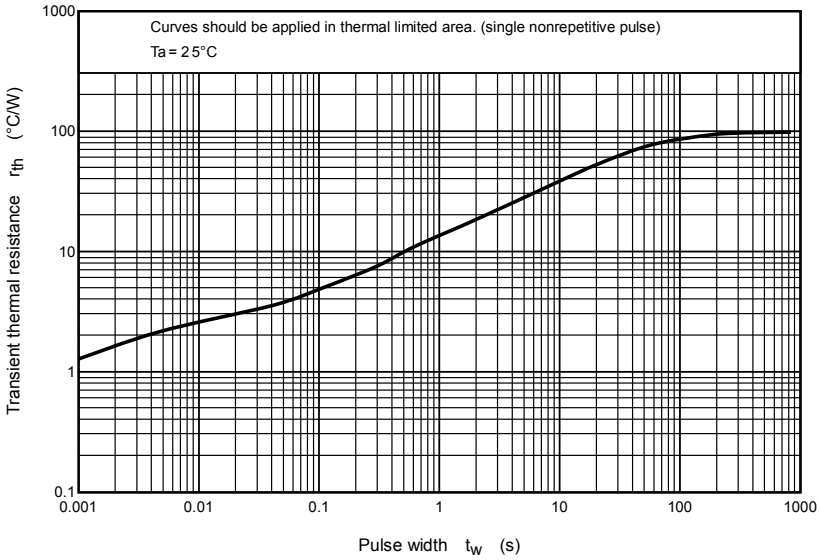
$V_{BE\ (sat)} - I_C$



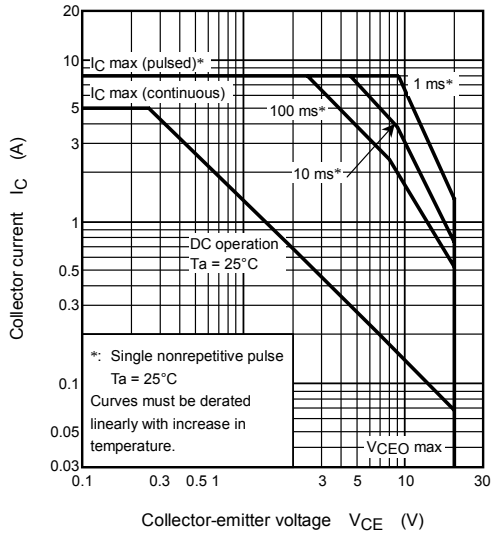
$P_C - Ta$



$r_{th} - t_w$



Safe Operating Area



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