TOSHIBA Transistor Silicon PNP Triple Diffused Type

2SB1015A

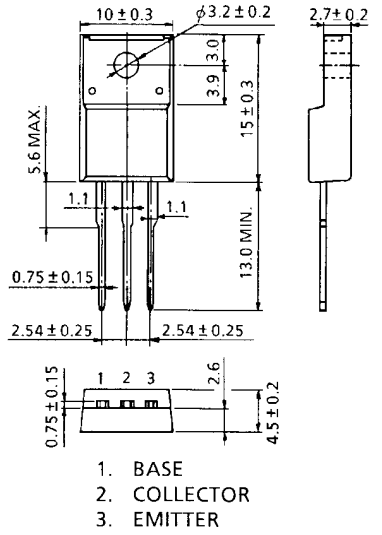
Audio Frequency Power Amplifier Applications

- Low collector saturation voltage: $V_{CE\ (sat)} = -1.7$ V (max) ($I_C = -3$ A, $I_B = -0.3$ A)
- Collector power dissipation: $P_C = 25$ W ($T_c = 25°C$)

Maximum Ratings (Ta = 25°C)

Characteristics		Symbol	Rating	Unit
Collector-base voltage		V_{CBO}	−60	V
Collector-emitter voltage		V_{CEO}	−60	V
Emitter-base voltage		V_{EBO}	−7	V
Collector current		I_C	−3	A
Base current		I_B	−0.5	A
Collector power dissipation	Ta = 25°C	P_C	2.0	W
	Tc = 25°C		25	
Junction temperature		T_j	150	°C
Storage temperature range		T_{stg}	−55~150	°C

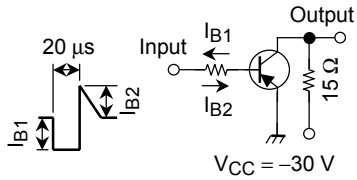
Unit: mm



JEDEC	—
JEITA	SC-67
TOSHIBA	2-10R1A

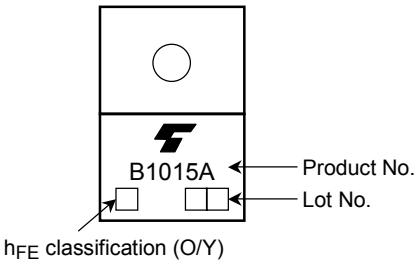
Weight: 1.7 g (typ.)

Electrical Characteristics (Ta = 25°C)

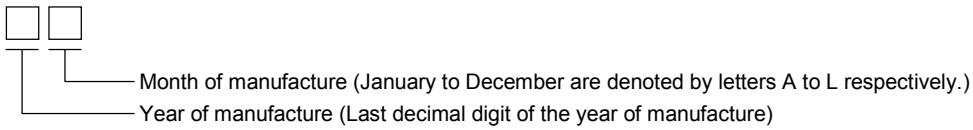
Characteristics		Symbol	Test Condition	Min	Typ.	Max	Unit
Collector cut-off current		I_{CBO}	V_{CB} = –60 V, I_E = 0	—	—	–100	μA
Emitter cut-off current		I_{EBO}	V_{EB} = –7 V, I_C = 0	—	—	–100	μA
Collector-emitter breakdown voltage		$V_{(BR)\ CEO}$	I_C = –50 mA, I_B = 0	–60	—	—	V
DC current gain		$h_{FE\ (1)}$ (Note)	V_{CE} = –5 V, I_C = –0.5 A	60	—	200	
		$h_{FE\ (2)}$	V_{CE} = –5 V, I_C = –3 A	20	—	—	
Collector-emitter saturation voltage		$V_{CE\ (sat)}$	I_C = –3 A, I_B = –0.3 A	—	–0.5	–1.7	V
Base-emitter voltage		V_{BE}	V_{CE} = –5 A, I_C = –0.5 A	—	–0.7	–1.0	V
Transition frequency		f_T	V_{CE} = –5 V, I_C = –0.5 A	—	9	—	MHz
Collector output capacitance		C_{ob}	V_{CB} = –10 V, I_E = 0, f = 1 MHz	—	150	—	pF
Switching time	Turn-on time	t_{on}	 $-I_{B1} = I_{B2}$ = 0.2 A, duty cycle ≦ 1%	—	0.4	—	μs
	Storage time	t_{stg}		—	1.7	—	
	Fall time	t_f		—	0.5	—	

Note: $h_{FE\ (1)}$ classification O: 60~120, Y: 100~200

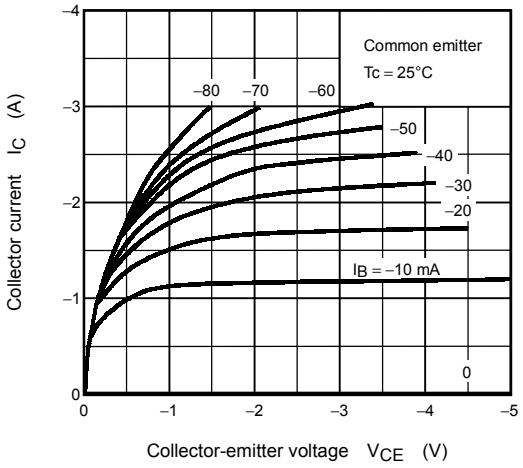
Marking



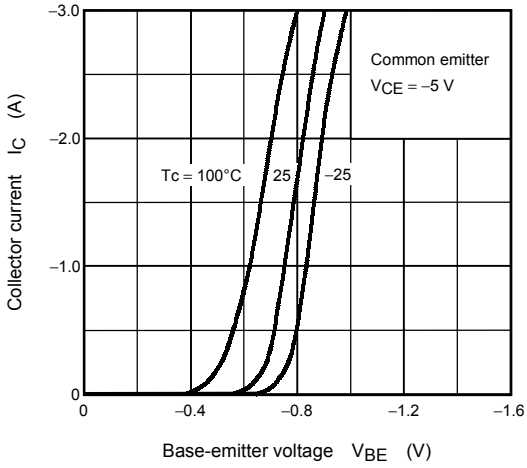
Explanation of Lot No.



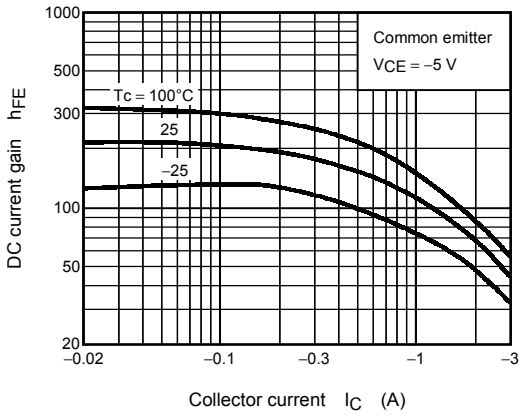
$I_C - V_{CE}$



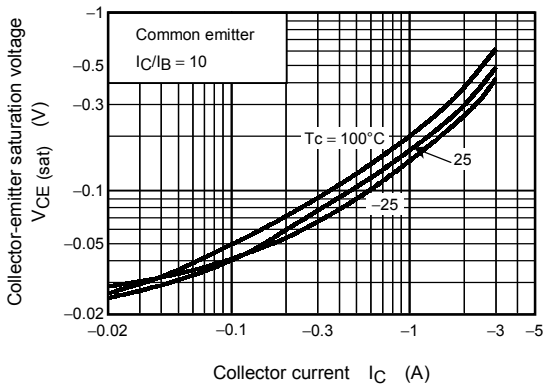
$I_C - V_{BE}$



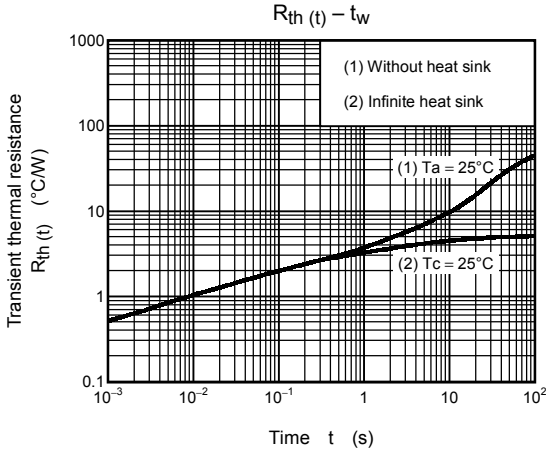
$h_{FE} - I_C$



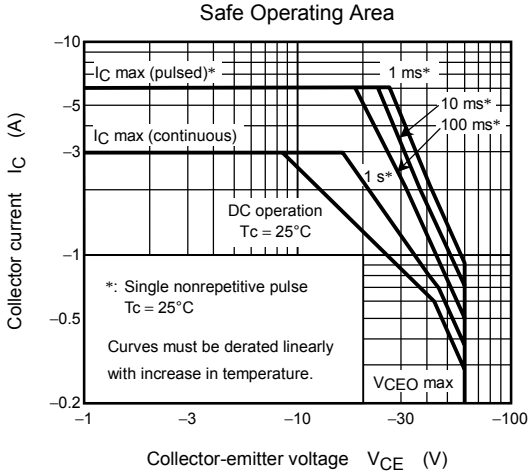
$V_{CE\ (sat)} - I_C$



$R_{th\ (t)} - t_w$



Safe Operating Area



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