TOSHIBA TRANSISTOR SILOCON NPN EPITAXIAL TYPE (PCT PROCESS)

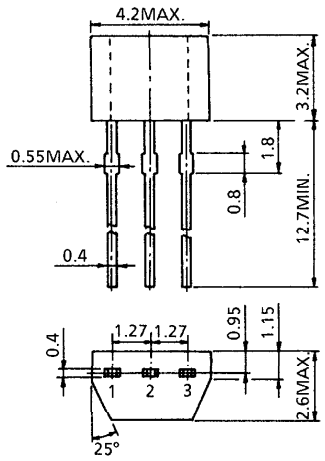
2SC2458Ⓛ

AUDIO AMPLIFIER APPLICATIONS

LOW NOISE AUDIO AMPLIFIER APPLICATIONS

- High Current Capability : I_C = 150mA (Max.)
- High DC Current Gain : h_{FE} = 70~700
- Excellent hFE Linearity
  : h_{FE} (I_C = 0.1mA) / h_{FE} (I_C = 2mA) = 0.95 (Typ.)
- Low Noise : NF (2) = 0.2dB (Typ.), 3dB (Max.)
- Complementary to 2SA1048Ⓛ.
- Small Package.

Unit in mm



1. EMITTER
2. COLLECTOR
3. BASE

JEDEC	—
EIAJ	—
TOSHIBA	2-4E1A

Weight : 0.13g

MAXIMUM RATINGS (Ta = 25°C)

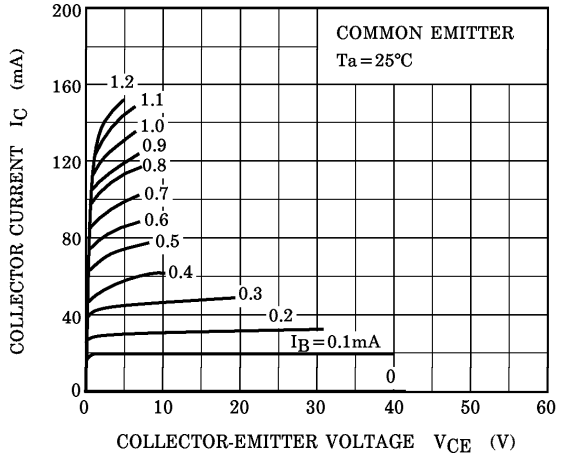
CHARACTERISTIC	SYMBOL	RATING	UNIT
Collector-Base Voltage	V_{CBO}	50	V
Collector-Emitter Voltage	V_{CEO}	50	V
Emitter-Base Voltage	V_{EBO}	5	V
Collector Current	I_C	150	mA
Base Current	I_B	50	mA
Collector Power Dissipation	P_C	200	mW
Junction Temperature	T_j	125	°C
Storage Temperature Range	T_{stg}	−55~125	°C

ELECTRICAL CHARACTERISTICS (Ta = 25°C)

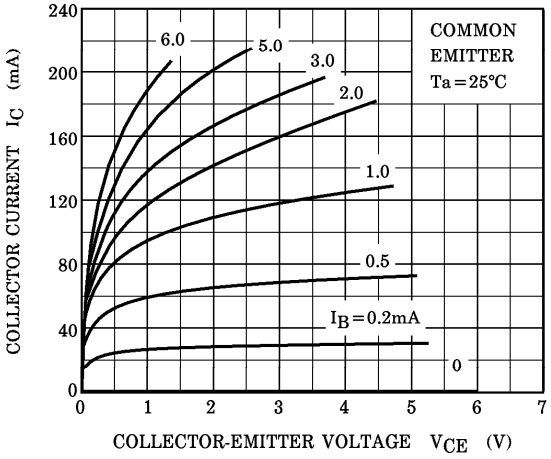
CHARACTERISTIC	SYMBOL	TEST CONDITION	MIN.	TYP.	MAX.	UNIT
Collector Cut-off Current	I_{CBO}	V_{CB} = 50V, I_E = 0	—	—	0.1	μA
Emitter Cut-off Current	I_{EBO}	V_{EB} = 5V, I_C = 0	—	—	0.1	μA
DC Current Gain	h_{FE} (Note)	V_{CE} = 6V, I_C = 2mA	70	—	700	
Collector-Emitter Saturation Voltage	$V_{CE\ (sat)}$	I_C = 100mA, I_B = 10mA	—	0.1	0.25	V
Transition Frequency	f_T	V_{CE} = 10V, I_C = 1mA	80	—	—	MHz
Collector Output Capacitance	C_{ob}	V_{CB} = 10V, I_E = 0, f = 1MHz	—	2.0	3.5	pF
Noise Figure	NF (1)	V_{CE} = 6V, I_C = 0.1mA, f = 100Hz, R_G = 10kΩ	—	0.5	6	dB
	NF (2)	V_{CE} = 6V, I_C = 0.1mA, f = 1kHz, R_G = 10kΩ	—	0.2	3	

Note : h_{FE} Classification O : 70~140, Y : 120~240, GR : 200~400, BL : 350~700

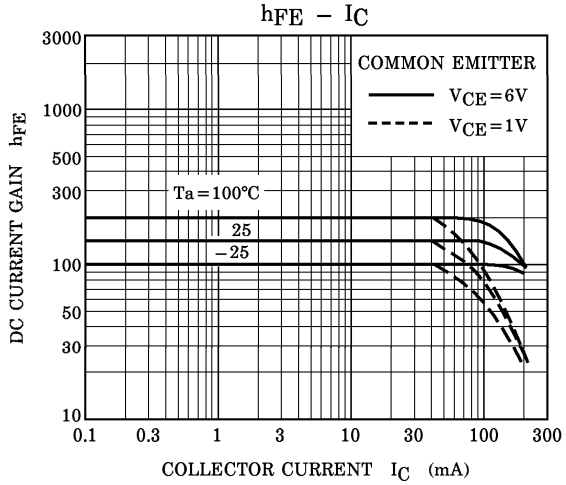
I_C – V_{CE}



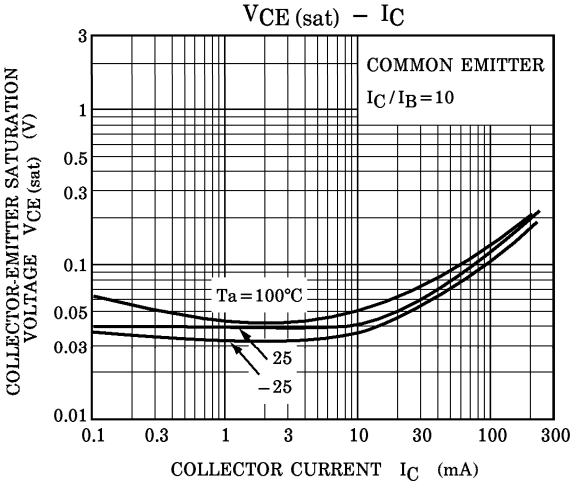
I_C – V_{CE}



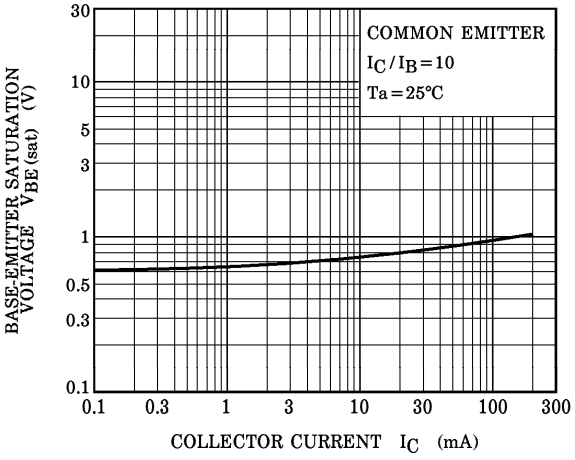
h_{FE} – I_C



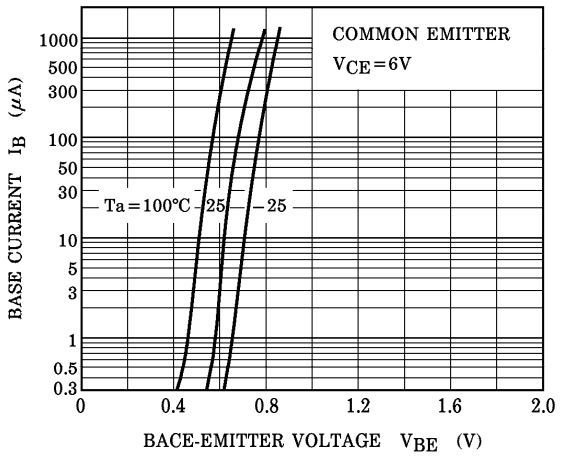
$V_{CE\,(sat)}$ – I_C



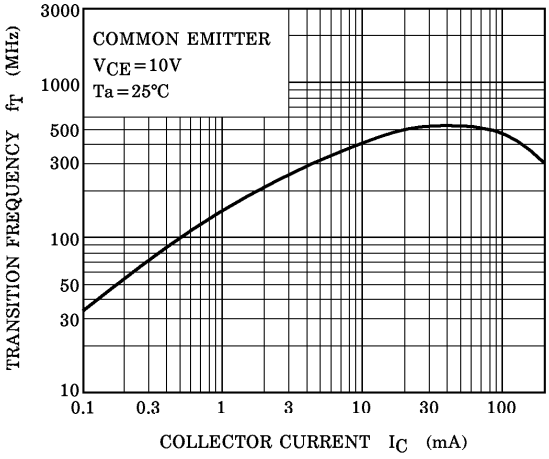
$V_{BE\,(sat)}$ – I_C



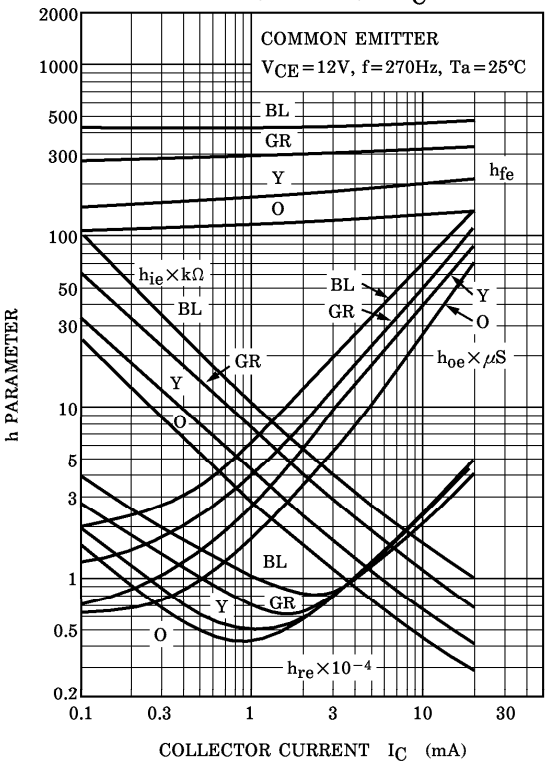
I_B – V_{BE}



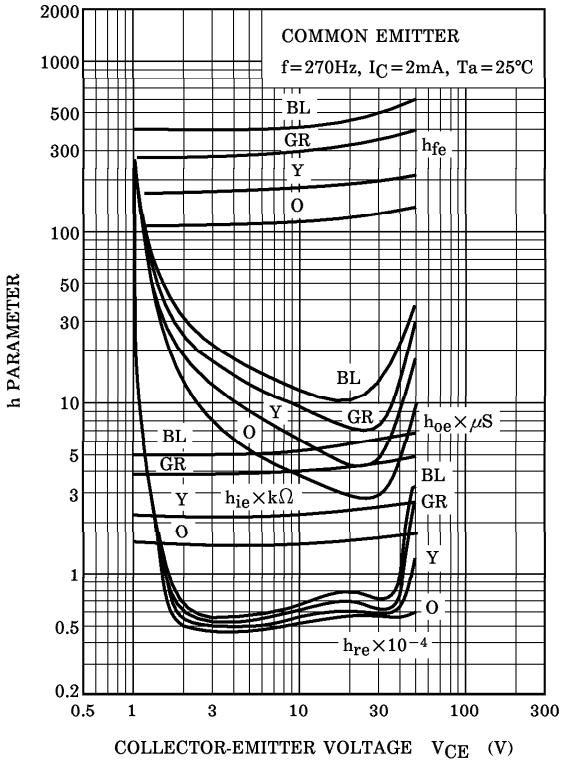
f_T – I_C



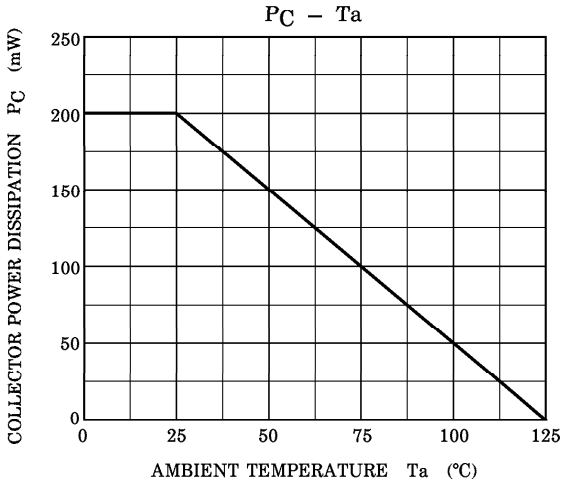
h PARAMETER – I_C



h PARAMETER – V_{CE}



P_C – Ta



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