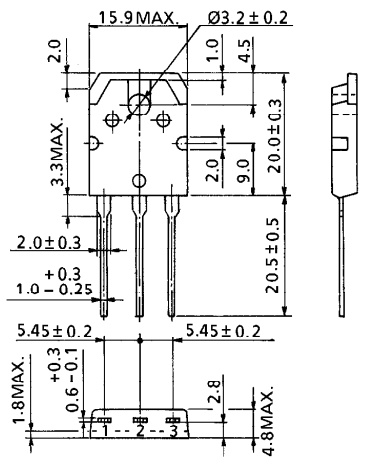
TOSHIBA TRANSISTOR SILICON NPN TRIPLE DIFFUSED TYPE

2SC5242

POWER AMPLIFIER APPLICATIONS

Unit in mm

- High Collector Breakdown Voltage : V_{CEO} = 230V (Min.)
- Complementary to 2SA1962
- Recommend for 80W High Fidelity Audio Frequency Amplifier Output Stage.



1. BASE
2. COLLECTOR (HEAT SINK)
3. EMITTER

JEDEC	—
EIAJ	—
TOSHIBA	2-16C1A

Weight : 4.7g (Typ.)

MAXIMUM RATINGS (Ta = 25°C)

CHARACTERISTIC	SYMBOL	RATING	UNIT
Collector-Base Voltage	V_{CBO}	230	V
Collector-Emitter Voltage	V_{CEO}	230	V
Emitter-Base Voltage	V_{EBO}	5	V
Collector Current	I_C	15	A
Base Current	I_B	1.5	A
Collector Power Dissipation (Tc = 25°C)	P_C	130	W
Junction Temperature	T_j	150	°C
Storage Temperature	T_{stg}	−55~150	°C

ELECTRICAL CHARACTERISTICS (Ta = 25°C)

CHARACTERISTIC	SYMBOL	TEST CONDITION	MIN.	TYP.	MAX.	UNIT
Collector Cut-off Current	I_{CBO}	V_{CB} = 230V, I_E = 0	—	—	5.0	μA
Emitter Cut-off Current	I_{EBO}	V_{EB} = 5V, I_C = 0	—	—	5.0	μA
Collector-Emitter Breakdown Voltage	$V_{(BR)CEO}$	I_C = 50mA, I_B = 0	230	—	—	V
DC Current Gain	$h_{FE(1)}$ (Note)	V_{CE} = 5V, I_C = 1A	55	—	160	
	$h_{FE(2)}$	V_{CE} = 5V, I_C = 7A	35	60	—	
Collector-Emitter Saturation Voltage	$V_{CE(sat)}$	I_C = 8A, I_B = 0.8A	—	0.4	3.0	V
Base-Emitter Voltage	V_{BE}	V_{CE} = 5V, I_C = 7A	—	1.0	1.5	V
Transition Frequency	f_T	V_{CE} = 5V, I_C = 1A	—	30	—	MHz
Collector Output Capacitance	C_{ob}	V_{CB} = 10V, I_E = 0, f = 1MHz	—	200	—	pF

Note : $h_{FE(1)}$ Classification R : 55~110, O : 80~160

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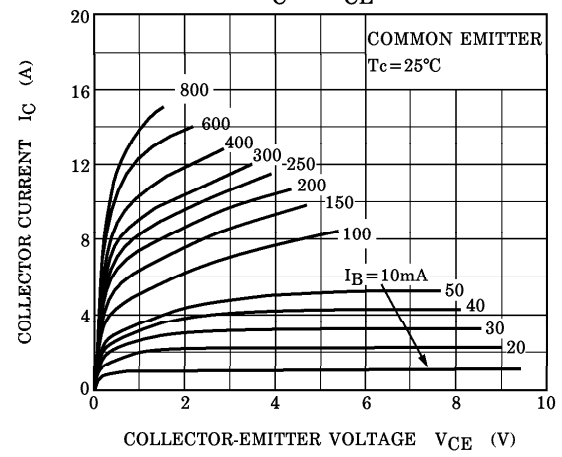
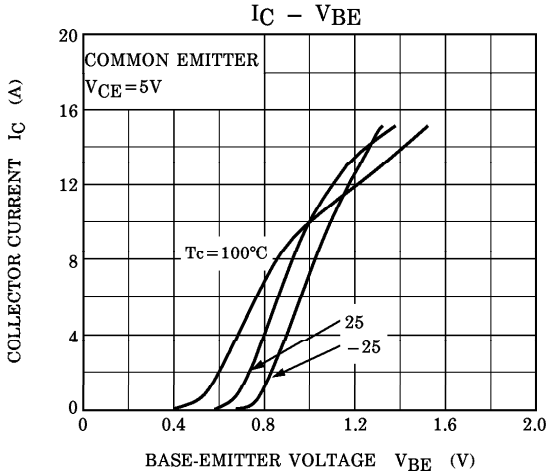
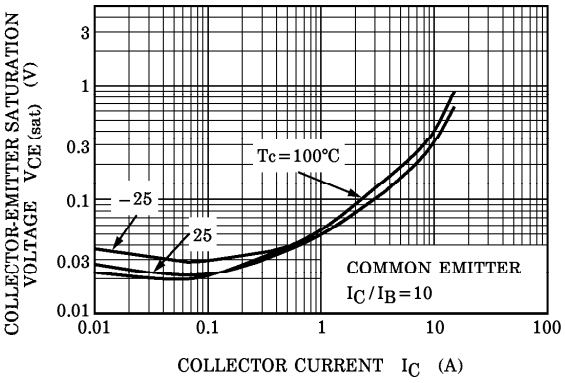
I_C – V_{CE}



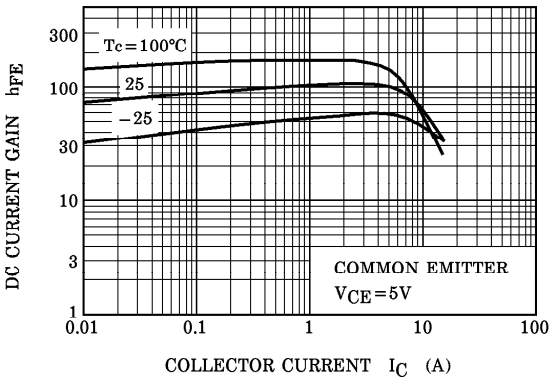
I_C – V_{BE}



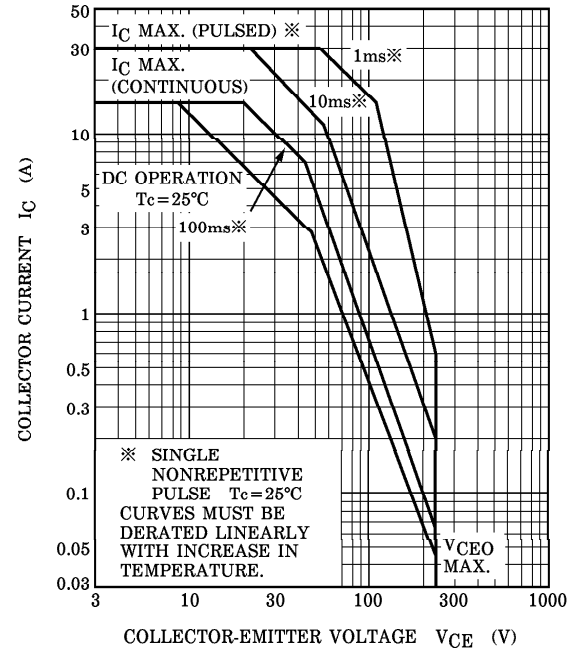
$V_{CE\,(sat)}$ – I_C



h_{FE} – I_C



SAFE OPERATING AREA



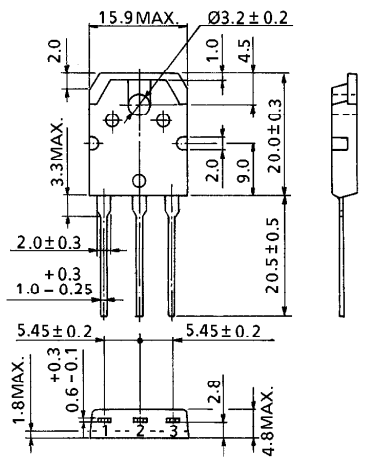
TOSHIBA TRANSISTOR SILICON PNP TRIPLE DIFFUSED TYPE

2SA1962

POWER AMPLIFIER APPLICATIONS

Unit in mm

- High Collector Voltage : $V_{CEO} = -230V$ (Min.)
- Complementary to 2SC5242
- Recommend for 80W High Fidelity Audio Frequency Amplifier Output Stage.



1. BASE
2. COLLECTOR (HEAT SINK)
3. EMITTER

JEDEC	—
EIAJ	—
TOSHIBA	2-16C1A

Weight : 4.7g (Typ.)

MAXIMUM RATINGS (Ta = 25°C)

CHARACTERISTIC	SYMBOL	RATING	UNIT
Collector-Base Voltage	V_{CBO}	−230	V
Collector-Emitter Voltage	V_{CEO}	−230	V
Emitter-Base Voltage	V_{EBO}	−5	V
Collector Current	I_C	−15	A
Base Current	I_B	−1.5	A
Collector Power Dissipation (Tc = 25°C)	P_C	130	W
Junction Temperature	T_j	150	°C
Storage Temperature Range	T_{stg}	−55~150	°C

ELECTRICAL CHARACTERISTICS (Ta = 25°C)

CHARACTERISTIC	SYMBOL	TEST CONDITION	MIN.	TYP.	MAX.	UNIT
Collector Cut-off Current	I_{CBO}	$V_{CB} = -230V$, $I_E = 0$	—	—	−5.0	μA
Emitter Cut-off Current	I_{EBO}	$V_{EB} = -5V$, $I_C = 0$	—	—	−5.0	μA
Collector-Emitter Breakdown Voltage	$V_{(BR)CEO}$	$I_C = -50mA$, $I_B = 0$	−230	—	—	V
DC Current Gain	$h_{FE(1)}$ (Note)	$V_{CE} = -5V$, $I_C = -1A$	55	—	160	
	$h_{FE(2)}$	$V_{CE} = -5V$, $I_C = -7A$	35	60	—	
Collector-Emitter Saturation Voltage	$V_{CE(sat)}$	$I_C = -8A$, $I_B = -0.8A$	—	−1.5	−3.0	V
Base-Emitter Voltage	V_{BE}	$V_{CE} = -5V$, $I_C = -7A$	—	−1.0	−1.5	V
Transition Frequency	f_T	$V_{CE} = -5V$, $I_C = -1A$	—	30	—	MHz
Collector Output Capacitance	C_{ob}	$V_{CB} = -10V$, $I_E = 0$, f = 1MHz	—	360	—	pF

Note : $h_{FE(1)}$ Classification R : 55~110, O : 80~160

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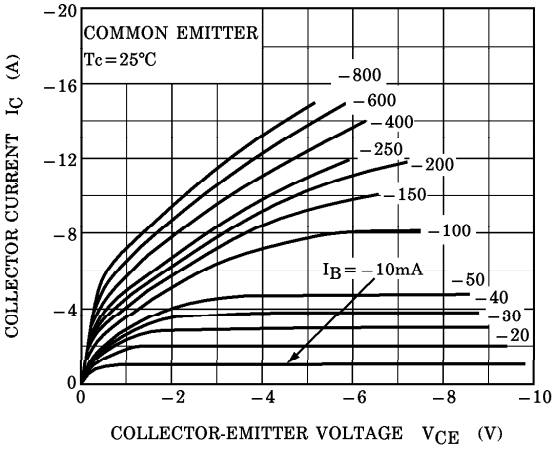
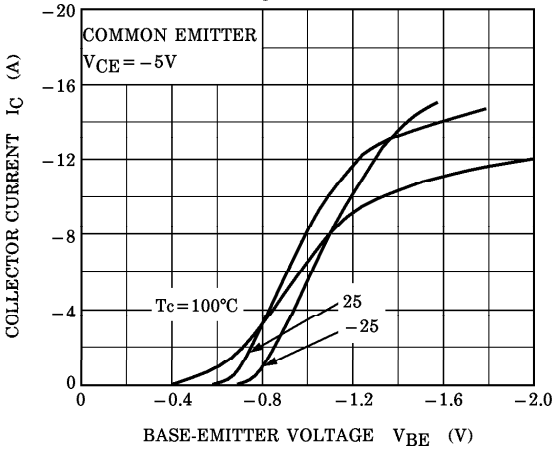
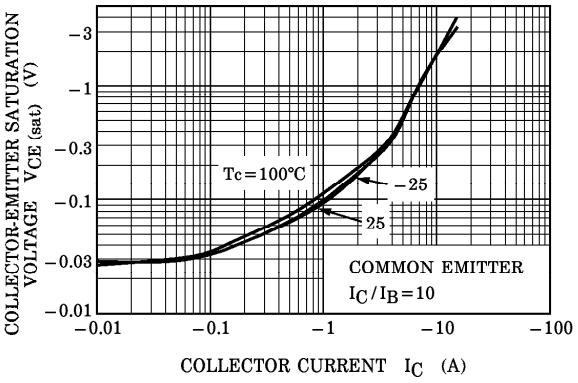
I_C – V_{CE}



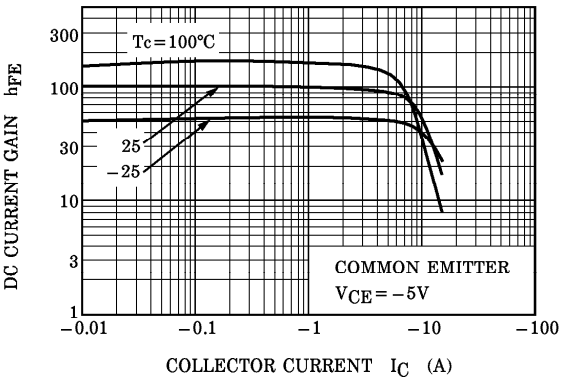
I_C – V_{BE}



$V_{CE\,(sat)}$ – I_C



h_{FE} – I_C



SAFE OPERATING AREA