

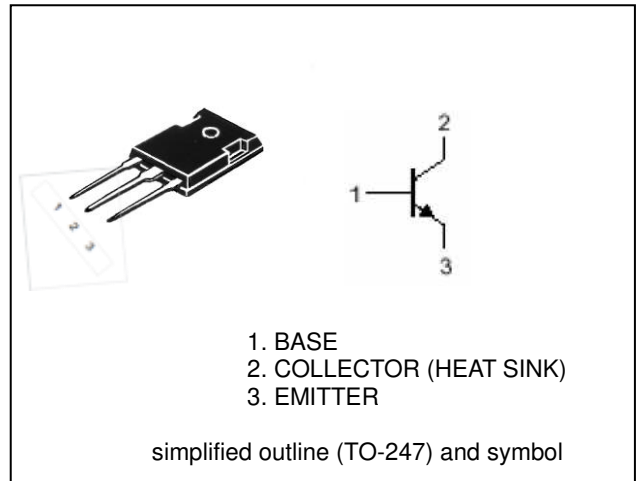
Silicon NPN Power Transistors

DESCRIPTION

- High Collector-Emitter Breakdown Voltage-
: $V_{(BR)CEO} = 230V(\text{Min})$
- Complement to Type 2SA1943

APPLICATIONS

- Power amplifier applications
- Recommend for 100W high fidelity audio frequency amplifier output stage applications



MAXIMUM RATINGS

Characteristic	Symbol	Min	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 @ $T_C=25^\circ\text{C}$	P_C	150	W
Junction Temperature	T_j	150	$^\circ\text{C}$
Storage Temperature Range	T_{stg}	-65 to +150	$^\circ\text{C}$

ELECTRICAL CHARACTERISTICS ($T_C=25^\circ\text{C}$ unless otherwise notes)

Characteristic	Symbol	Min.	Typ.	Max.	Unit
Collector-Emitter Breakdown Voltage ($I_C = 50 \text{ mA}$, $I_B = 0$)	V_{CEO}	230			V
Collector Cutoff Current ($V_{CB} = 230 \text{ V}$, $I_E = 0 \text{ V}$)	I_{CBO}			5	μA
Emitter Cutoff Current ($V_{EB} = 5.0 \text{ V}$, $I_C = 0$)	I_{EBO}			5	μA
DC Current Gain ($I_C = 1.0 \text{ A}$, $V_{CE} = 5.0 \text{ V}$)	$h_{FE(1)}$ (Note)	55		160	
DC Current Gain ($I_C = 7.0 \text{ A}$, $V_{CE} = 5.0 \text{ V}$)	$h_{FE(2)}$	35			
Collector-Emitter Saturation Voltage ($I_C = 8.0 \text{ A}$, $I_B = 0.8 \text{ A}$)	$V_{CE(SAT)}$			3.0	V
Base-Emitter On Voltage ($I_C = 7.0 \text{ A}$, $V_{CE} = 5.0 \text{ V}$)	$V_{BE(ON)}$			1.5	V
Output Capacitance ($I_E = 0$, $V_{CB} = 10 \text{ V}$, $f = 1.0 \text{ MHz}$)	C_{OB}		200		pF
Current-Gain—Bandwidth Product ($I_C = 1 \text{ A}$; $V_{CE} = 5 \text{ V}$)	f_T		30		MHz

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

FIG-1 I_C - V_{CE} CHARACTERISTICS

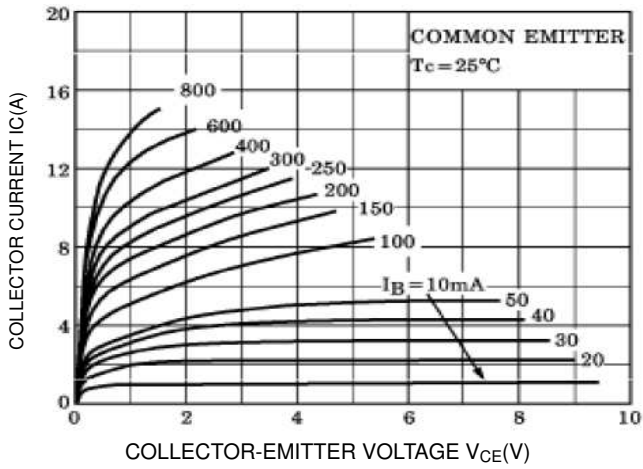


FIG-2 I_C - V_{BE} CHARACTERISTICS

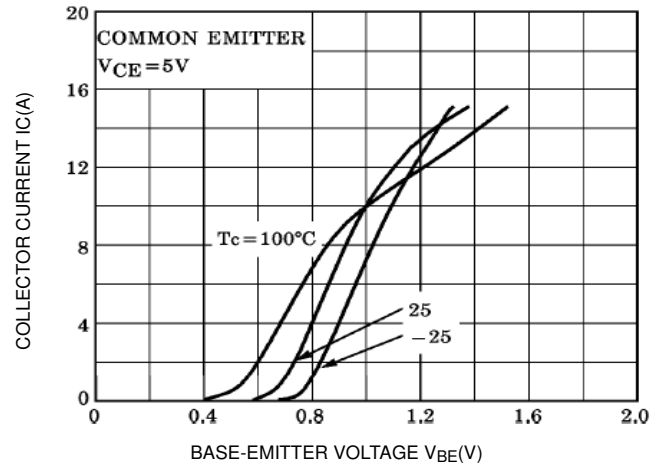


FIG-3 $V_{CE(SAT)}$ - I_C CHARACTERISTICS

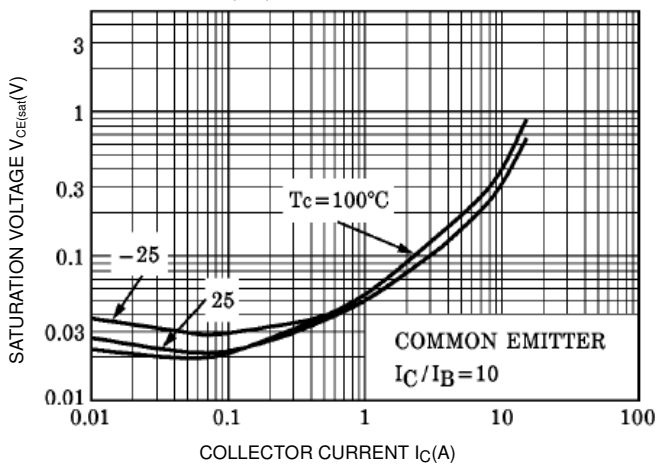


FIG-4 h_{fe} - I_C CHARACTERISTICS

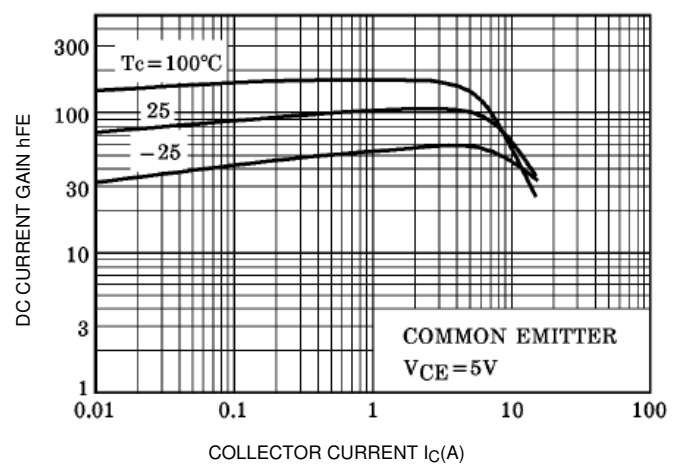
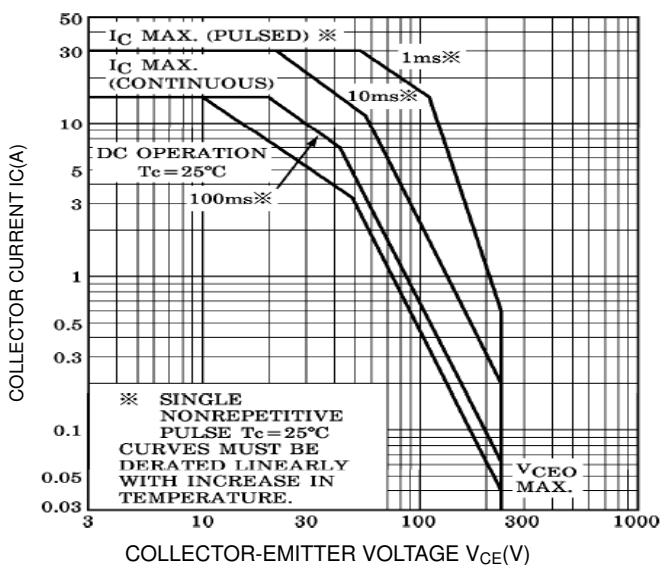
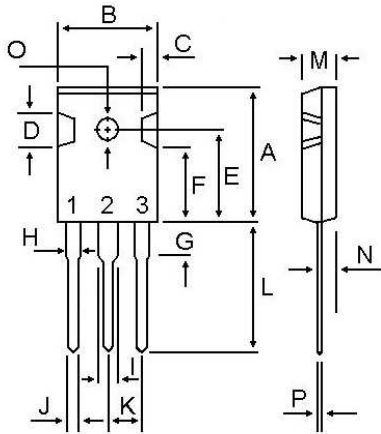


FIG-5 SAFE OPERATING AREA



PACKAGE OUTLINE DIMENSIONS (Unit in mm)

TO-247



DIM	MILLIMETERS	
	MIN	MAX
A	20.80	21.80
B	15.38	16.20
C	1.90	2.70
D	5.10	6.10
E	14.50	15.50
F	11.20	13.20
G	3.75	4.35
H	1.90	2.30
I	2.90	3.30
J	1.00	1.40
K	5.26	5.66
L	19.50	20.50
M	4.68	5.36
N	2.30	2.60
O	3.45	3.85
P	0.48	0.72

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