

Power Transistor

2SB1243

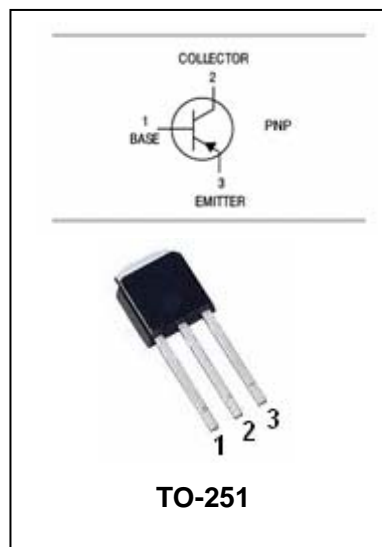
FEATURES

- Low $V_{CE(sat)}$.
 $V_{CE(sat)} = -0.5V (Typ) (I_C/I_B = -2A/-0.2A)$
- Complements the 2SD1864.



APPLICATIONS

- Epitaxial planar type.
- PNP silicon transistor.



MAXIMUM RATING operating temperature range applies unless otherwise specified

Symbol	Parameter	Value	Units
V_{CBO}	Collector-Base Voltage	-60	V
V_{CEO}	Collector-Emitter Voltage	-50	V
V_{EBO}	Emitter-Base Voltage	-5	V
I_C	Collector Current	-3	A
I_{CP}	Collector Power Dissipation	-4.5	A
P_C	Collector Power Dissipation	1	W
T_j, T_{stg}	Junction and Storage temperature range	-55 to +150	°C



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ELECTRICAL CHARACTERISTICS @ Ta=25°C unless otherwise specified

Parameter	Symbol	Test conditions	MIN	TYP	MAX	UNIT
Collector-base breakdown voltage	V_{CBO}	$I_C=-50\mu A, I_E=0$	-60			V
Collector-emitter breakdown voltage	V_{CEO}	$I_C=-1mA, I_B=0$	-50			V
Emitter-base breakdown voltage	V_{EBO}	$I_E=-50\mu A, I_C=0$	-5			V
Collector cut-off current	I_{CBO}	$V_{CB}=-40V, I_E=0$			-1	μA
Emitter cut-off current	I_{EBO}	$V_{EBO}=-4V, I_C=0$			-1	μA
DC current gain	h_{FE}	$V_{CE}=-3V, I_C=-0.5A$	82		390	
Collector-emitter saturation voltage	$V_{CE(sat)}$	$I_C/I_B=-2A/-0.2A$			-1	V
Base-emitter saturation voltage	$V_{BE(sat)}$	$I_C/I_B=-1.5A/-0.15A$			-1.2	V
Transition frequency	f_T	$V_{CE}=-5V, I_E=-0.5A$ $f=30MHz$		70		MHz
Collector output capacitance	C_{ob}	$V_{CB}=-10V, I_E=0A, f=1MHz$		50		pF

CLASSIFICATION OF $h_{FE(1)}$

Rank	P	Q	R
Range	82-180	120-270	180-390

TYPICAL CHARACTERISTICS @ Ta=25°C unless otherwise specified

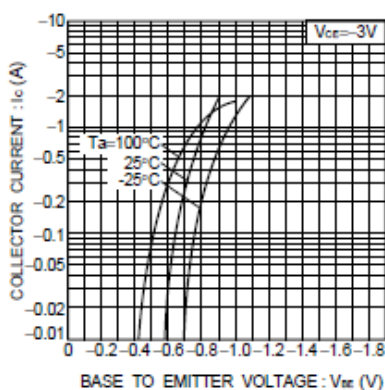


Fig.1 Grounded emitter propagation characteristics

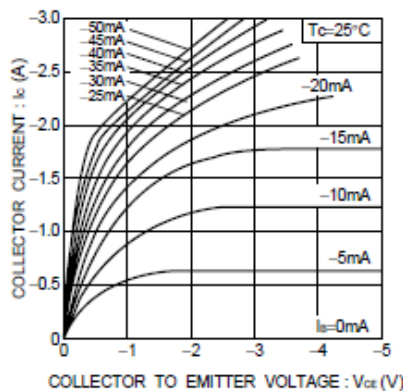


Fig.2 Grounded emitter output characteristics (I)

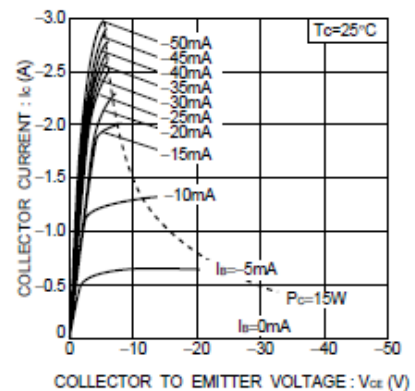


Fig.3 Grounded emitter output characteristics (II)

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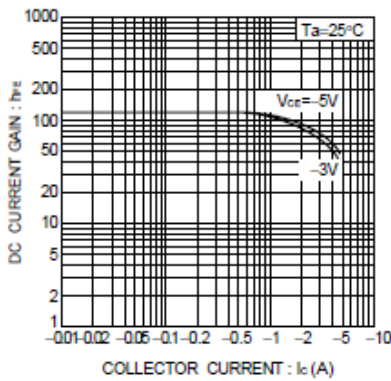


Fig.4 DC current gain vs. collector current (I)

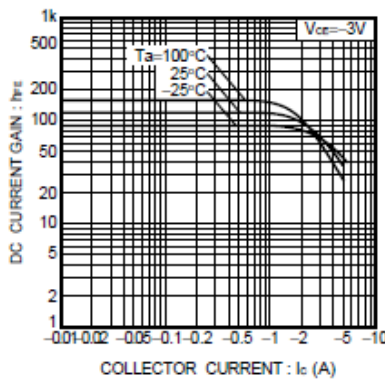


Fig.5 DC current gain vs. collector current (II)

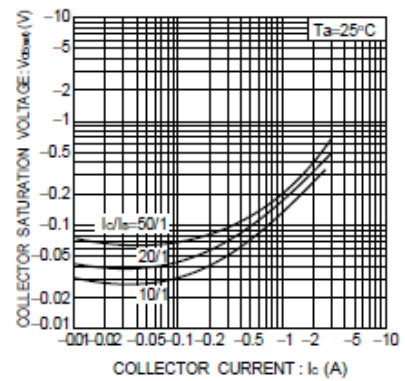


Fig.6 Collector-emitter saturation voltage vs. collector current

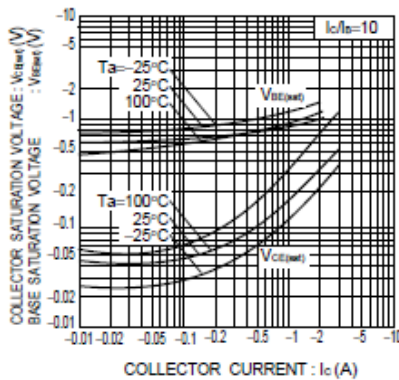


Fig.7 Collector-emitter saturation voltage vs. collector current
Base-emitter saturation voltage vs. collector current

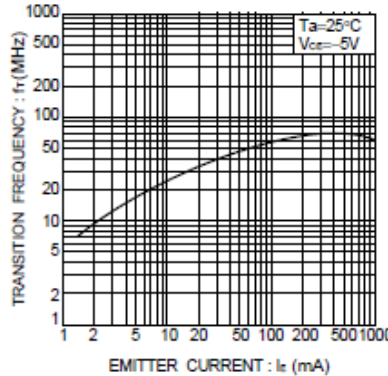


Fig.8 Gain bandwidth product vs. emitter current

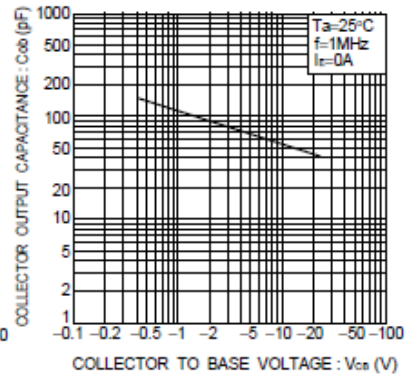


Fig.9 Collector output capacitance vs. collector base voltage

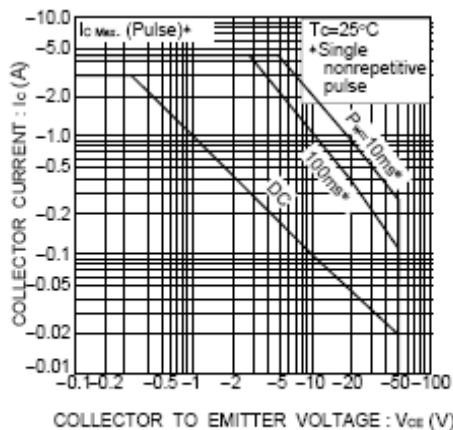


Fig.11 Safe operation area

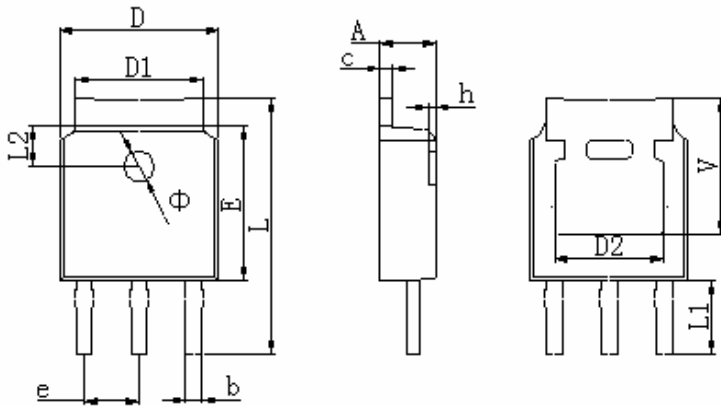
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PACKAGE OUTLINE

Plastic surface mounted package

TO-251



TO-251		
A	2.200	2.400
b	0.500	0.700
c	0.460	0.580
D	6.500	6.700
D1	5.100	5.460
D2	4.830 Typ.	
E	6.000	6.200
e	2.186	2.386
L	12.000	12.600
L1	5.100 Typ.	
L2	1.400	1.700
Φ	1.100	1.300
h	0.000	0.300
V	5.350 Typ.	
All Dimensions in mm		

PACKAGE INFORMATION

Device	Package	Shipping
2SB1243	TO-251	80PCS/Tube