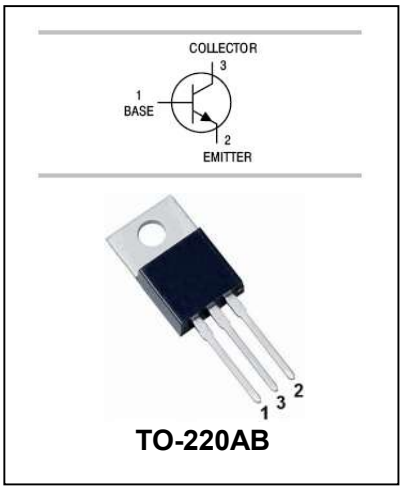
Power Transistors 2SD2137A

FEATURES

- High Forward Current Transfer Ratio h_{FE} Which Has Satisfactory Linearity.
- Low Collector-emitter Saturation Voltage $V_{CE(sat)}$.
- Allowing Supply With The Radial Taping.

Lead-free



TO-220AB

APPLICATIONS

- For Power Amplification.
- Complementary to 2SB1417A.

MAXIMUM RATING operating temperature range applies unless otherwise specified

Symbol	Parameter	Value	Unit
V_{CBO}	Collector-Base Voltage	80	V
V_{CEO}	Collector-Emitter Voltage	80	V
V_{EBO}	Emitter-Base Voltage	6	V
I_C	Collector Current	3	A
I_{CP}	Peak Collector Current	5	A
P_C	Collector Dissipation T_a=25℃	15 2	W
T_j, T_{stg}	Junction and Storage Temperature	-55 to +150	℃

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ELECTRICAL CHARACTERISTICS Ratings at 25℃ ambient temperature unless otherwise specified.

Parameter	Symbol	Test conditions	MIN	TYP	MAX	UNIT
Collector-Emitter Voltage	V_{CEO}	I_C=30mA,I_B=0	80			V
Base-Emitter Voltage	V_{BE}	V_{CE}=4V,I_C=3A			1.8	V
Collector Cut-off Current	I_{CEO}	V_{CE}=60V,I_B=0			100	μA
Collector Cut-off Current	I_{CES}	V_{CE}=80V, V_{BE}=0			100	μA
Emitter Cut-off Current	I_{EBO}	V_{EB}=6V,I_C=0			100	μA
DC Current Gain	h_{FE}	V_{CE}=4V,I_C=1A V_{CE}=4V,I_C=3A	70 10		320	
Collector-emitter Saturation Voltage	$V_{CE(sat)}$	I_C=3A, I_B=375mA			1.2	V
Transition Frequency	f_T	V_{CE}=5V, I_C=0.2A f=10MHz		30		MHz
Turn-on Time	t_{on}	I_C=1A,I_{B1}=0.1A, I_{B2}=-0.1A, V_{CC}=50V		0.3		μs
Storage Time	t_{stg}			2.5		μs
Fall Time	t_f			0.2		μs

CLASSIFICATION OF h_{FE}

Rank	Q	P	Q
Range	70-150	120-250	160-320

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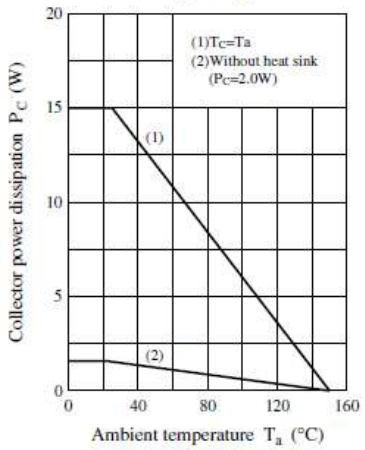
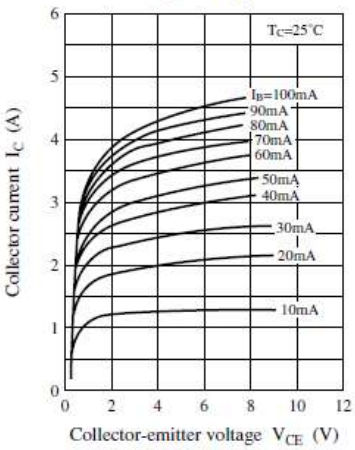
TYPICAL CHARACTERISTICS @ Ta=25℃ unless otherwise specified

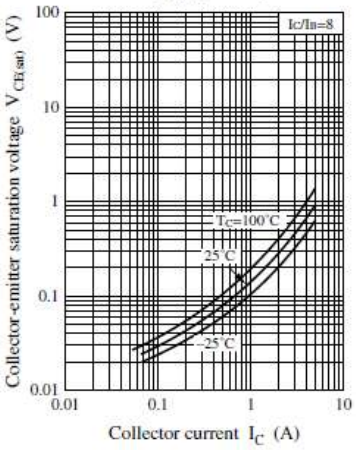
P_C — T_a



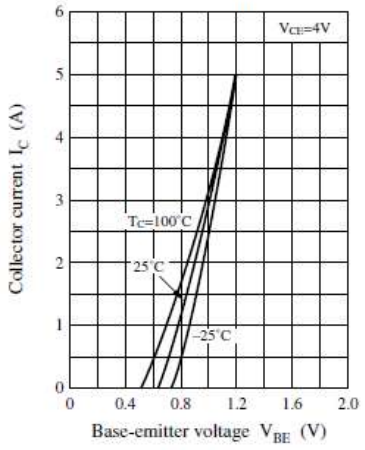
I_C — V_{CE}



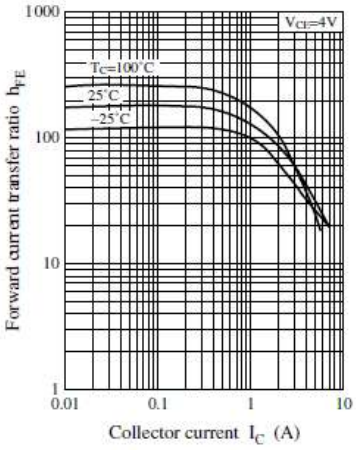
$V_{CE(sat)}$ — I_C



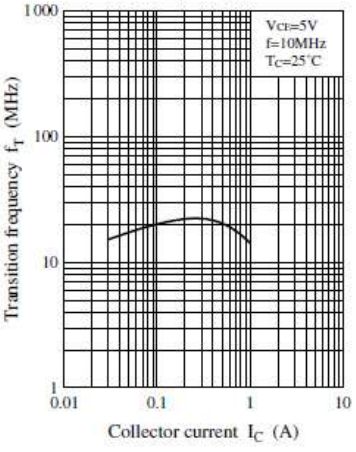
I_C — V_{BE}



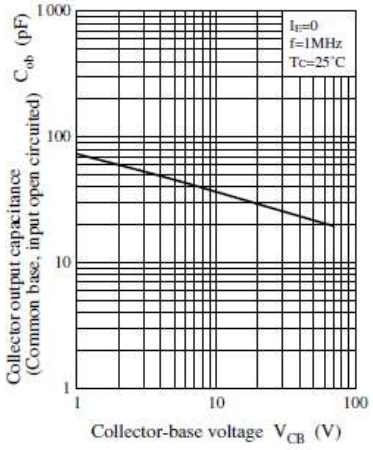
h_{FE} — I_C



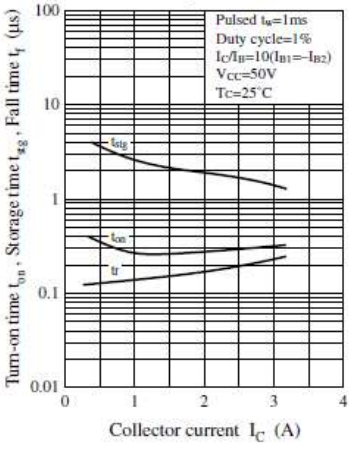
f_T — I_C



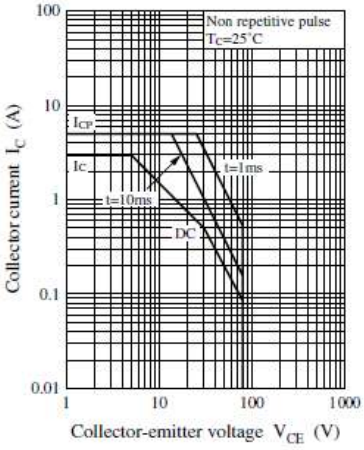
C_{ob} — V_{CB}



t_{on}, t_{stg}, t_f — I_C



Safe operation area



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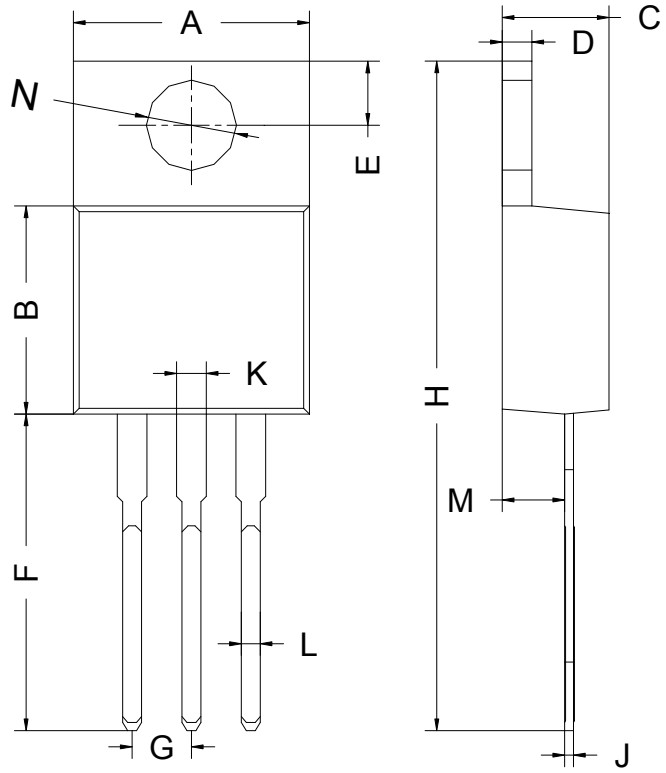
PACKAGE OUTLINE

Plastic surface mounted package TO-220AB



TO-220AB		
Dim	Min	Max
A	9.80	10.30
B	8.70	9.10
C	4.47	4.67
D	1.17	1.37
E	2.64	2.84
F	13.14	13.74
G	2.44	2.64
H	28.03	28.83
J	0.28	0.48
K	1.22	1.32
L	0.71	0.91
M	2.40	2.60
N	3.76	3.96
All Dimensions in mm		