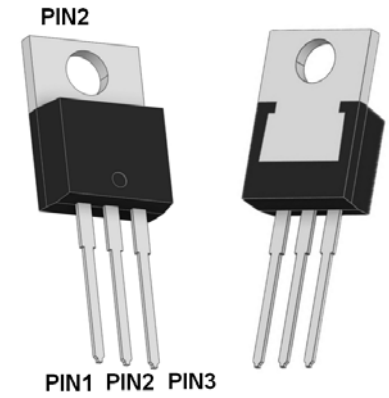
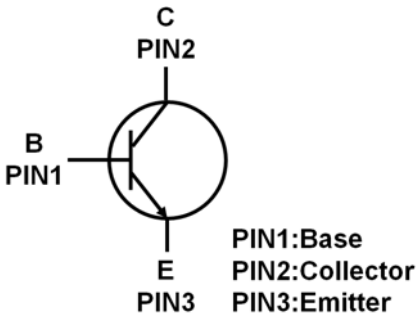
NPN High Power Transistors





Features
- Epoxy Meets UL 94 V-0 Flammability Rating
- Halogen Free

Applications
- High DC Current Gain
- High Power Dissipation

Mechanical Data
- Package: TO-220AB
- Terminals: Tin plated leads, solderable per J-STD-002 and JESD22-B102
- Unit Weight: 1.9g

■ **Maximum Ratings** (Ta=25℃ unless otherwise noted)

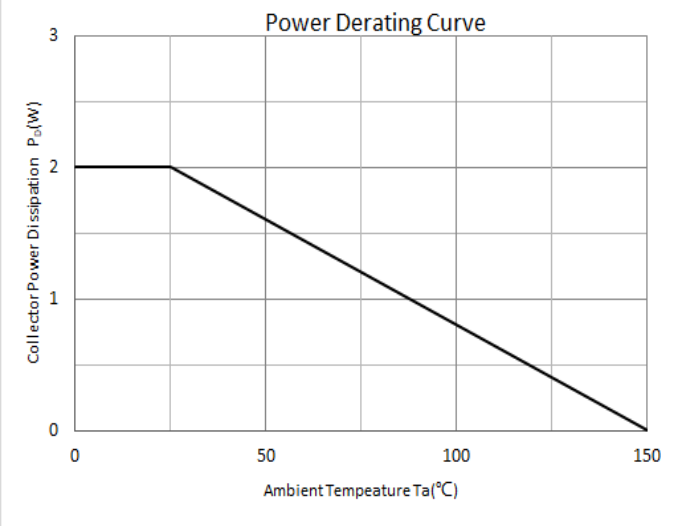
Item	Symbol	Unit	Value
Device marking code			2SC4552
Collector-base voltage	V_{CBO}	V	100
Collector-emitter voltage	V_{CEO}	V	60
Emitter-base voltage	V_{EBO}	V	7
Collector current	I_C	A	15
Peak Collector current (single pulse,tp≤1ms)	I_{CM}	A	30
Power dissipation (*)	P_D	W	2
Thermal resistance, junction-to-ambient (*)	R_{thJA}	℃/W	62.5
Thermal resistance, junction-to-case (*)	R_{thJC}	℃/W	50
Junction temperature	T_j	℃	-55 to +150
Storage temperature	T_{STG}	℃	-55 to +150

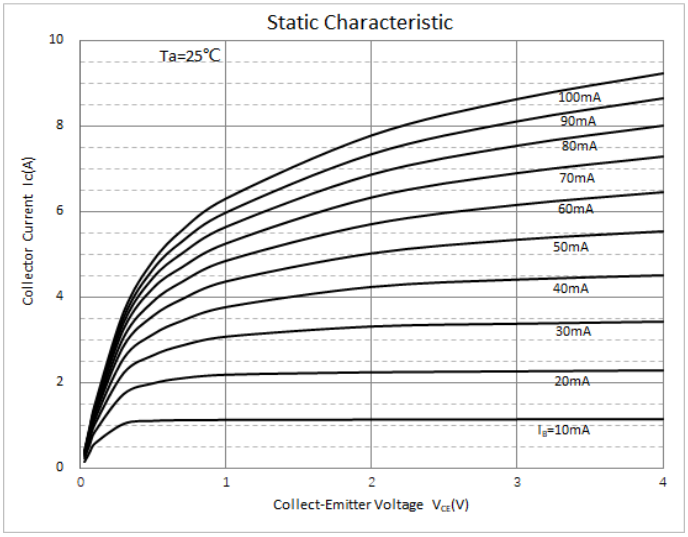
Note1：Device mounted on PCB with minimum recommended pad layout and additional heat sink (25mm x 23mm x 15mm) attached.

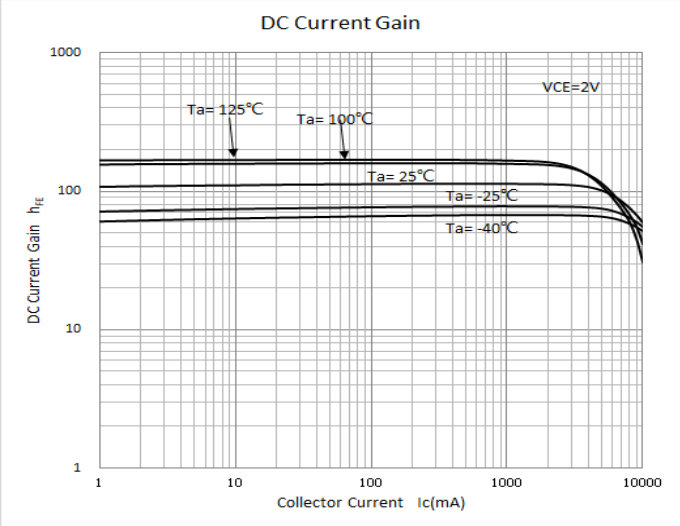
■ Electrical Characteristics (Ta=25℃ unless otherwise noted)

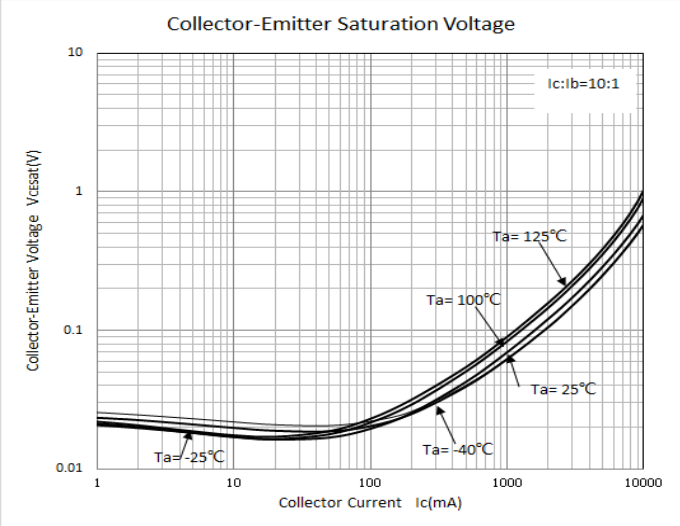
Item	Symbol	Unit	Conditions	Min	Typ	Max
Collector-base breakdown voltage	$V_{(BR)CBO}$	V	I_C= 50uA, I_E=0	100		
Collector-emitter breakdown voltage	$V_{(BR)CEO}$	V	I_C= 50mA, I_B=0	60		
Emitter-base breakdown voltage	$V_{(BR)EBO}$	V	I_E= 50uA, I_C=0	7		
Collector-base cut-off current	I_{CBO}	uA	V_{CB}=60V			10
Collector-emitter cut-off current	I_{CEO}	mA	V_{CE}=60V			1
Emitter-base cut-off current	I_{EBO}	uA	V_{EB}=5V			10
DC current gain	h_{FE}		V_{CE}= 2V, I_C=1.5A	100		
			V_{CE}= 2V, I_C=3A	90		200
			V_{CE}= 2V, I_C=8A	60		
Collector-emitter saturation voltage	$V_{CE(sat)}$	V	I_C= 8A, I_B= 0.4A			1.0
Collector-emitter saturation voltage	$V_{CE(sat)}$	V	I_C= 12A, I_B= 0.6A			1.5
Base-emitter saturation voltage	$V_{BE(sat)}$	V	I_C= 8A, I_B= 0.4A			2.1
Base-emitter saturation voltage	$V_{BE(sat)}$	V	I_C= 12A, I_B= 0.6A			2.2
Collector-base output capacitance	Cob	pF	V_{CB}=10V,f=1MHz		140	

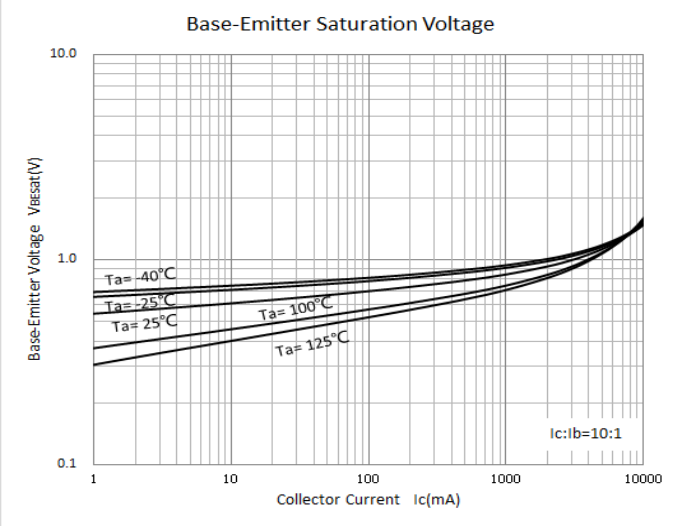
■ Characteristics(Typical)

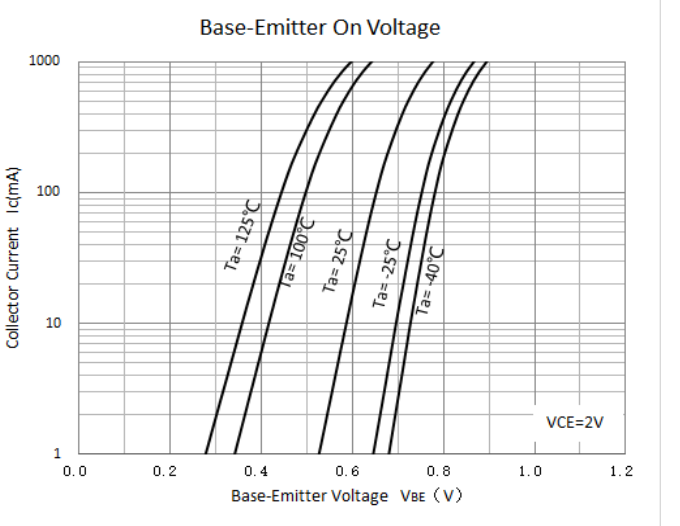


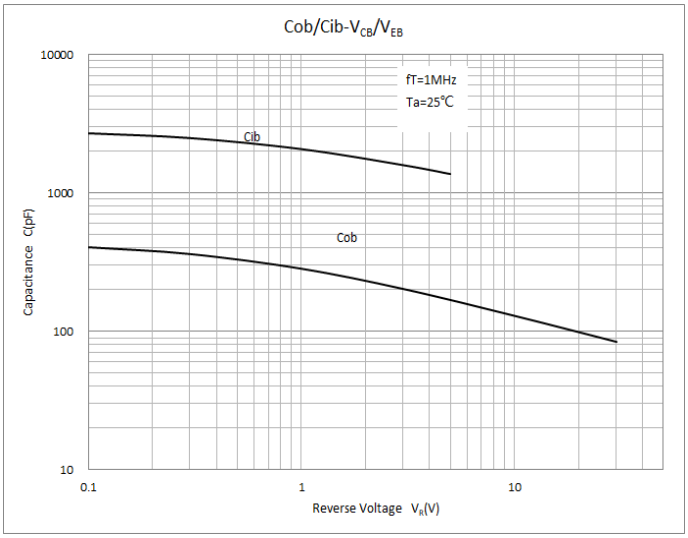


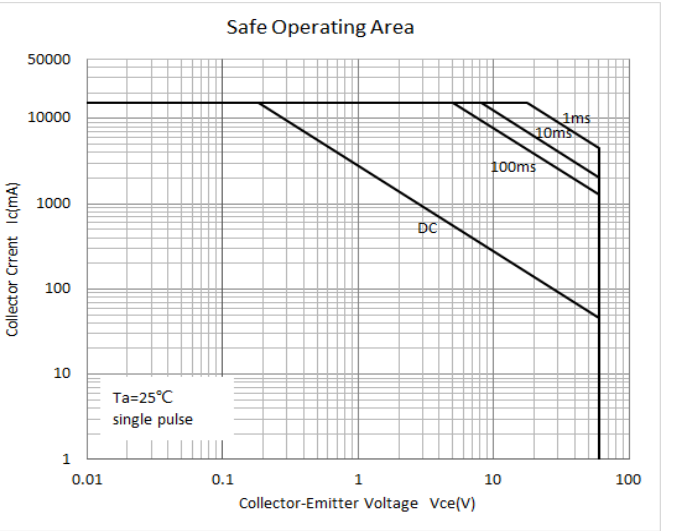





Base-Emitter Saturation Voltage
Base-Emitter Voltage Vbesat(V)
10.0
1.0
0.1
Ta= -40°C
Ta= -25°C
Ta= 25°C
Ta= 100°C
Ta= 125°C
Ic:Ib=10:1
1
10
100
1000
10000
Collector Current Ic(mA)


Base-Emitter On Voltage
Collector Current Ic(mA)
1000
100
10
1
Ta= 125°C
Ta= 100°C
Ta= 25°C
Ta= -25°C
Ta= -40°C
VCE=2V
0.0
0.2
0.4
0.6
0.8
1.0
1.2
Base-Emitter Voltage VBE（V）

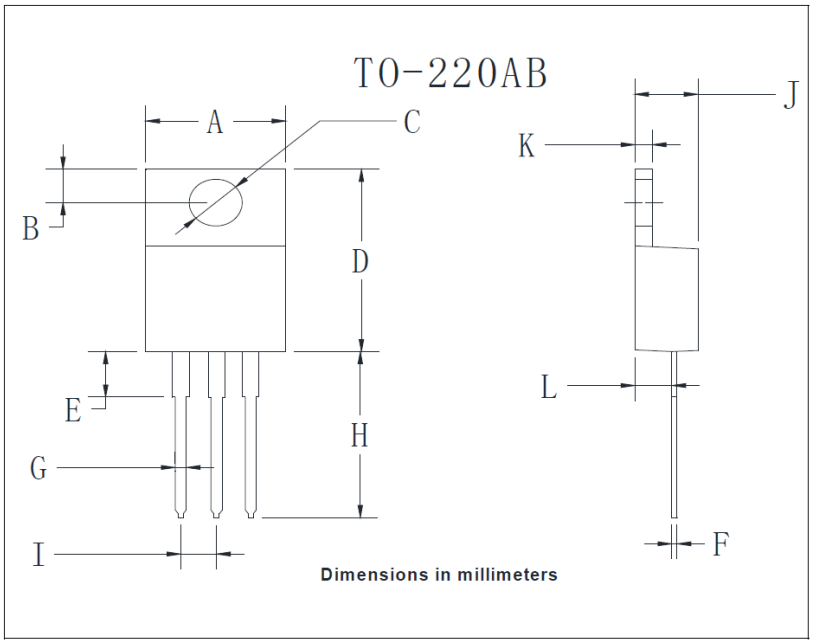

Cob/Cib-VCB/VEB
Capacitance C(pF)
10000
1000
100
10
fT=1MHz
Ta=25°C
Cib
Cob
0.1
1
10
Reverse Voltage VR(V)


Safe Operating Area
Collector Crrent Ic(mA)
50000
10000
1000
100
10
1
1ms
10ms
100ms
DC
Ta=25°C
single pulse
0.01
0.1
1
10
100
Collector-Emitter Voltage Vce(V)

■ Ordering Information (Example)

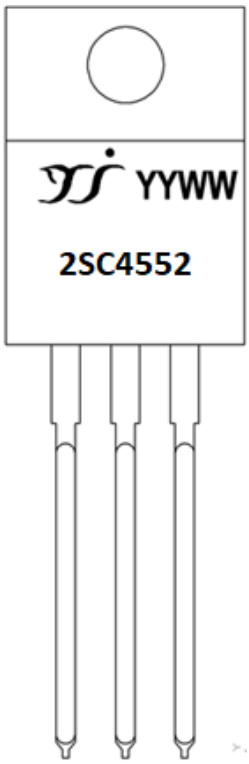
PREFERED P/N	PACKING CODE	MINIMUM PACKAGE(pcs)	INNER BOX QUANTITY(pcs)	OUTER CARTON QUANTITY(pcs)	DELIVERY MODE
2SC4552-M	B1	50/Tube	1000	2000	Tube

■ TO-220AB Package information



TO-220AB		
Dim	Min	Max
A	9.95	10.35
B	2.55	2.95
C	3.8	4.0
D	14.95	15.25
E	3.75	4.25
F	0.26	0.5
G	0.68	0.94
H	13.4	13.9
I	2.35	2.65
J	4.38	4.78
K	1.14	1.4
L	2.37	2.79

■ Marking code



YangJie LOGO
YYWW：YY, years; WW , week.
For example,24 represents 2024; 01 represents the first week of this year.
2SC4552: Product model.

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