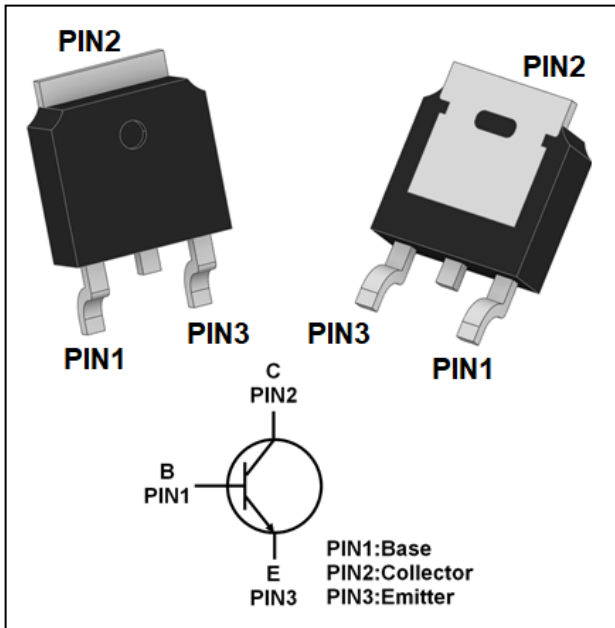


NPN Power Transistor



Features

- Epoxy meets UL-94 V-0 flammability rating and halogen free
- Moisture Sensitivity Level 1

Applications

- Complement to MJD125
- High DC Current Gain

Mechanical Data

- Package: TO-252
- Terminals: Tin plated leads, solderable per J-STD-002 and JESD22-B102
- Unit Weight: 0.32g

■ Maximum Ratings (Ta=25°C unless otherwise noted)

Item	Symbol	Unit	Value
Device marking code			MJD120
Collector-base voltage	V_{CBO}	V	60
Collector-emitter voltage	V_{CEO}	V	60
Emitter-base voltage	V_{EBO}	V	5
Collector current	I_C	A	8
Power dissipation (*)	P_D	W	1.5
Thermal resistance, junction-to-ambient (*)	R_{thJA}	°C/W	83.3
Junction temperature	T_j	°C	-55 to +150
Storage temperature	T_{STG}	°C	-55 to +150

(*) The data tested by surface mounted on a 40*40*1.1mm heatsink.



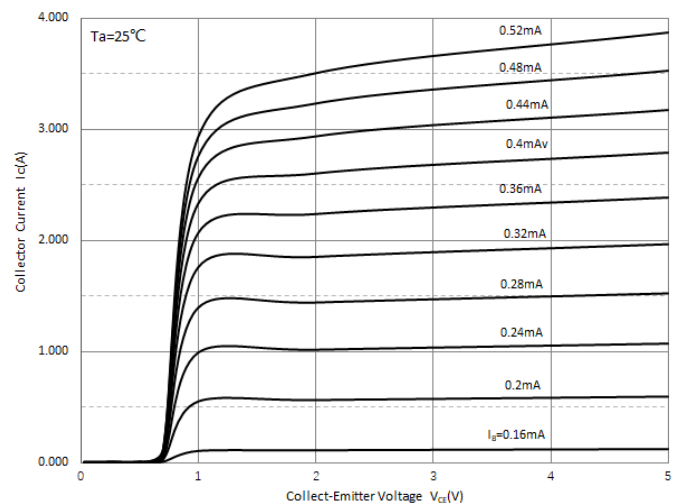
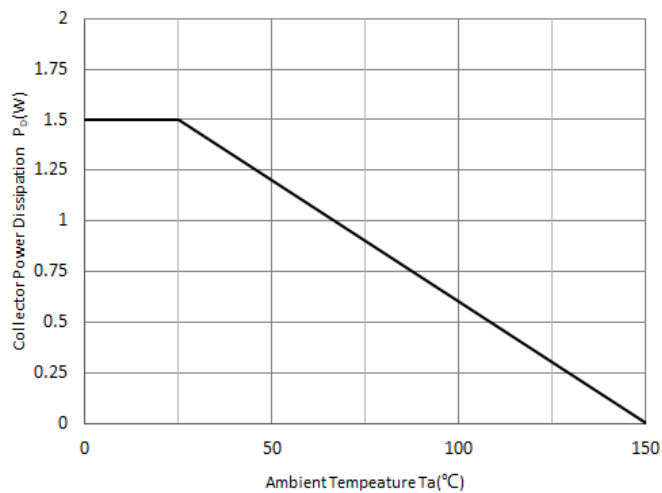
■ Electrical Characteristics (Ta=25°C unless otherwise noted)

Item	Symbol	Unit	Conditions	Min	Typ	Max
Collector-base breakdown voltage	$V_{(BR)CBO}$	V	$I_C = 1mA, I_E = 0$	60		
Collector-emitter breakdown voltage	$V_{(BR)CEO}$	V	$I_C = 30mA, I_B = 0$	60		
Emitter-base breakdown voltage	$V_{(BR)EBO}$	V	$I_E = 3mA, I_C = 0$	5		
Collector-base cut-off current	I_{CBO}	μA	$V_{CB} = 60V$			10
Collector cutoff current	I_{CEO}	μA	$V_{CE} = 50V$			10
Emitter-base cut-off current	I_{EBO}	mA	$V_{EB} = 5V$			2
DC current gain	h_{FE}		$V_{CE} = 4V, I_C = 4A$	1000		12000
			$V_{CE} = 4V, I_C = 8A$	100		
Collector-emitter saturation voltage	$V_{CE(sat)}$	V	$I_C = 4A, I_B = 16mA$			2.0
			$I_C = 8A, I_B = 80mA$			4.0
Base-Emitter Saturation Voltage	$V_{BE(sat)}$	V	$I_C = 8A, I_B = 80mA$			4.5
Base-Emitter Voltage	V_{BE}	V	$V_{CE} = 4V, I_C = 4A$			2.8
Collector-base output capacitance	Cob	pF	$V_{CB} = 10V, I_E = 0A, f = 1MHz$		60	

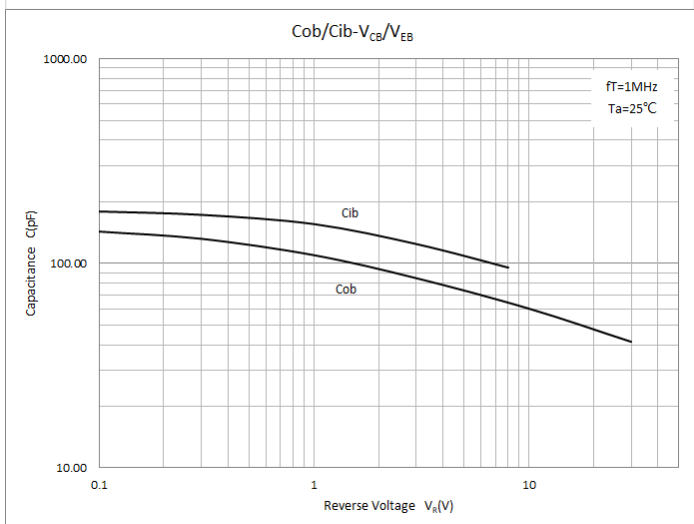
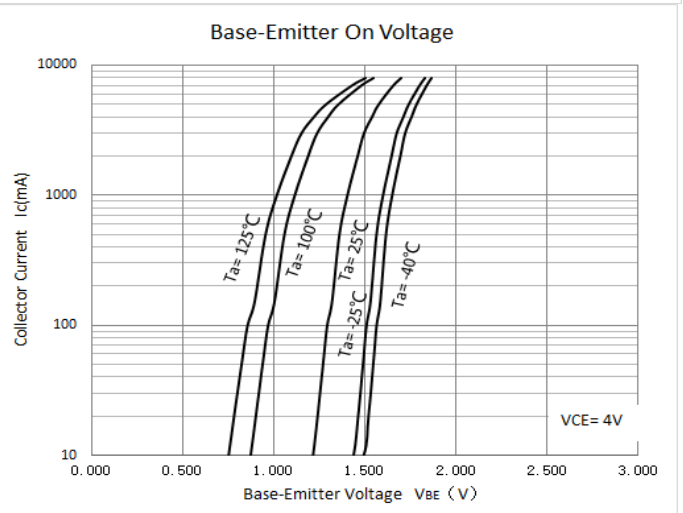
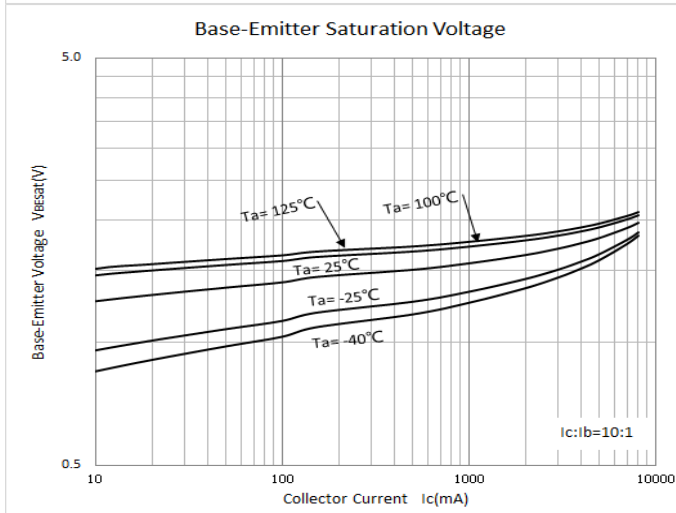
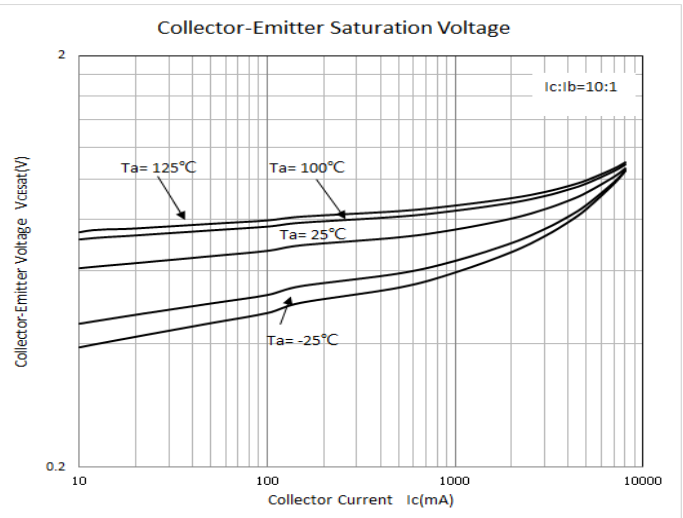
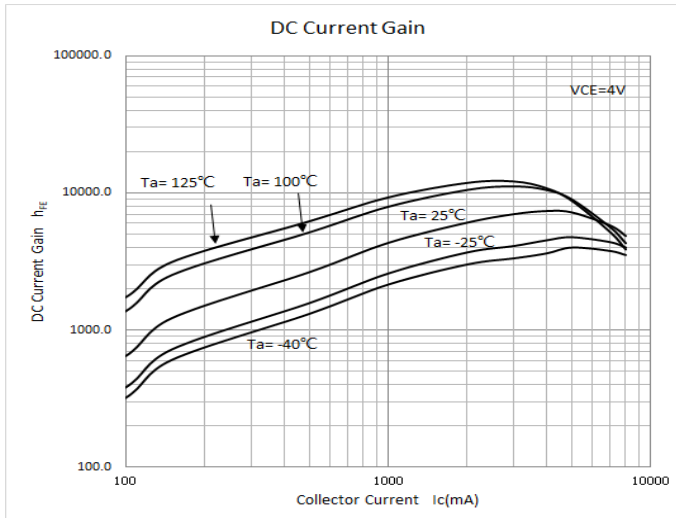
■ Ordering Information (Example)

PREFERRED P/N	PACKING CODE	MINIMUM PACKAGE(pcs)	INNER BOX QUANTITY(pcs)	OUTER CARTON QUANTITY(pcs)	DELIVERY MODE
MJD120	F1	2500	2500	25000	13"Reel

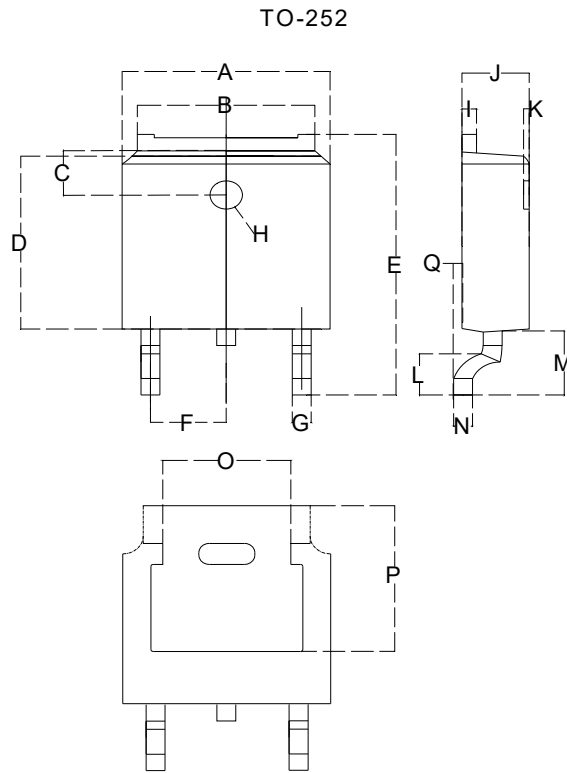
■ Characteristics(Typical)



■ Characteristics(Typical)



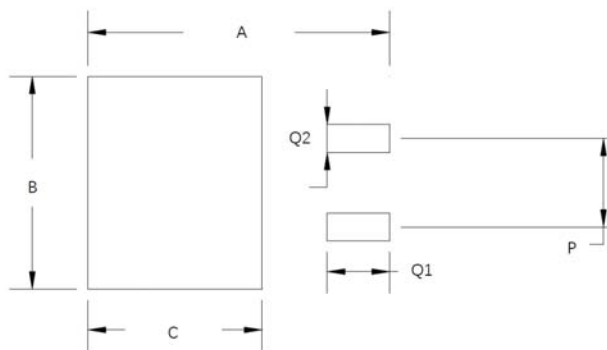
■ TO-252 Package information



Dimensions in millimeters

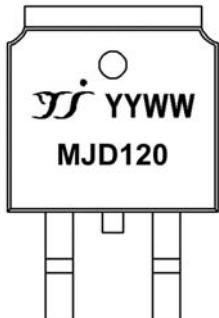
TO-252		
Dim	Min	Max
A	6.500	6.700
B	5.100	5.460
C	1.400	1.800
D	6.000	6.200
E	10.000	10.400
F	2.166	2.366
G	0.660	0.860
H	Φ 1.050	Φ 1.350
I	0.460	0.580
J	2.200	2.400
K	0	0.300
L	0.890	2.290
M	2.730	3.080
N	0.430	0.580
O	4.20	4.95
P	5.15	5.45
Q	0	0.2

■ Suggested Pad Layout



Dim	Millimeters
A	11.4
B	6.74
C	6.23
P	4.56
Q1	2.28
Q2	1.52

■ Marking code



Yangjie LOGO

YYWW: YY, years; WW, week.

For example, 24 represents 2024; 01 represents the first week of this year.

MJD120: Product model.



Disclaimer

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