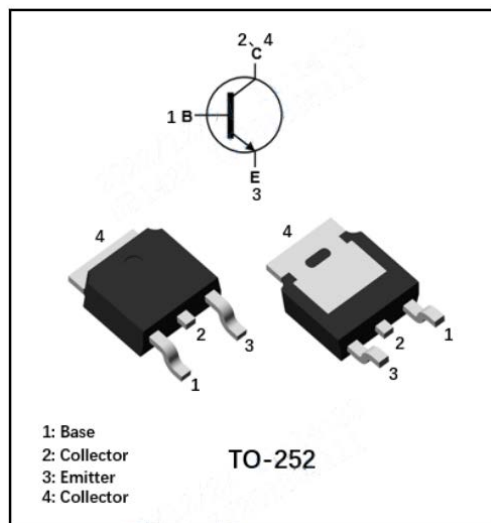


NPN Power Transistor



Features

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

Applications

- Designed for general purpose amplifier and low speed switching applications.

Mechanical Data

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

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

Item	Symbol	Unit	Value
Device marking code			MJD41C
Collector-Base Voltage	V_{CBO}	V	100
Collector-Emitter Voltage	V_{CEO}	V	100
Emitter-Base Voltage	V_{EBO}	V	5
Collector Current -Continuous	I_C	A	6
Total Device Dissipation (*)	P_D	W	1.25
Thermal Resistance, Junction to Ambient Air (*)	R_{thJA}	°C/W	100
Junction Temperature	T_j	°C	-55 to +150
Storage Temperature	T_{STG}	°C	-55 to +150

(*) Device mounted on FR-4 PCB 15 x 17 x 0.8 mm

MJD41C

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

Item	Symbol	Unit	Conditions	Min	Typ	Max
Collector-base breakdown voltage	V_{CBO}	V	$I_C=0.1mA, I_E=0$	100		
Collector-emitter breakdown voltage	V_{CEO}	V	$I_C=30mA, I_B=0$	100		
Emitter-base breakdown voltage	V_{EBO}	V	$I_E=0.1mA, I_C=0$	5		
Collector-base cut-off current	I_{CEO}	μA	$V_{CE}=60V, I_B=0$			50
Emitter-base cut-off current	I_{EBO}	mA	$V_{EB}=5V, I_C=0$			0.5
DC current gain	h_{FE}		$V_{CE}=4V, I_C=1A$	30		
			$V_{CE}=4V, I_C=3A$	15		155
Collector-emitter saturation voltage	$V_{CE(sat)}$	V	$I_C=6A, I_B=0.6A$			1.5
Base-emitter voltage	V_{BE}	V	$I_C=6A, V_{CE}=4V$			2.0

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

Item	Symbol	Unit	Conditions	Min	Typ	Max
Transition frequency	f_T	MHz	$V_{CE}=10V, I_C=0.5A, f=1KHz$	3		

■ Characteristics(Typical)

Fig 1: Static Characteristics

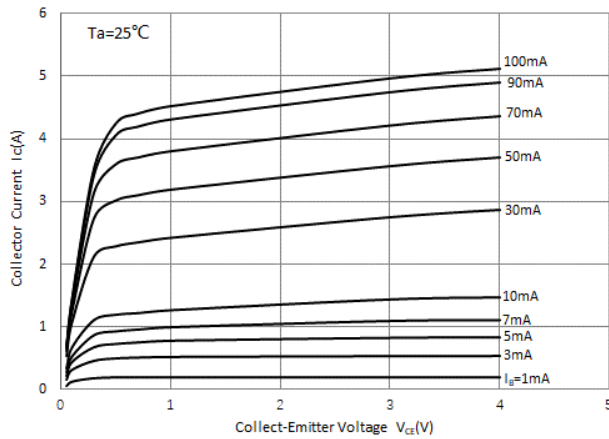


Fig 2: DC Current Gain

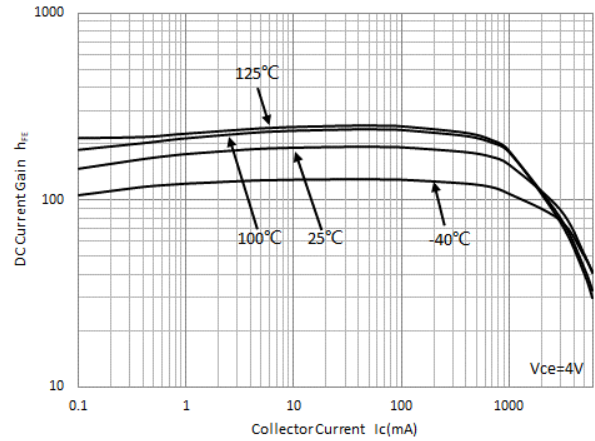


Fig 3: Collector-Emitter Saturation Voltage

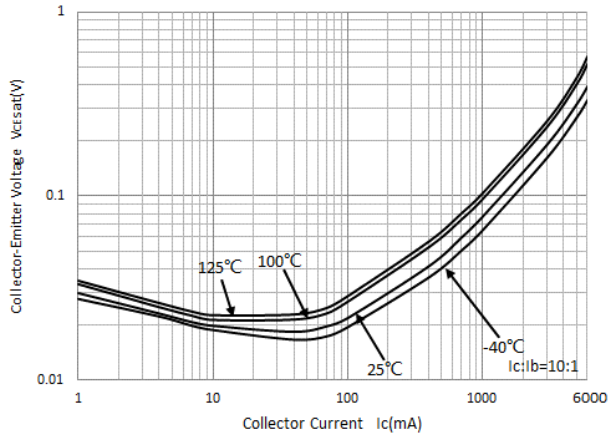


Fig 4: Base-Emitter Saturation Voltage

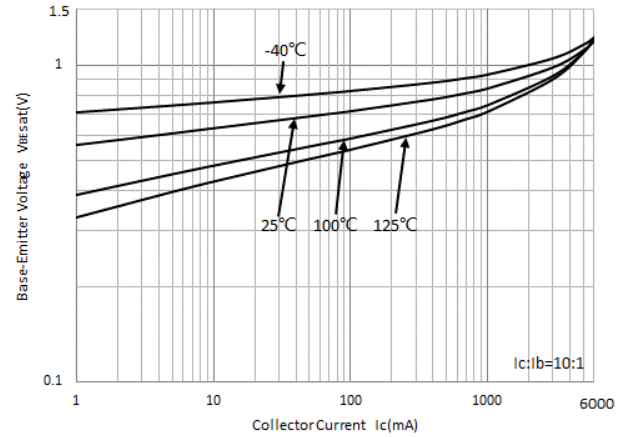


Fig 5: Base-Emitter On Voltage

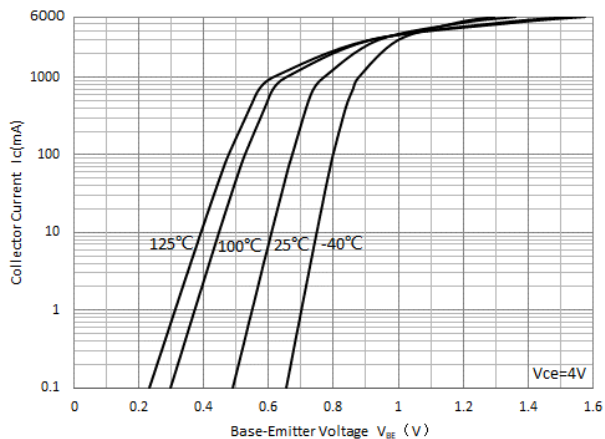
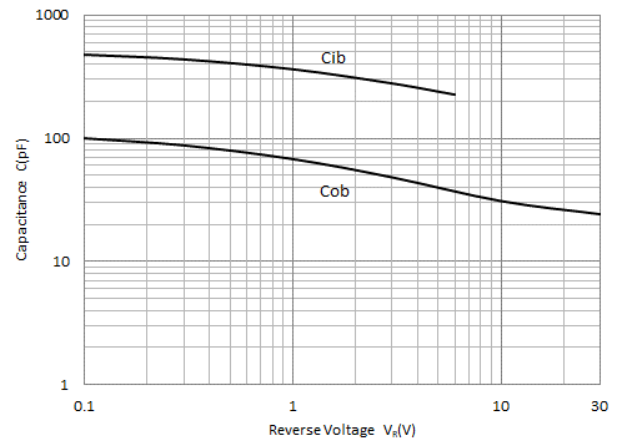


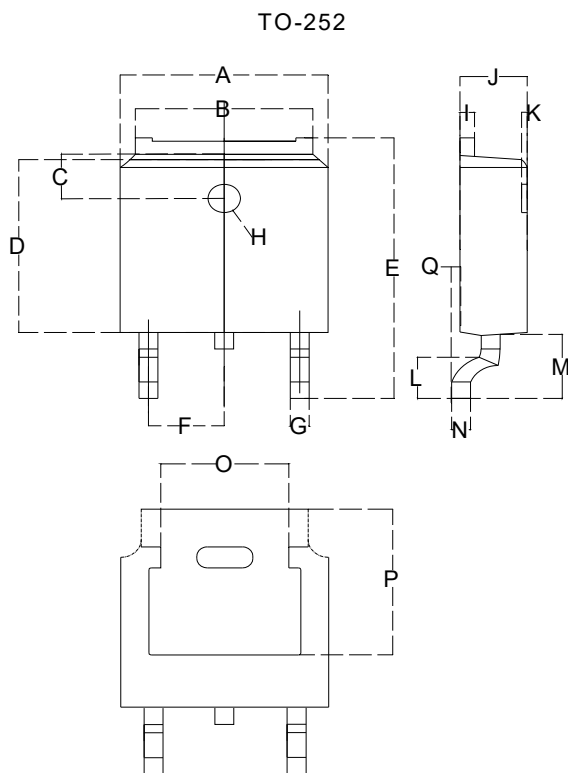
Fig 6: Cob/Cib-V_{CB}/V_{EB}



■ **Ordering Information (Example)**

PREFERED P/N	PACKING CODE	MINIMUM PACKAGE(pcs)	INNER BOX QUANTITY(pcs)	OUTER CARTON QUANTITY(pcs)	DELIVERY MODE
MJD41C	F1	2500	2500	25000	13"Reel

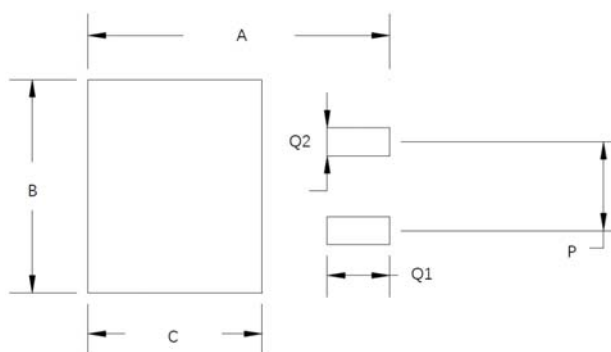
■ **TO-252 Package information**



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

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