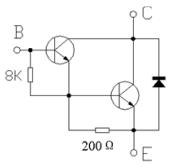
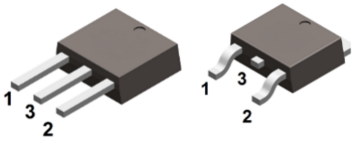
MJD122

Darlington Amplifier Transistor(NPN)





TO-251 **TO-252**

Features

- High DC current gain
- Complement to MJD127

Mechanic al Data

- Case: TO-251, TO-252
- Molding compound: UL flammability classification rating 94V-0
- Terminal s: Tin-plated; solderability per MIL-STD-202, Method 208

Ordering Information

Part Number	Package	Shipping Quantity	Marking Code
MJD122	TO-251	80pcs / Tube	MJD122
MJD122	TO-252	80pcs / Tube or 2500pcs / Tape & Reel	MJD122

Maximum Ratings (@ T_A = 25℃ unless otherwise specified)

Parameter	Symbol	Value	Unit
Collector-Base Breakdown Voltage	V_{CBO}	100	V
Collector-Emitter Breakdown Voltage	V_{CEO}	100	V
Emitter-Base Breakdown Voltage	V_{EBO}	5	V
Collector Current (Continuous)	I_C	8	A
Collector Current (Pulse)	I_{CM}	16	A
Base Current	I_B	0.12	A

Thermal Characteristics

Parameter	Symbol	Value	Unit
Power Dissipation (T_C = 25°C)	P_D	1.5	W
Thermal Resistance (Junction-to-Case)	$R_{\theta JC}$	6.25	°C/W
Junction Temperature	T_J	150	℃
Storage Temperature Range	T_{STG}	-55 ~ +150	℃

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Electrical Characteristics (@ T_A = 25℃ unless otherwise specified)

Parameter	Symbol	Test Condition	Min.	Typ.	Max.	Unit
Collector-Base Breakdown Voltage	$V_{(BR)CBO}$	I_C = 1mA, I_E = 0	100	-	-	V
Collector-Emitter Breakdown Voltage	$V_{(BR)CEO}$	I_C = 30mA, I_B = 0	100	-	-	V
Emitter-Base Breakdown Voltage	$V_{(BR)EBO}$	I_E = 3mA, I_C = 0	5	-	-	V
Collector Cut-off Current	I_{CBO}	V_{CB} = 100V, I_E = 0	-	-	10	μA
Collector Cut-off Current	I_{CEO}	V_{CE} = 50V, I_B = 0	-	-	10	μA
Emitter Cut-off Current	I_{EBO}	V_{EB} = 5V, I_C = 0	-	-	2	mA
DC Current Gain	h_{FE}	V_{CE} = 4V, I_C = 4A	1000	-	12000	-
		V_{CE} = 4V, I_C = 8A	100	-	-	-
Collector-emitter Saturation Voltage	$V_{CE(sat)}$	I_C = 4A, I_B = 16mA	-	-	2	V
		I_C = 8A, I_B = 80mA	-	-	4	V
Base-emitter Saturation Voltage	$V_{BE(sat)}$	I_C = 8A, I_B = 80mA	-	-	4.5	V
Base-emitter On Voltage	$V_{BE(on)}$	V_{CE} = 4V, I_C = 4A	-	-	2.8	V
Output Capacity	C_{ob}	V_{CB} = 10V, I_E = 0, f = 0.1MHz	-	-	200	pF

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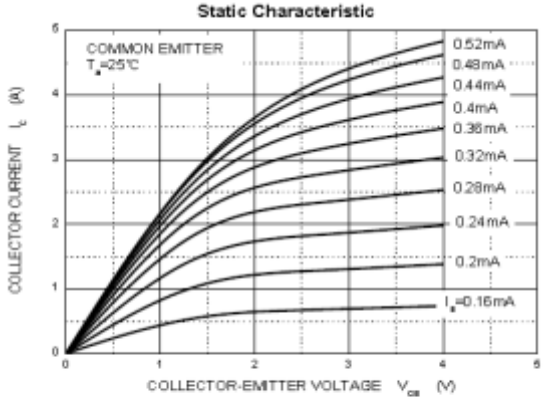
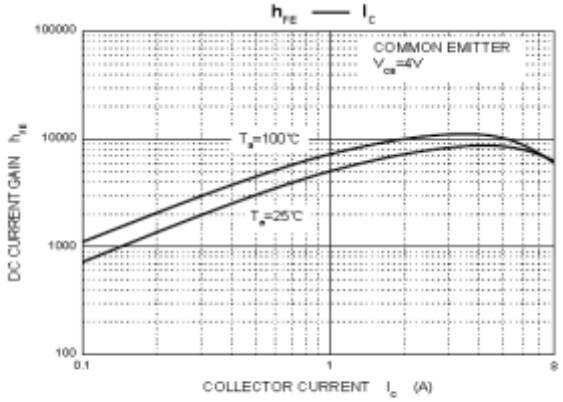
Ratings and Characteristic Curves (@ T_A = 25℃ unless otherwise specified)

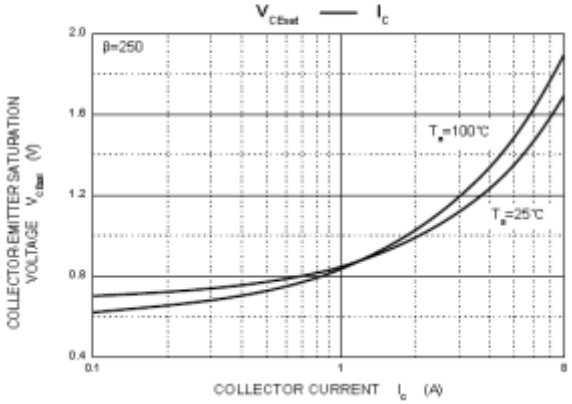
Static Characteristic



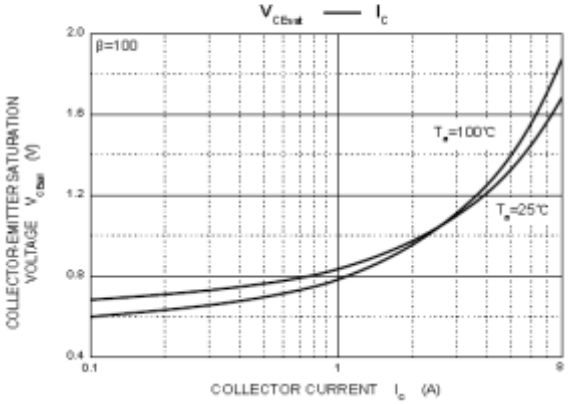
h_{FE} — I_C



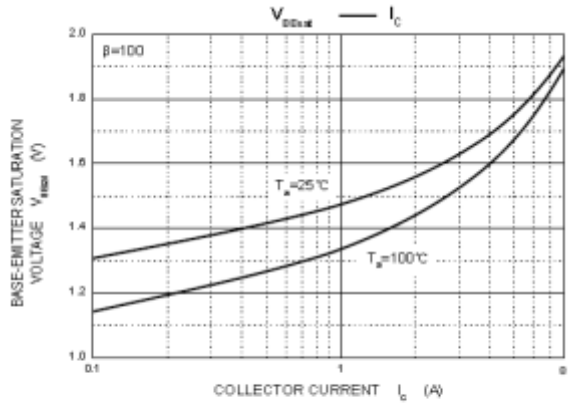
V_{CEsat} — I_C



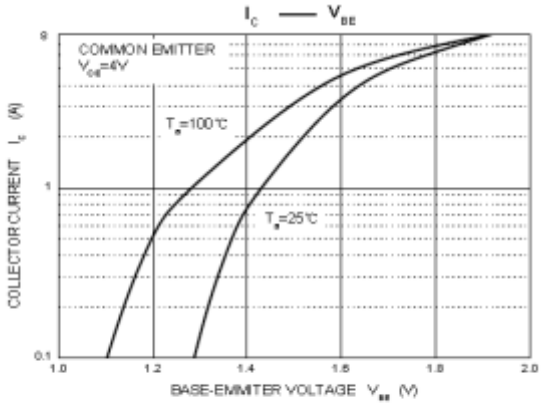
V_{CEsat} — I_C



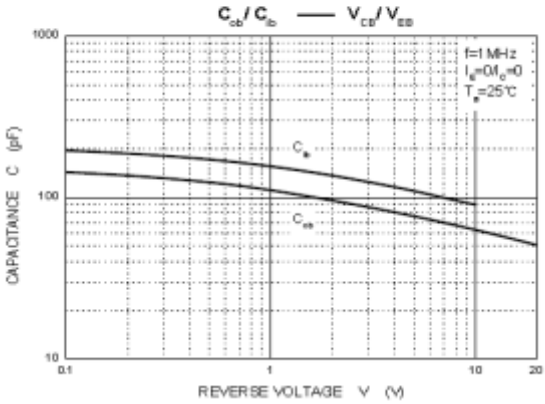
V_{BEsat} — I_C



I_C — V_{BE}



C_{ob} / C_{ib} — V_{CB} / V_{EB}



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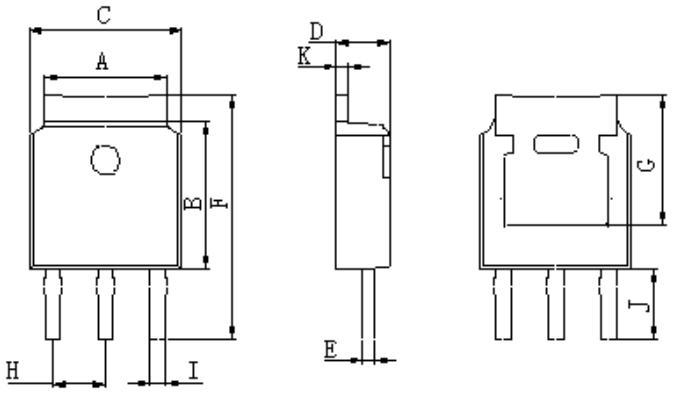
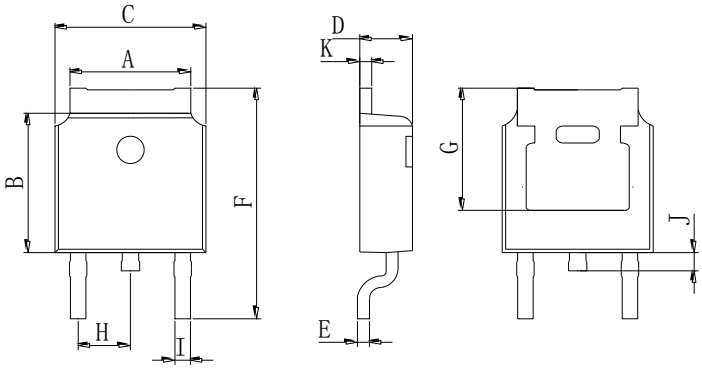
Package Outline Dimensions (Unit: mm)

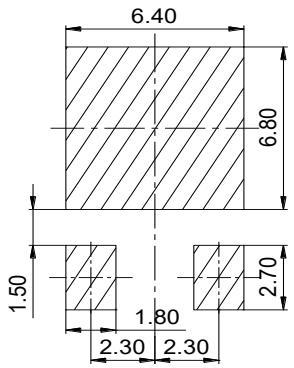


TO-251		
A	5.05	5.65
B	5.80	6.40
C	6.25	6.85
D	2.20	2.40
E	0.40	0.60
F	12.00	12.60
G	5.05	5.65
H	2.10	2.50
I	0.70	0.90
J	4.90	5.50
K	0.40	0.60
All Dimensions in mm		



TO-252		
A	5.05	5.65
B	5.80	6.40
C	6.25	6.85
D	2.20	2.40
E	0.40	0.60
F	9.71	10.31
G	5.05	5.65
H	2.10	2.50
I	0.70	0.90
J	0.50	0.70
K	0.40	0.60
All Dimensions in mm		

Mounting Pad Layout (Unit: mm)



Package	Packing	Quantity	Box	Box Size(mm)	Carton	Carton Size(mm)
TO-251	Bulk	500pcs/Bag	5000pcs	245×170×100	50,000pcs	525×375×270
TO-251	Tube	80pcs/Tube	4000pcs	560×178×35	40,000pcs	585×385×220

Packge	Packing	Box Size L×W×H(mm)	Quatity(pcs/box)	Carton Size L×W×H(mm)	Quatity(pcs/carton)
TO-252	80pcs/Tube	560×150×50	4000	570×290×180	40000
TO-252	2500pcs/Reel	335×335×40	2500	370×370×440	12500/25000