

TO-252-2L Plastic-Encapsulate Transistors

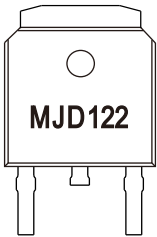
MJD112

DARLINGTON TRANSISTOR (NPN)

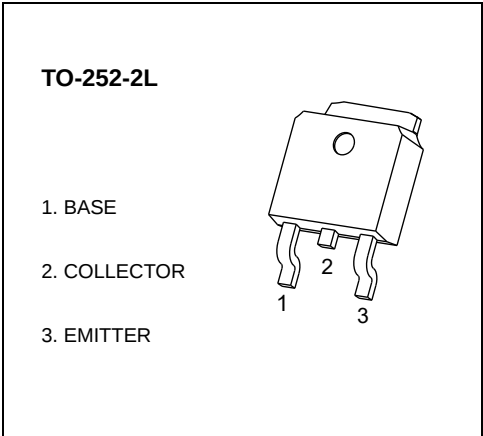
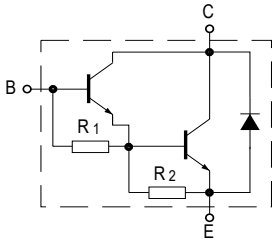
FEATURES

- High DC Current Gain
- Built-in a Damper Diode at E-C

MARKING



Equivalent Circuit



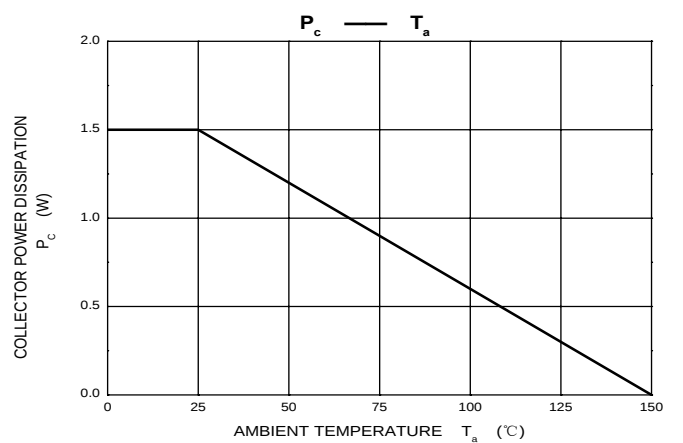
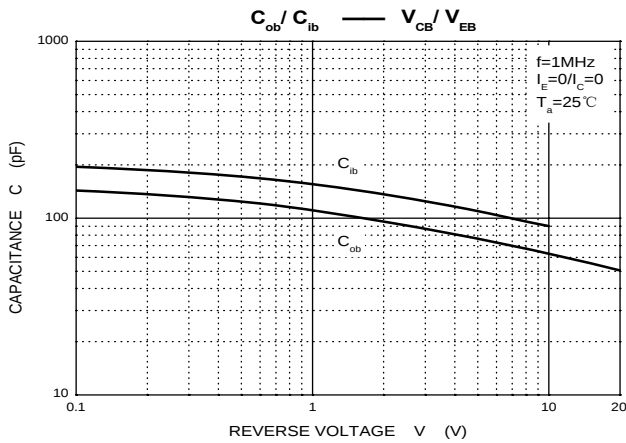
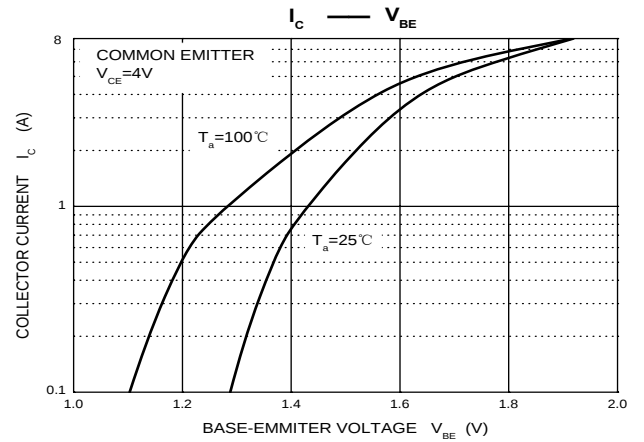
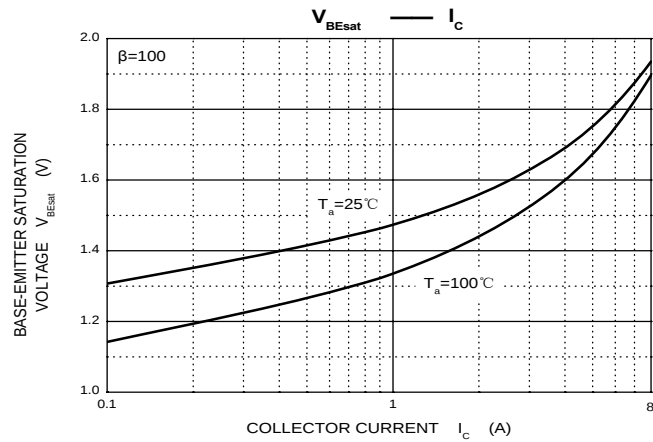
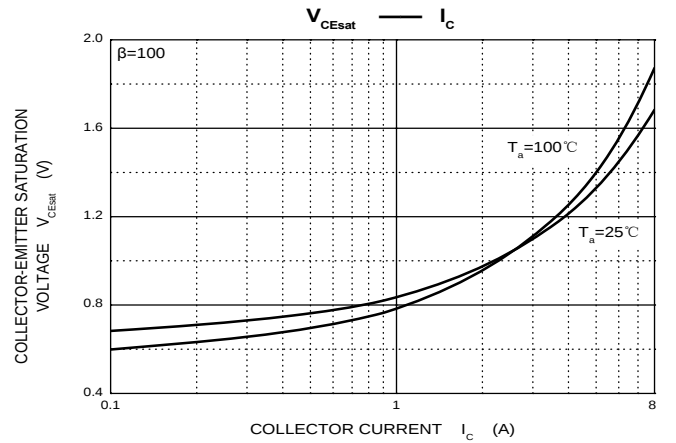
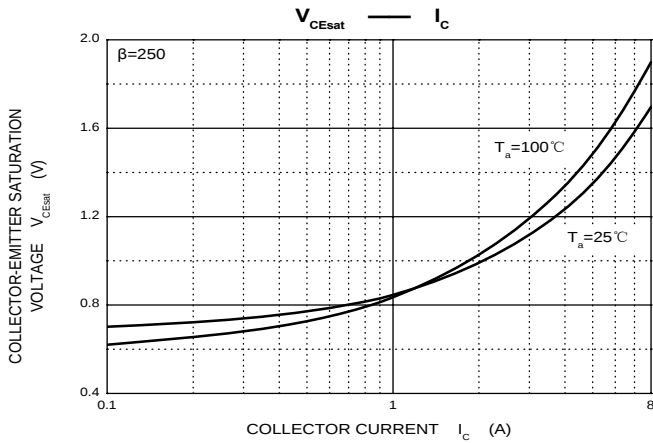
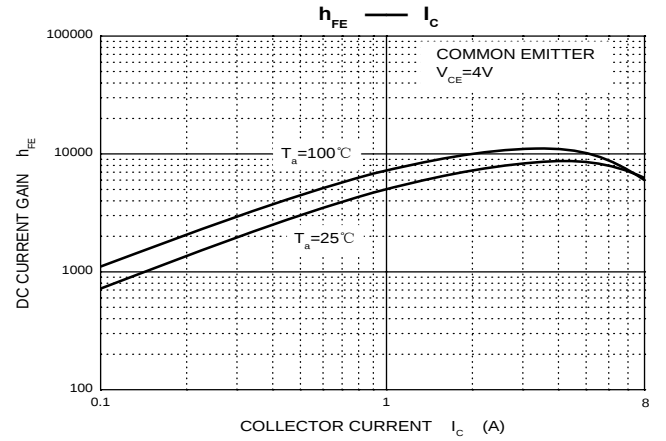
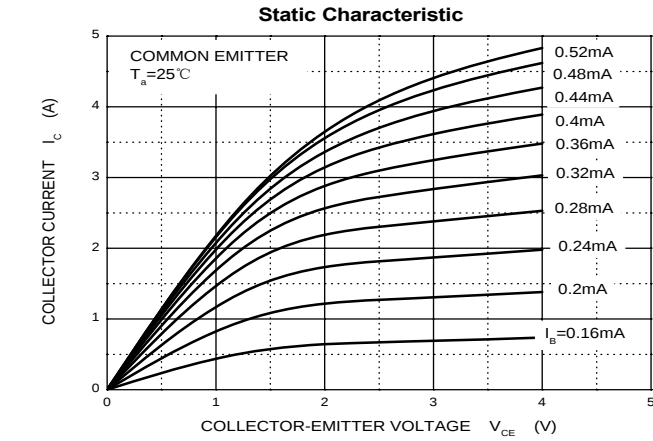
MAXIMUM RATINGS (Ta=25°C unless otherwise noted)

Symbol	Parameter	Value	Unit
V _{CBO}	Collector-Base Voltage	100	V
V _{CEO}	Collector-Emitter Voltage	100	V
V _{EBO}	Emitter-Base Voltage	5	V
I _c	Collector Current -Continuous	8	A
P _c	Collector Dissipation	1.5	W
T _J , T _{stg}	Operation Junction and Storage Temperature Range	-55-150	°C

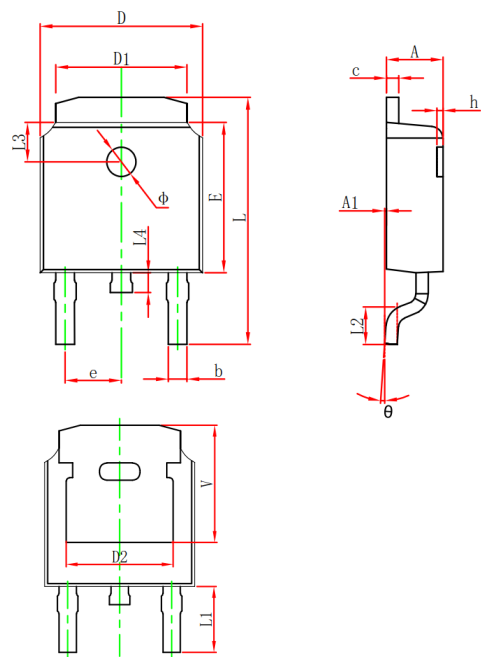
ELECTRICAL CHARACTERISTICS (Ta=25°C unless otherwise specified)

Parameter	Symbol	Test conditions	Min	Typ	M	
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-emitter cut-off current	I _{CEO}	V _{CE} =50V, I _E =0			10	μA
Emitter cut-off current	I _{EBO}	V _{EB} =5V, I _C =0			2	mA
DC current gain	h _{FE(2)}	V _{CE} =4V, I _C =4A	1000		12000	
	h _{FE(3)}	V _{CE} =4V, I _C =8A	100			
Collector-emitter saturation voltage	V _{CE(sat) (1)}	I _C =4A, I _B =16mA			2	V
	V _{CE(sat) (2)}	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 voltage*	V _{BE}	V _{CE} =4V, I _C =4A			2.8	V
Collector output capacitance	C _{ob}	V _{CB} =10V, I _E =0, f=0.1MHz			200	pF

Typical Characteristics

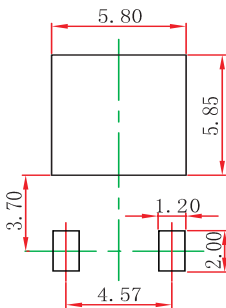


Package Outline Dimensions (TO-252-2L)



Symbol	Dimensions In Millimeters		Dimensions In Inches	
	Min.	Max.	Min.	Max.
A	2.200	2.400	0.087	0.094
A1	0.000	0.127	0.000	0.005
b	0.635	0.770	0.025	0.030
c	0.460	0.580	0.018	0.023
D	6.500	6.700	0.256	0.264
D1	5.100	5.460	0.201	0.215
D2	4.830 REF.		0.190 REF.	
E	6.000	6.200	0.236	0.244
e	2.186	2.386	0.086	0.094
L	9.712	10.312	0.382	0.406
L1	2.900 REF.		0.114 REF.	
L2	1.400	1.700	0.055	0.067
L3	1.600 REF.		0.063 REF.	
L4	0.600	1.000	0.024	0.039
Φ	1.100	1.300	0.043	0.051
θ	0°	8°	0°	8°
h	0.000	0.300	0.000	0.012
V	5.250 REF.		0.207 REF.	

Suggested Pad Layout (TO-252-2L)



- Note:
1. Controlling dimension: in millimeters.
 2. General tolerance: $\pm 0.05\text{mm}$.
 3. The pad layout is for reference purposes only.