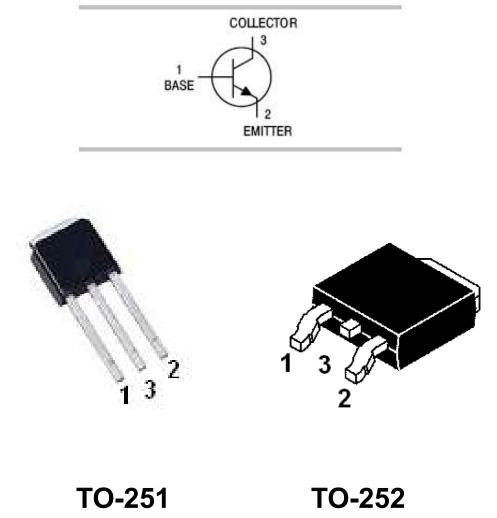
Epitaxial Planar NPN Transistor MJD122

FEATURES

- High DC Current Gain.
- Built-in a Damper Diode at E-C.
- Lead Formed for Surface Mount Applications.
- Straight Lead.
- Complement to MJD127.

Lead-free



MAXIMUM RATING operating temperature range applies unless otherwise specified

Symbol	Parameter	Value	Units
V_{CBO}	Collector-Base Volage	100	V
V_{CEO}	Collector-Emitter Voltage	100	V
V_{EBO}	Emitter-Base Voltage	5	V
I_C	Collector Current	8	A
I_{CP}	Collector Power Dissipation	16	A
I_B	Base Current	120	mA
P_C	Collector Power Dissipation	1.5	W
T_j ,T_{stg}	Junction and Storage temperature range	-65 to +150	℃

Epitaxial Planar NPN Transistor MJD122

ELECTRICAL CHARACTERISTICS@ Ta=25℃ unless otherwise specified

Parameter	**Symbol**	**Test conditions**	**MIN**	**TYP**	**MAX**	**UNIT**
Collector-emitter sustaining voltage	V_{CEO}(sus)	I_C=30mA,I_B=0	100			V
Collector cut-off current	I_{CEO}	V_{CE}=50V,I_B=0			10	uA
Collector cut-off current	I_{CBO}	V_{CB}=100V,I_E=0			10	uA
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 V_{CE}=4V,I_C=8A	1000 100		12K	
Collector-emitter saturation voltage	$V_{CE(sat)}$	I_C=4A,I_B=16mA I_C=8A,I_B=80mA			2 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

TYPICAL CHARACTERISTICS @ Ta=25℃ unless otherwise specified

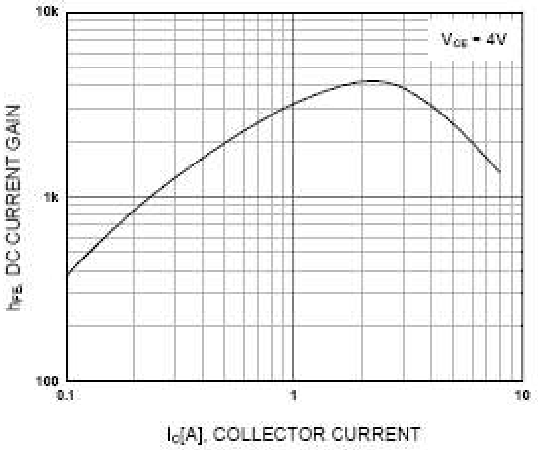


Figure 1. DC current Gain

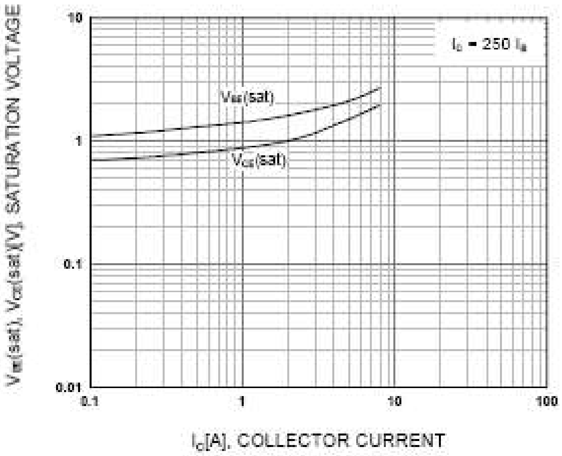


Figure 2. Base-Emitter Saturation Voltage
Collector-Emitter Saturation Voltage

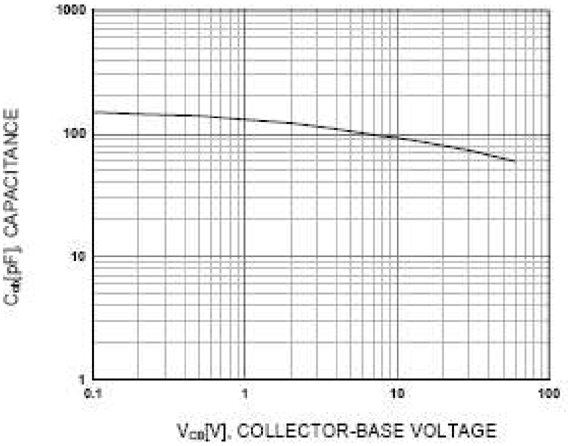


Figure 3. Collector Output Capacitance

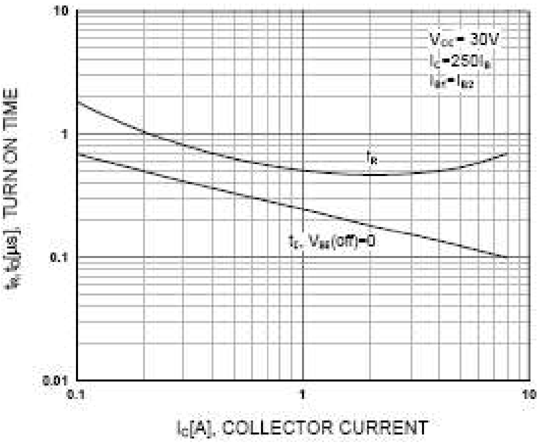


Figure 4. Turn On Time

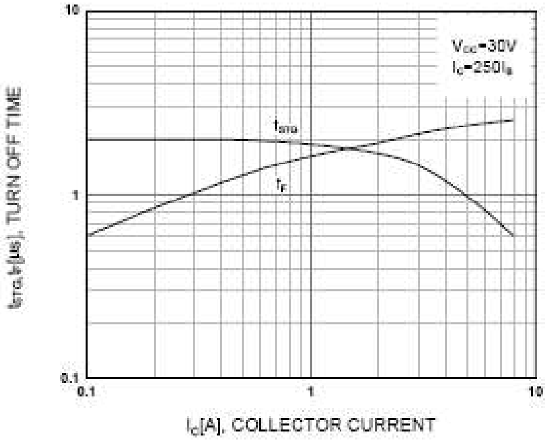


Figure 5. Turn Off Time

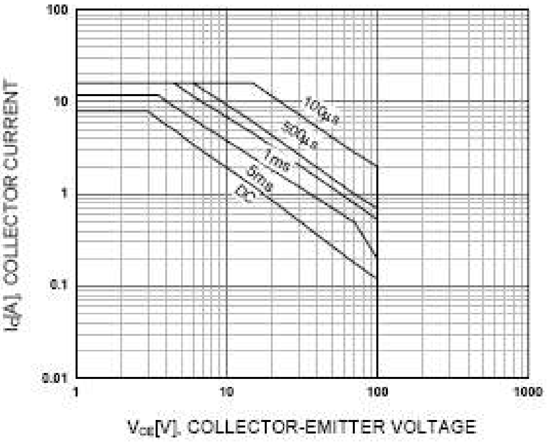


Figure 6. Safe Operating Area

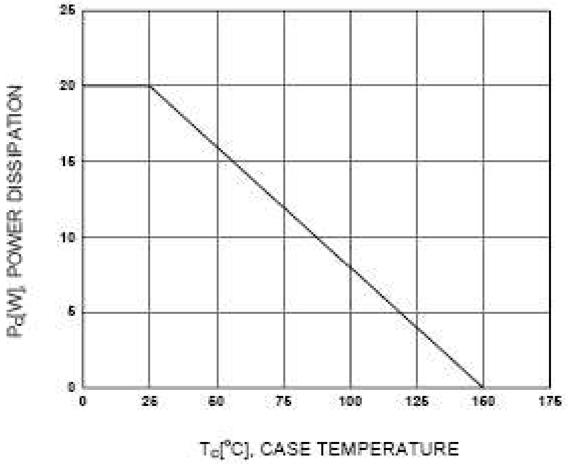
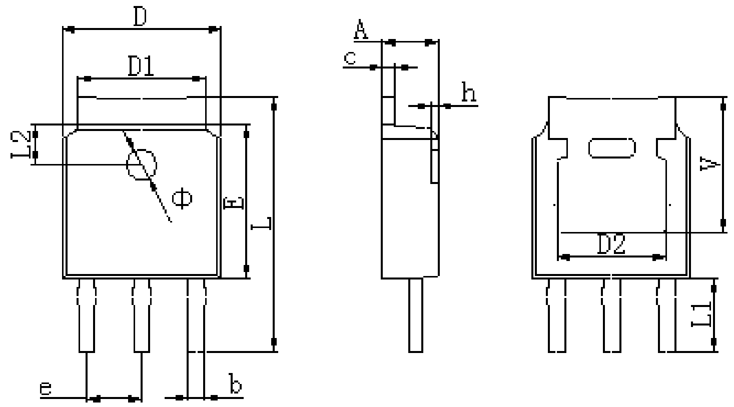


Figure 7. Power Derating

PACKAGE OUTLINE

Plastic surface mounted package

TO-251

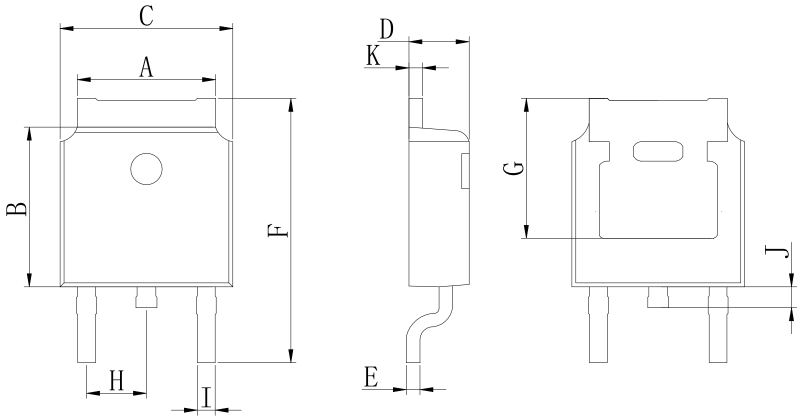


TO-251		
A	2.200	2.400
b	0.500	0.700
c	0.460	0.580
D	6.500	6.700
D1	5.100	5.460
D2	4.830 Typ.	
E	6.000	6.200
e	2.186	2.386
L	12.000	12.600
L1	5.100 Typ.	
L2	1.400	1.700
Φ	1.100	1.300
h	0.000	0.300
V	5.350 Typ.	
All Dimensions in mm		

PACKAGE OUTLINE

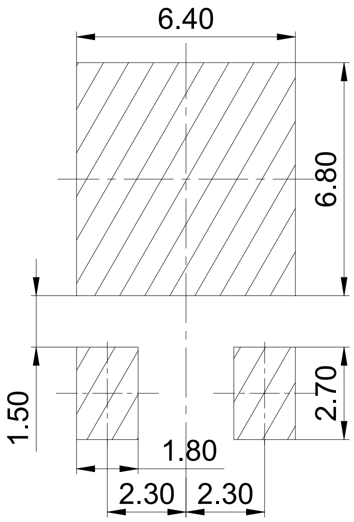
Plastic surface mounted package

TO-252



TO-252		
A	4.95	5.59
B	5.40	6.63
C	6.05	7.10
D	2.20	2.40
E	0.40	0.61
F	8.80	10.60
G	5.35 Typ.	
H	1.98	2.59
I	0.50	0.90
J	0.50	1.20
K	0.45	0.89
All Dimensions in mm		

SOLDERING FOOTPRINT



Unit:mm

PACKAGE INFORMATION

Device	Package	Shipping
MJD122	TO-251/252	80PCS/Tube
	TO-252	2500PCS/Tape&Reel