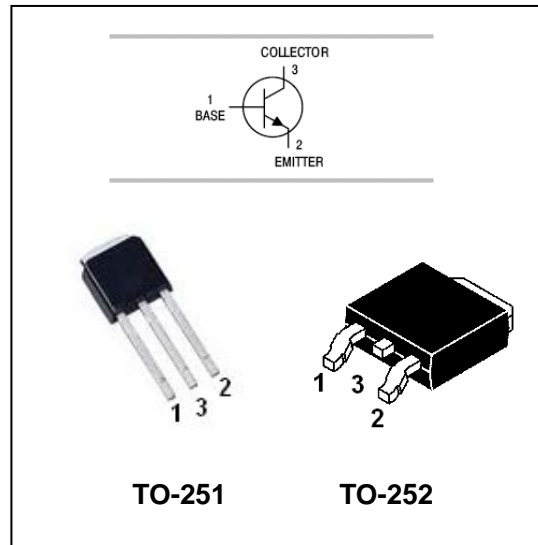


Epitaxial Planar NPN Transistor

MJD112

FEATURES

- High DC Current Gain.
- Built-in a Damper Diode at E-C.
- Lead Formed for Surface Mount Applications.
- Straight Lead.
- MSL 3.



MAXIMUM RATING operating temperature range applies unless otherwise specified

Symbol	Parameter	Value	Units
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	2	A
I_{CP}	Collector Power Dissipation	4	A
I_B	Base Current	50	mA
P_C	Collector Power Dissipation	1.5	W
T_j, T_{stg}	Junction and Storage temperature range	-55 to +150	°C

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ELECTRICAL CHARACTERISTICS @ Ta=25°C unless otherwise specified

Parameter	Symbol	Test conditions	MIN	MAX	UNIT
Collector-emitter sustaining voltage	$V_{CE0(sus)}$	$I_C=30mA, I_B=0$	100		V
Collector cut-off current	I_{CEO}	$V_{CE}=50V, I_B=0$		20	μA
Collector cut-off current	I_{CBO}	$V_{CB}=100V, I_E=0$		20	μA
Emitter cut-off current	I_{EBO}	$V_{EB}=5V, I_C=0$		2	mA
DC current gain	h_{FE}	$V_{CE}=3V, I_C=0.5A$ $V_{CE}=3V, I_C=2A$ $V_{CE}=3V, I_C=4A$	500 1000 200	12K	
Collector-emitter saturation voltage	$V_{CE(sat)}$	$I_C=2A, I_B=8mA$ $I_C=4A, I_B=40mA$		2 3	V
Base-emitter saturation voltage	$V_{BE(sat)}$	$I_C=4A, I_B=40mA$		4	V
Base-emitter on voltage	$V_{BE(on)}$	$V_{CE}=3V, I_C=2A$		2.8	V
Transition frequency	f_T	$V_{CE}=10V, I_C=0.75A$	25		MHz
Output capacity	C_{ob}	$V_{CB}=10V, I_E=0, f=0.1MHz$		100	pF

TYPICAL CHARACTERISTICS @ Ta=25°C unless otherwise specified

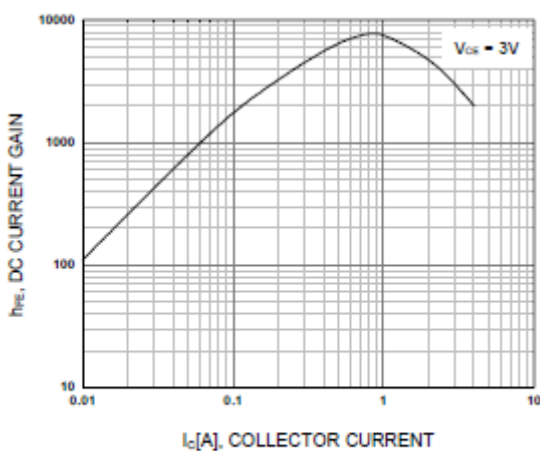


Figure 1. DC current Gain

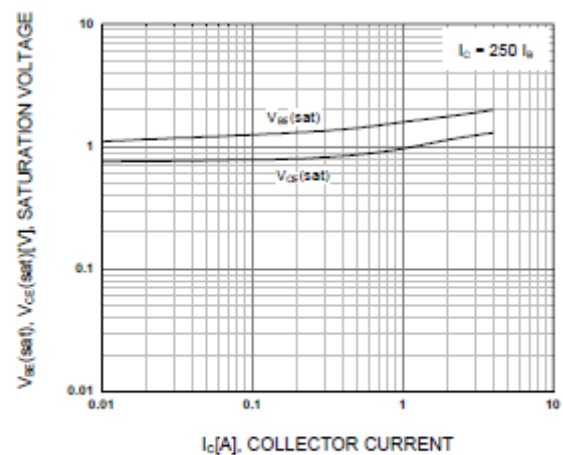


Figure 2. Base-Emitter Saturation Voltage
Collector-Emitter Saturation Voltage

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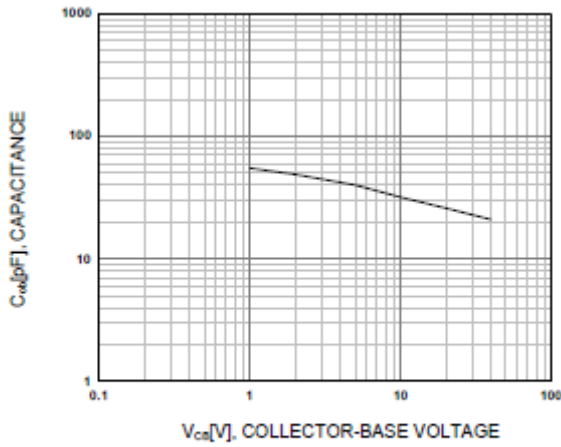


Figure 3. Collector Output Capacitance

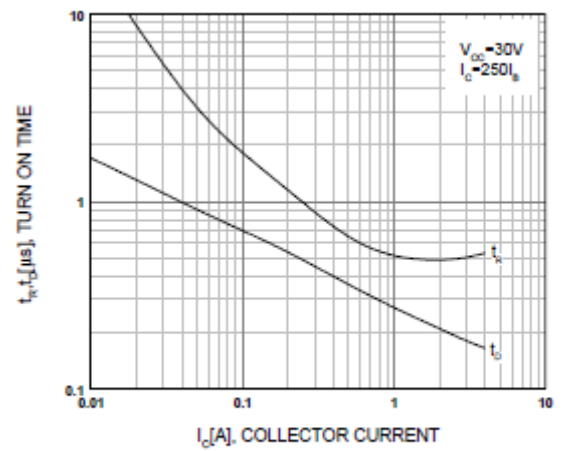


Figure 4. Turn On Time

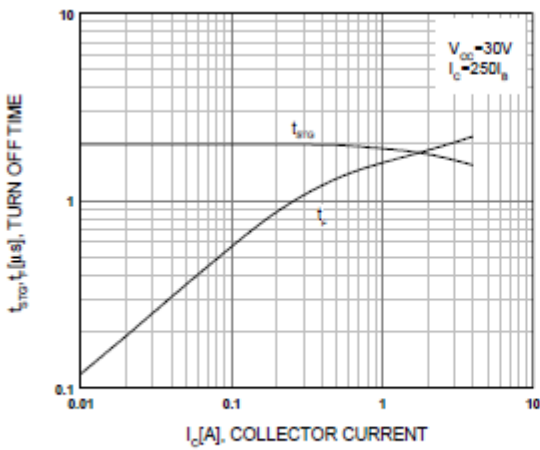


Figure 5. Turn Off Time

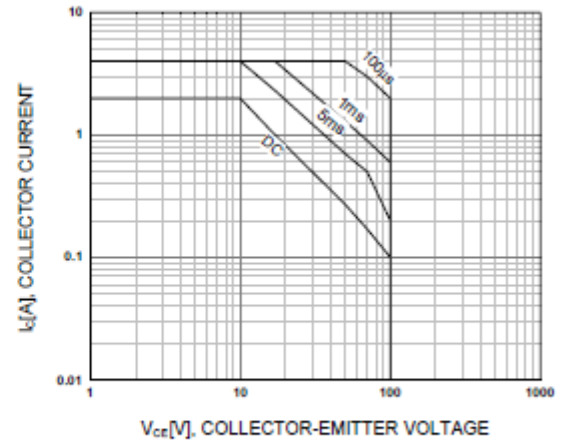


Figure 6. Safe Operating Area

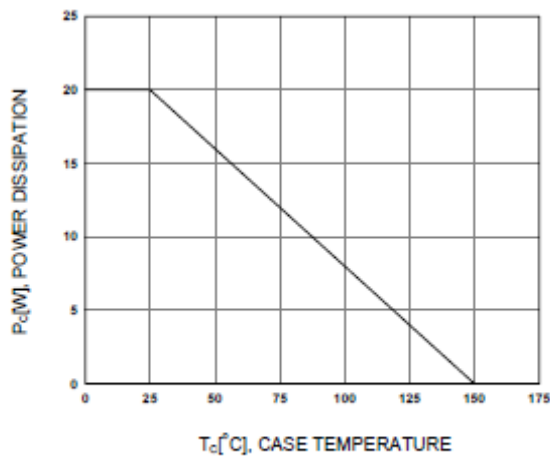


Figure 7. Power Derating

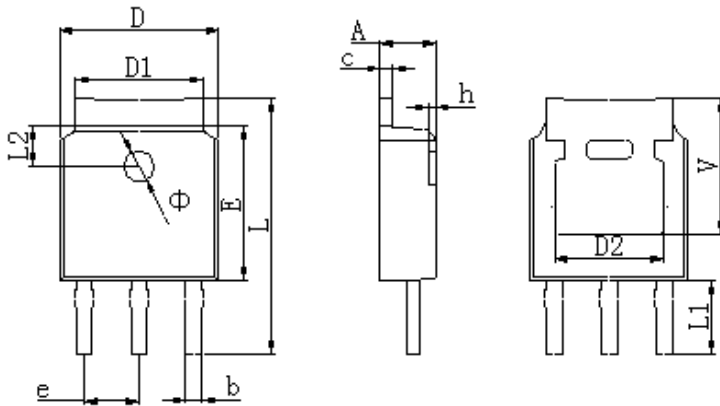
Epitaxial Planar NPN Transistor

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PACKAGE OUTLINE

Plastic surface mounted package

TO-251

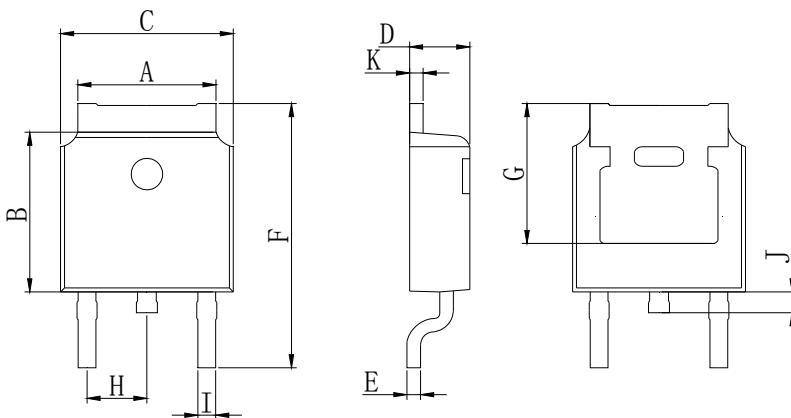


TO-251		
A	2.200	2.400
b	0.500	0.700
c	0.460	0.580
D	6.500	6.700
D1	5.100	5.460
D2	4.830 Typ.	
E	6.000	6.200
e	2.186	2.386
L	12.000	12.600
L1	5.100 Typ.	
L2	1.400	1.700
Φ	1.100	1.300
h	0.000	0.300
V	5.350 Typ.	
All Dimensions in mm		

PACKAGE OUTLINE

Plastic surface mounted package

TO-252

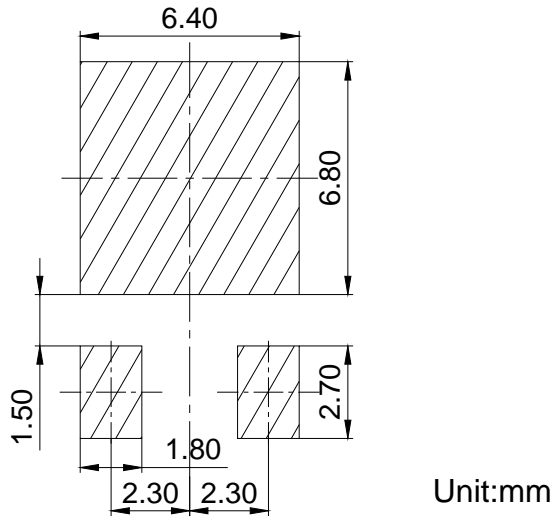


TO-252		
A	4.95	5.59
B	5.40	6.63
C	6.05	7.10
D	2.20	2.40
E	0.40	0.61
F	8.80	10.60
G	5.35 Typ.	
H	1.98	2.59
I	0.50	0.90
J	0.50	1.20
K	0.45	0.89
All Dimensions in mm		

Epitaxial Planar NPN Transistor

MJD112

SOLDERING FOOTPRINT



PACKAGE INFORMATION

Device	Package	Shipping
MJD112	TO-251/252	80PCS/Tube
	TO-252	2500PCS/Tape&Reel