

Epitaxial Planar PNP Transistor

MJD117

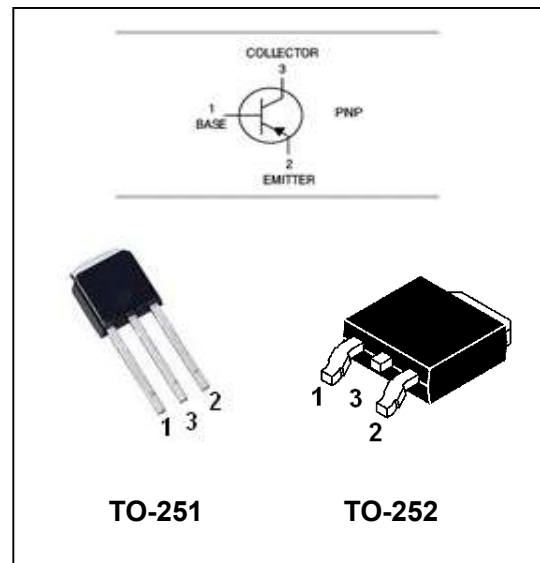
FEATURES

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



Lead-free

HF



Ordering Information

Part Number	Package	Shipping	Marking Code
MJD117□	TO-251 TO-252	80/Tube 80/Tube or 2500/Tape Reel	MJD117

□: none is for Lead Free package;

“G” is for Halogen Free package.

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	-65 to +150	°C

Epitaxial Planar PNP Transistor

MJD117

ELECTRICAL CHARACTERISTICS @ $T_a=25^\circ\text{C}$ unless otherwise specified

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

TYPICAL CHARACTERISTICS @ $T_a=25^\circ\text{C}$ unless otherwise specified

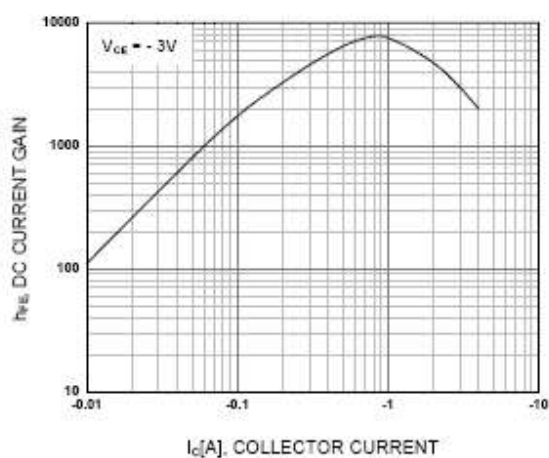


Figure 1. DC current Gain

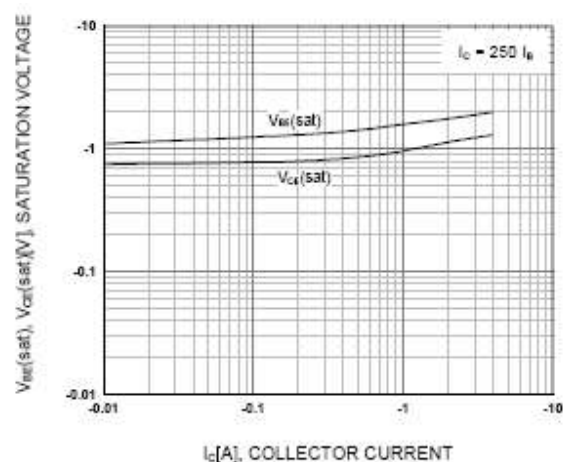


Figure 2. Base-Emitter Saturation Voltage
Collector-Emitter Saturation Voltage

Epitaxial Planar PNP Transistor

MJD117

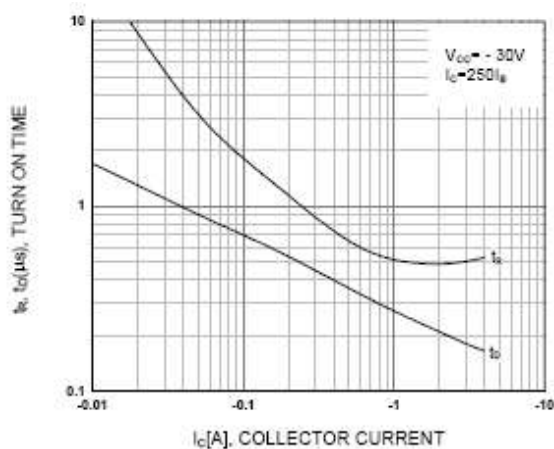


Figure 3. Collector Output Capacitance

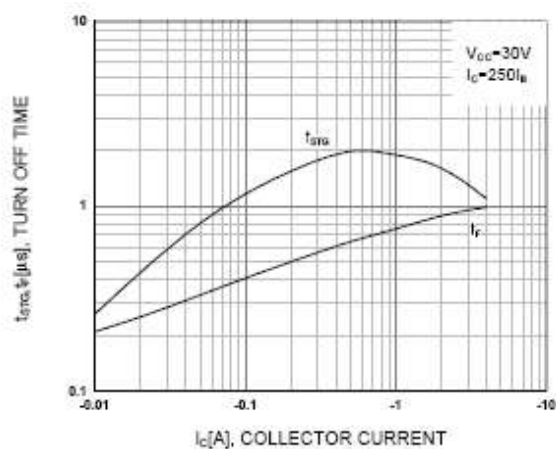


Figure 4. Turn On Time

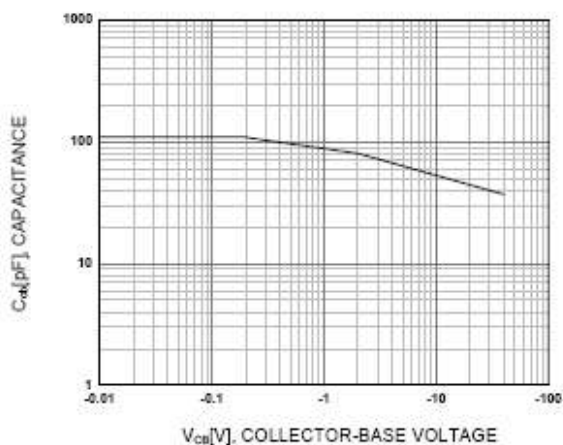


Figure 5. Turn Off Time

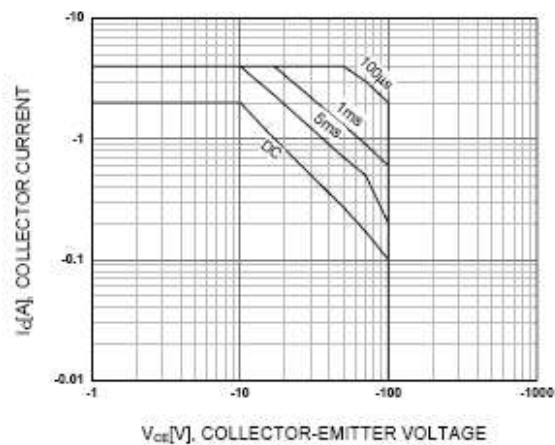


Figure 6. Safe Operating Area

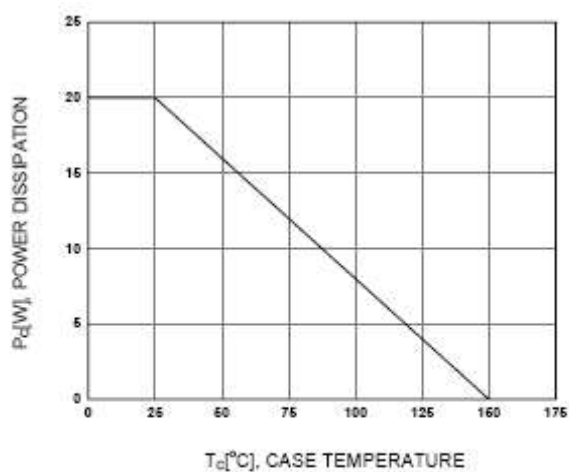


Figure 7. Power Derating

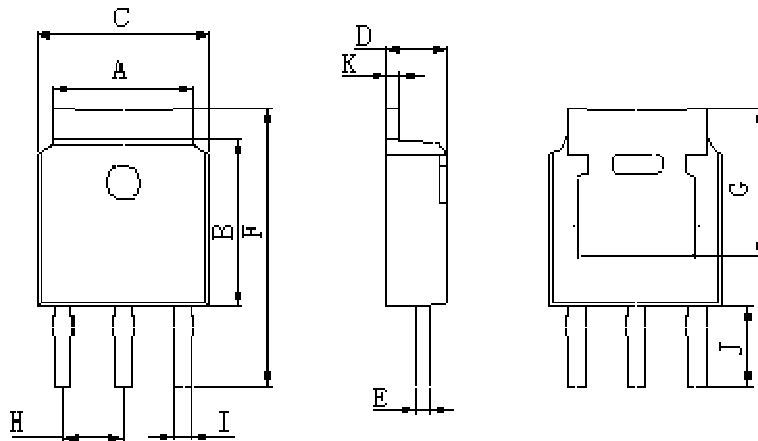
Epitaxial Planar PNP Transistor

MJD117

PACKAGE OUTLINE

Plastic surface mounted package

TO-251

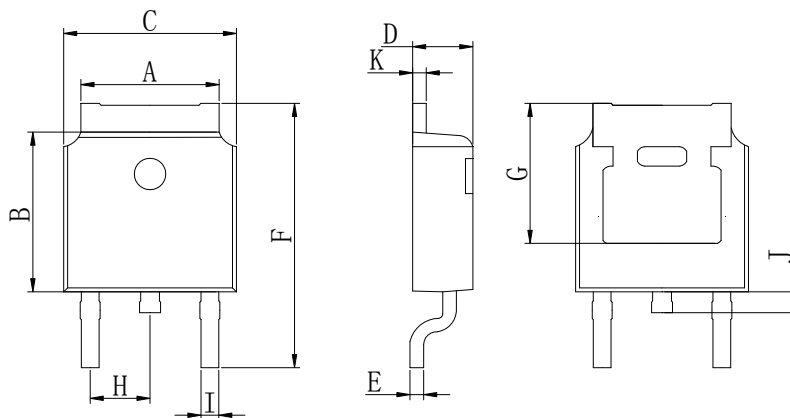


TO-251		
A	5.05	5.65
B	5.80	6.40
C	6.25	6.85
D	2.20	2.40
E	0.40	0.60
F	12.00	12.60
G	5.05	5.65
H	2.10	2.50
I	0.70	0.90
J	4.90	5.50
K	0.40	0.60
All Dimensions in mm		

PACKAGE OUTLINE

Plastic surface mounted package

TO-252

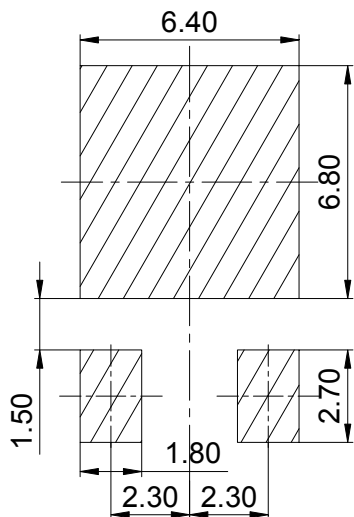


TO-252		
A	5.05	5.65
B	5.80	6.40
C	6.25	6.85
D	2.20	2.40
E	0.40	0.60
F	9.71	10.31
G	5.05	5.65
H	2.10	2.50
I	0.70	0.90
J	0.50	0.70
K	0.40	0.60
All Dimensions in mm		

Epitaxial Planar PNP Transistor

MJD117

SOLDERING FOOTPRINT



Unit:mm