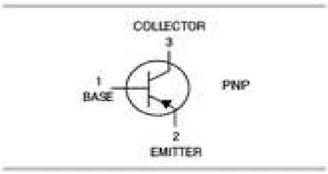
Epitaxial Planar PNP Transistor **MJD117**

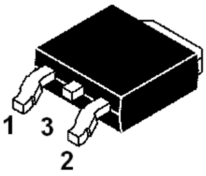
FEATURES

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

Lead-free



TO-251



TO-252

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	-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	℃

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			-20	uA
Collector cut-off current	I_{CBO}	V_{CB}=-100V,I_E=0			-20	uA
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			200	pF

TYPICAL CHARACTERISTICS @ Ta=25℃ unless otherwise specified

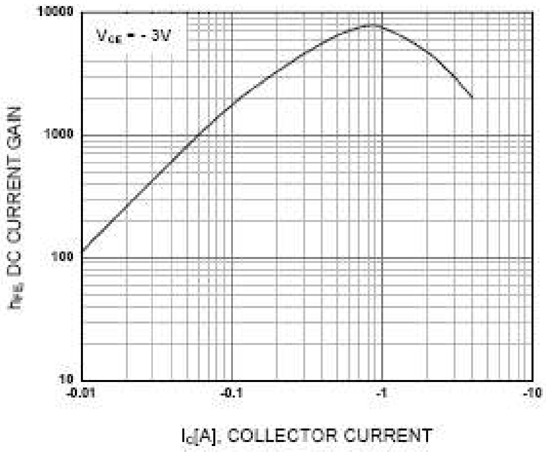


Figure 1. DC current Gain

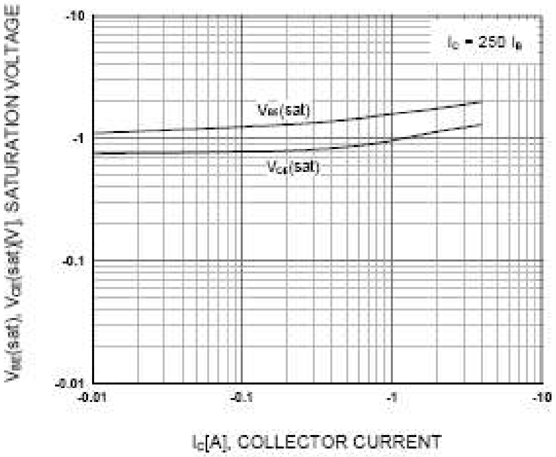
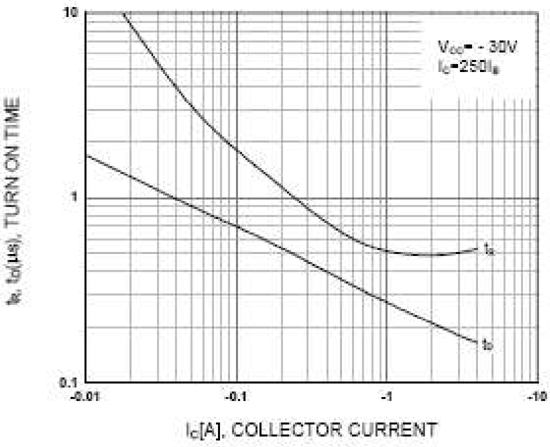


Figure 2. Base-Emitter Saturation Voltage
Collector-Emitter Saturation Voltage

Epitaxial Planar PNP Transistor MJD117



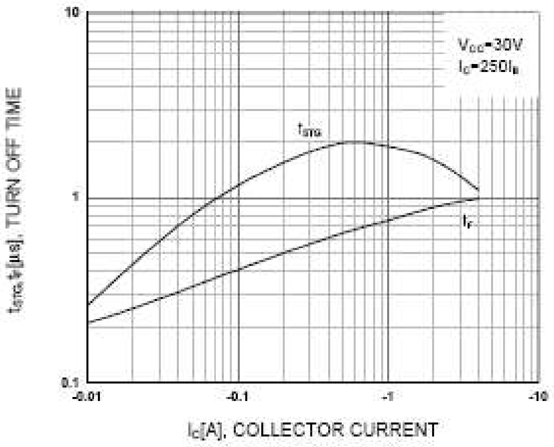
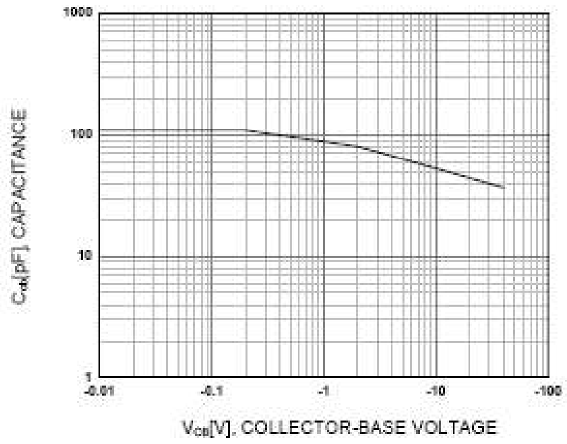


Figure 3. Collector Output Capacitance

Figure 4. Turn On Time



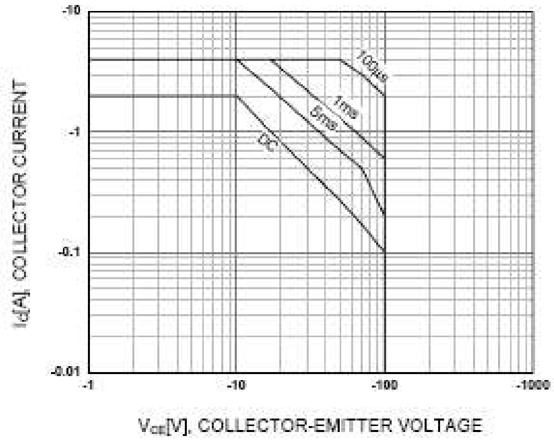


Figure 5. Turn Off Time

Figure 6. Safe Operating Area

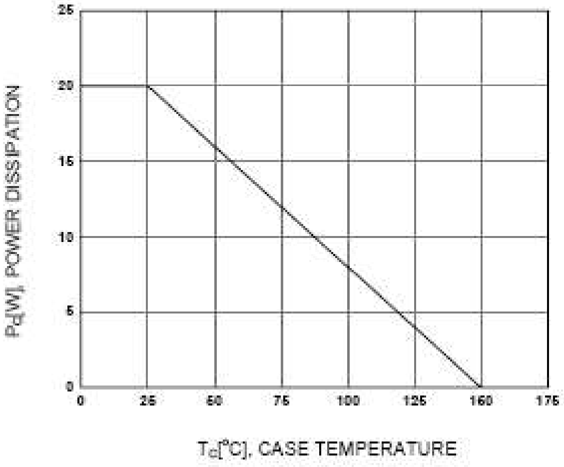
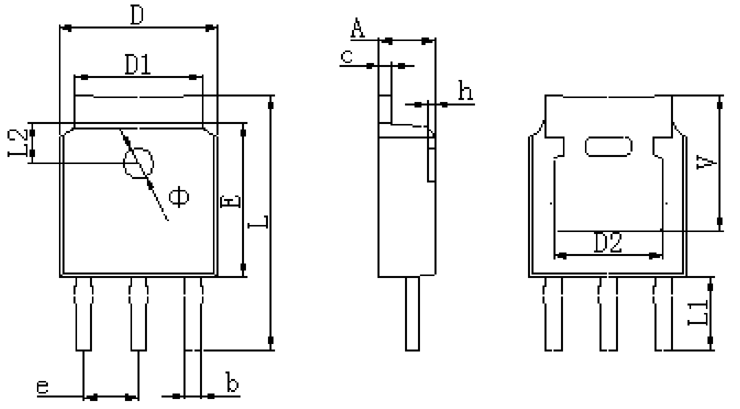


Figure 7. Power Derating

PACKAGE OUTLINE

Plastic surface mounted package

TO-251

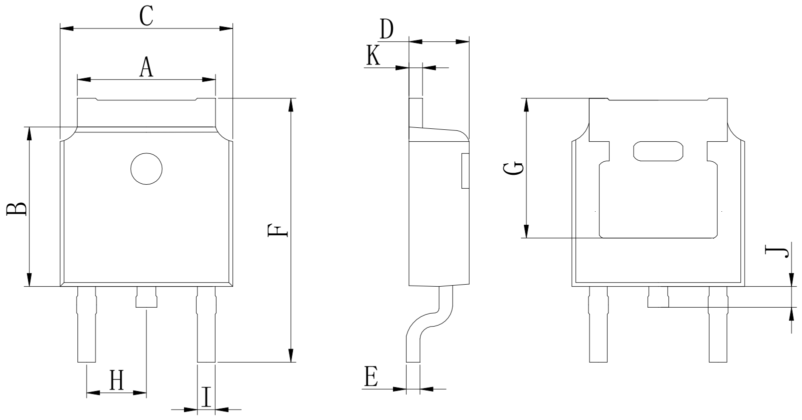


TO-251		
A	2.200	2.400
b	0.500	0.700
c	0.460	0.580
D	6.500	6.700
D1	5.100	5.460
D2	4.830 Typ.	
E	6.000	6.200
e	2.186	2.386
L	12.000	12.600
L1	5.100 Typ.	
L2	1.400	1.700
Φ	1.100	1.300
h	0.000	0.300
V	5.350 Typ.	
All Dimensions in mm		

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		

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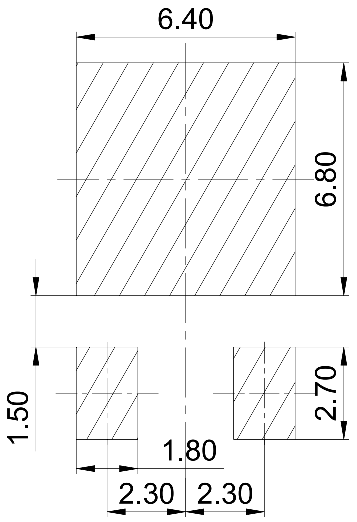
SOLDERING FOOTPRINT



Unit:mm

PACKAGE INFORMATION

Device	Package	Shipping
MJD117	TO-251/252	80PCS/Tube
	TO-252	2500PCS/Tape&Reel