PNP Silicon Epitaxial Planar Transistor

MJIA92

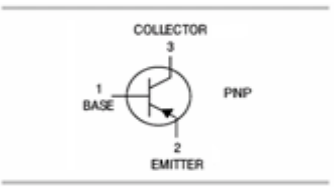
Features

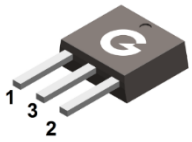
HF

- Epitaxial planar die construction
- Complimentary to MJIA42
- Ultra-small surface mount package

Mechanic al Data

- Case: TO-251
- Molding compound: UL flammability classification rating 94V-0
- Terminals: Tin-plated; solderability per MIL-STD-202, Method 208





TO-251

Ordering Information

Part Number	Package	Shipping Quantity	Marking Code
MJIA92	TO-251	80 pcs / Tube	MJIA92

Maximum Ratings (@ T_A = 25°C unless otherwise specified)

Parameter	Symbol	Value	Unit
Collector-Base Breakdown Voltage	V_{CBO}	-300	V
Collector-Emitter Breakdown Voltage	V_{CEO}	-300	V
Emitter-Base Breakdown Voltage	V_{EBO}	-5	V
Continuous Collector Current	I_C	-0.5	A

Thermal Characteristics

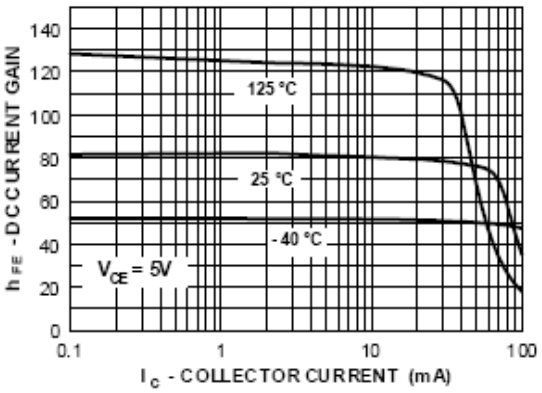
Parameter	Symbol	Value	Unit
Power Dissipation	P_D	1	W
Thermal Resistance (Junction-to-Ambient)	$R_{\theta JA}$	125	°C/W
Operating junction Temperature	T_J	-55 ~ +150	°C
Storage Temperature Range	T_{STG}	-55 ~ +150	°C

Electrical Characteristics (@ T_A = 25°C unless otherwise specified)

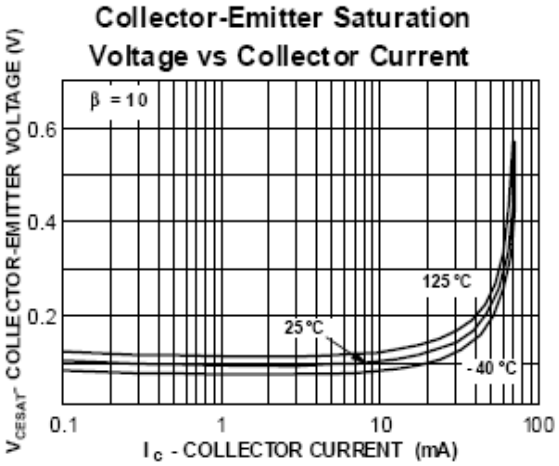
Parameter	Symbol	Test Condition	Min.	Typ.	Max.	Unit
Collector-Base Breakdown Voltage	$V_{(BR)CBO}$	I_C = -100μA, I_E = 0	-300	-	-	V
Collector-Emitter Breakdown Voltage	$V_{(BR)CEO}$	I_C = -1mA, I_B = 0	-300	-	-	V
Emitter-Base Breakdown Voltage	$V_{(BR)EBO}$	I_E = -100μA, I_C = 0	-5	-	-	V
Collector Cut-off Current	I_{CBO}	V_{CB} = -200V, I_E = 0	-	-	-250	nA
Emitter Cut-off Current	I_{EBO}	V_{EB} = -3V, I_C = 0	-	-	-100	nA
DC Current Gain	h_{FE}	V_{CE} = -10V, I_C = -1mA	25	-	-	-
		V_{CE} = -10V, I_C = -10mA	40	-	-	-
		V_{CE} = -10V, I_C = -30mA	25	-	-	-
Collector-emitter Saturation Voltage	$V_{CE(sat)}$	I_C = -20mA, I_B = -2mA	-	-	-0.5	V
Base-emitter Saturation Voltage	$V_{BE(sat)}$	I_C = -20mA, I_B = -2mA	-	-	-0.9	V
Transition Frequency	f_T	I_C = -10mA, V_{CE} = -20V	50	-	-	MHz
Collector Output Capacitance	C_{OBO}	V_{CB} = -20V, I_E = 0, f = 1MHZ	-	-	6	pF

Ratings and Characteristics Curves (@ T_A = 25°C unless otherwise specified)

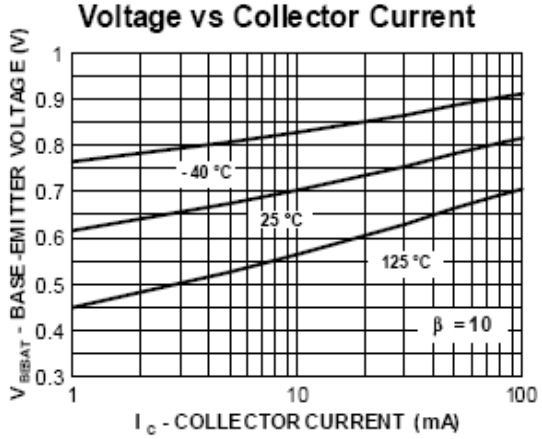
DC Current Gain vs Collector Current



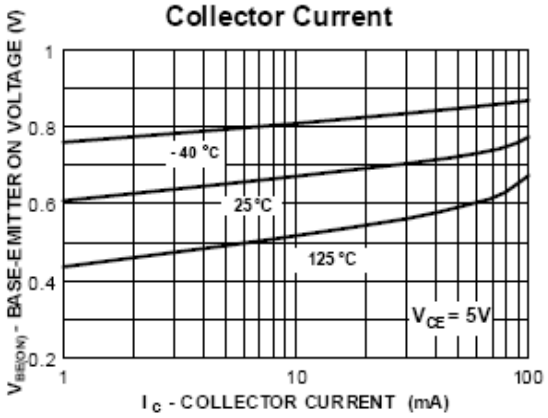
Collector-Emitter Saturation Voltage vs Collector Current



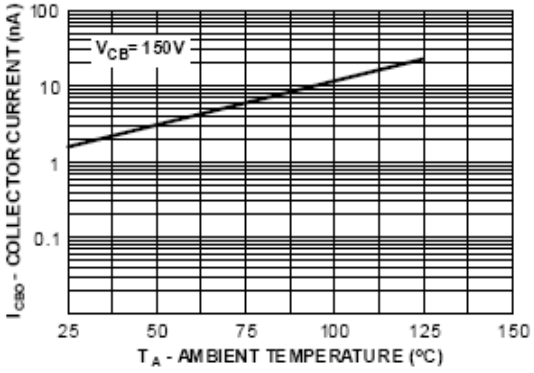
Base-Emitter Saturation Voltage vs Collector Current



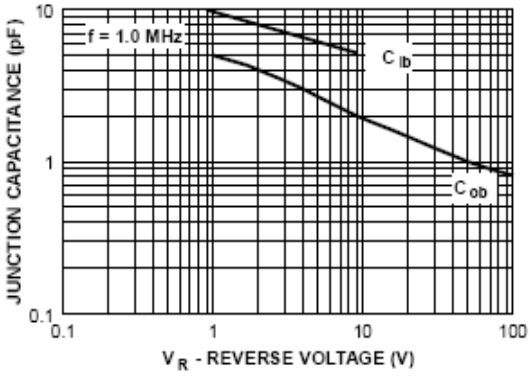
Base-Emitter ON Voltage vs Collector Current



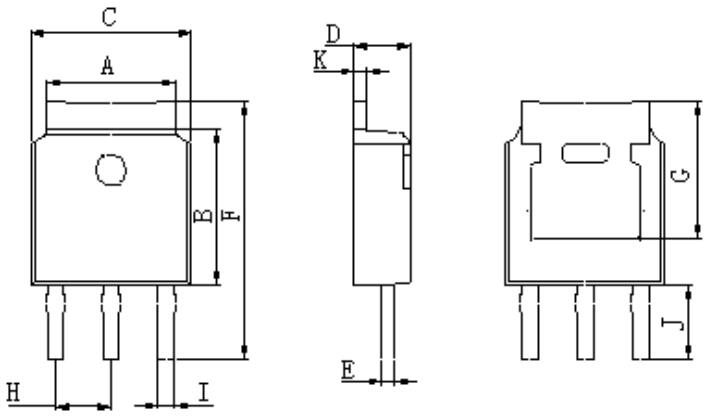
Collector-Cutoff Current vs Ambient Temperature



Junction Capacitance vs Reverse Bias Voltage



Package Outline Dimensions (Unit: mm)



TO-251		
Dimension	**Min.**	**Max.**
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	11.00	11.60
G	5.05	5.65
H	2.10	2.50
I	0.70	0.90
J	4.00	4.40
K	0.40	0.60