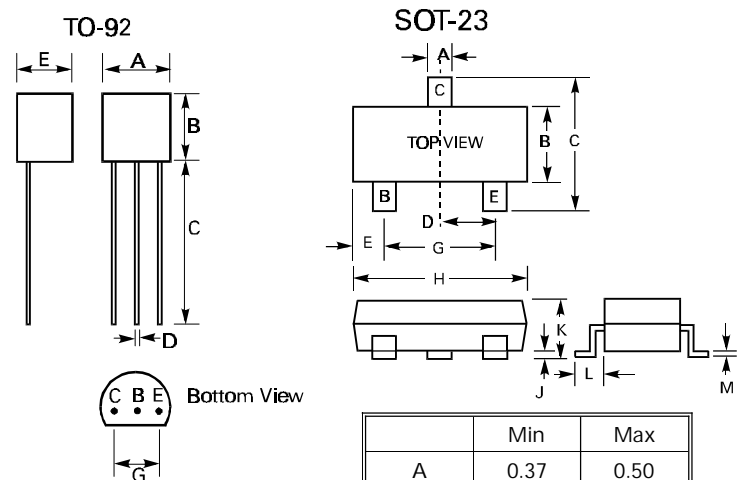


Features

- Epitaxial Planar Die Construction
- Available in both Thru-Hole and Surface Mount Packages
- Suitable for Switching and Amplifier Applications



Mechanical Data

- Case: TO-92 / SOT-23 Plastic
- Leads / Terminals: Solderable per MIL-STD-202, Method 208
- Terminal Connections: See Diagram
- Marking: TO-92 - Type Number
SOT-23 - MMBT2907-2B
MMBT2907A-2F

	Min	Max
A	4.45	4.70
B	4.46	4.70
C	12.7	—
D	0.41	0.63
E	3.43	3.68
G	2.42	2.67

All dimensions in mm

	Min	Max
A	0.37	0.50
B	1.19	1.40
C	2.10	2.50
D	0.89	1.05
E	0.45	0.61
G	1.78	2.05
H	2.79	3.05
J	0.013	.0150
K	0.89	1.10
L	0.45	0.61
M	0.076	0.130

All dimensions in mm

Maximum Ratings @ T_A = 25°C unless otherwise specified

Rating	Symbol	Value	Unit
Collector-Emitter Voltage 2907 2907A	-V _{CEO}	40	V
	-V _{CE0}	60	V
Collector-Emitter Voltage	-V _{CEO}	40	V
Collector-Base Voltage	-V _{CBO}	40	V
Emitter-Base Voltage	-V _{EBO}	5.0	V
Collector Current - Continuous	-I _c	600	mA
Power Dissipation TO-92 PN Types (Note 1) SOT-23 MMBT Types (Note 2) T _{SB} = 50°C	P _{TOT}	625	mW
	P _{TOT}	310	mW

- Notes:
1. Valid providing that leads at a distance of 2mm from body are kept at specified ambient (TO-92).
 2. Device mounted on ceramic substrate 0.7mm x 2.5 cm² area (SOT-23).
 3. Pulse test: Pulse width ≤ 300μs, duty cycle ≤ 2%.

Electrical Characteristics @ T_A = 25°C Unless otherwise specified

Characteristic	Symbol	Min 2907	Max 2907	Min 2907A	Max 2907A	Unit	Test Conditions
Collector to Emitter Breakdown Voltage (Note 3)	V _{(BR)CEO}	-40		-60		V	I _C = -10mA, I _B = 0
Collector to Base Breakdown Voltage	V _{(BR)CBO}	-60		-60		V	I _C = -10μA, I _E = 0
Emitter to Base Breakdown Voltage	V _{(BR)EBO}	-5.0		-5.0		V	I _E = -10μA, I _C = 0
Collector Cutoff Current	I _{CEX}		50		50	nA	V _{CE} = -30, V _{EB} = -0.5V
Collector Cutoff Current	I _{CBO}		20 20		10 10	nA μA	V _{CB} = -50V, I _E = 0 V _{CB} = -50V, I _E = 0, T _A = 125°C
Base Cutoff Current	I _B		-50		-50	nA	V _{CE} = -30V, V _{EB(OFF)} = -0.5V
DC Current Gain	h _{FE}	100 30 75 50 35	300	100 50 100 100 75	300	V V V V V	I _C = -150mA, V _{CE} = -10V (Note 3) I _C = -500mA, V _{CE} = -10V (Note 3) I _C = -10mA, V _{CE} = -10V I _C = -1.0mA, V _{CE} = -10V I _C = -0.1mA, V _{CE} = -10V
Collector-Emitter Saturation Voltage (Note 3)	V _{CE(SAT)}		-0.4 -1.6		-0.4 -1.6	V V	I _C = -150mA, I _B = -15mA I _C = -500mA, I _B = -50mA
Base-Emitter Saturation Voltage (Note 3)	V _{BE(SAT)}		-1.3 -2.6		-1.3 -2.6	V V	I _C = -150mA, I _B = -15mA I _C = -500mA, I _B = -50mA
Output Capacitance	C _{ob}		8.0		8.0	pF	V _{CB} = -10V, I _E = 0, f = 1MHz
Input Capacitance	C _{ib}				30	pF	V _{EB} = -2.0V, I _C = 0, f = 1MHz
Current Gain Bandwidth Product	f _t	200		200		MHz	I _C = -50mA, V _{CE} = -20V, f = 100mHz
Turn-on Delay Time	t _d				10	ns	I _C = -150mA, V _{CC} = -30V, I _{B1} = 15mA
Rise Time	t _r				40	ns	I _C = -150mA, V _{CC} = -30V, I _{B1} = 15mA
Storage Time	t _s				80	ns	I _C = -150mA, V _{CC} = -6.0V, I _{B1} = I _{B2} = 15mA
Fall Time	t _f				30	ns	I _C = 150mA, V _{CC} = -6.0V, I _{B1} = I _{B2} = 15mA
Turn On Time	t _{on}				45	ns	I _C = -150 mA, V _{CC} = -30V, I _{B1} = 15mA
Turn Off Time	t _{off}				100	ns	I _C = -150mA, V _{CC} = -6.0V, I _{B1} = I _{B2} = 15mA

- Notes:
1. Valid providing that leads at a distance of 2mm from body are kept at specified ambient (TO-92).
 2. Device mounted on ceramic substrate 0.7mm x 2.5 cm² area (SOT-23).
 3. Pulse test: Pulse width ≤ 300μs, duty cycle ≤ 2%.