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With the principle of “Quality Parts,Customers Priority,Honest Operation,and Considerate Service”,our business mainly focus on the distribution of electronic components. Line cards we deal with include Microchip,ALPS,ROHM,Xilinx,Pulse,ON,Everlight and Freescale. Main products comprise IC,Modules,Potentiometer,IC Socket,Relay,Connector.Our parts cover such applications as commercial,industrial, and automotives areas.

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## Small Signal Product

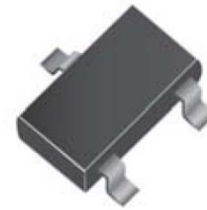
### Features

- ◇ Epitaxial planar die construction
- ◇ Surface device type mounting
- ◇ Moisture sensitivity level 1
- ◇ Matte Tin(Sn) lead finish with Nickel(Ni) underplate
- ◇ Pb free version and RoHS compliant
- ◇ Green compound (Halogen free) with suffix "G" on packing code and prefix "G" on date code

### Mechanical Data

- ◇ Case : SOT- 23 small outline plastic package
- ◇ Terminal : Matte tin plated, lead free, solderable per MIL-STD-202, Method 208 guaranteed
- ◇ High temperature soldering guaranteed : 260°C/10s
- ◇ Weight : 0.008 grams (approximately)
- ◇ Marking Code : 2F

### SOT-23



## Maximum Ratings and Electrical Characteristics

Rating at 25°C ambient temperature unless otherwise specified.

### Maximum Ratings

Parameter	Symbol	Value	Units
Power Dissipation	$P_D$	350	mW
Collector-Base Voltage	$V_{CBO}$	-60	V
Collector-Emitter Voltage	$V_{CEO}$	-60	V
Emitter-Base Voltage	$V_{EBO}$	-5	V
Collector Current	$I_C$	-600	mA
Junction and Storage Temperature Range	$T_J, T_{STG}$	-55 to + 150	°C

Notes:1. Valid provided that electrodes are kept at ambient temperature

## Small Signal Product

Electrical Characteristics (  $T_A = 25^\circ\text{C}$  unless otherwise noted )

Parameter				Symbol	Min	Max	Units
Collector-Base Breakdown Voltage	$I_C = -10\mu\text{A}$	$I_E = 0$		$V_{(BR)CBO}$	-60	-	V
Collector-Emitter Breakdown Voltage	$I_C = -10\text{mA}$	$I_B = 0$		$V_{(BR)CEO}$	-60	-	V
Emitter-Base Breakdown Voltage	$I_E = -10\mu\text{A}$	$I_C = 0$		$V_{(BR)EBO}$	-5	-	V
Collector Cut-off Current	$V_{CB} = -50\text{V}$	$I_E = 0$		$I_{CBO}$	-	-20	nA
Collector Cut-off Current	$V_{CE} = -30\text{V}$	$V_{BE(OFF)} = -0.5\text{V}$		$I_{CEX}$	-	-50	nA
Base Cut-off Current	$V_{CE} = -30\text{V}$	$V_{BE(OFF)} = -0.5\text{V}$		$I_B$	-	-50	nA
DC Current Gain	$V_{CE} = -10\text{V}$	$I_C = -0.1\text{mA}$		$h_{FE}$	75	-	
	$V_{CE} = -10\text{V}$	$I_C = -1\text{mA}$			100	-	
	$V_{CE} = -10\text{V}$	$I_C = -10\text{mA}$			100	-	
	$V_{CE} = -10\text{V}$	$I_C = -150\text{mA}$			100	300	
	$V_{CE} = -10\text{V}$	$I_C = -500\text{mA}$			50	-	
Collector-Emitter Saturation Voltage	$I_C = -150\text{mA}$	$I_B = -15\text{mA}$		$V_{CE(sat)}$	-	-0.4	V
	$I_C = -500\text{mA}$	$I_B = -50\text{mA}$			-	-1.6	
Base-Emitter Saturation Voltage	$I_C = -150\text{mA}$	$I_B = -15\text{mA}$		$V_{BE(sat)}$	-	-1.3	V
	$I_C = -500\text{mA}$	$I_B = -50\text{mA}$			-	-2.6	
Transition Frequency	$V_{CE} = -20\text{V}$	$I_C = -50\text{mA}$	$f = 100\text{MHz}$	$f_T$	200	-	MHz
Output Capacitance	$V_{CB} = -10\text{V}$	$I_E = 0$	$f = 100\text{KHz}$	$C_{obo}$	-	8.0	pF
Input Capacitance	$V_{EB} = -2\text{V}$	$I_C = 0$	$f = 100\text{KHz}$	$C_{ibo}$	-	30	pF
Delay Time	$V_{CE} = -30\text{V}$	$I_C = -150\text{mA}$	$I_{B1} = -15\text{mA}$	$t_d$	-	10	nS
Rise Time	$V_{CE} = -30\text{V}$	$I_C = -150\text{mA}$	$I_{B1} = -15\text{mA}$	$t_r$	-	40	nS
Storage Time	$V_{CE} = -6\text{V}$	$I_C = -150\text{mA}$	$I_{B1} = -I_{B2} = -15\text{mA}$	$t_s$	-	225	nS
Fall Time	$V_{CE} = -6\text{V}$	$I_C = -150\text{mA}$	$I_{B1} = -I_{B2} = -15\text{mA}$	$t_f$	-	60	nS

**Small Signal Product**

**RATINGS AND CHARACTERISTIC CURVES**

Fig. 1 Typical Pulsed Current Gain VS. Collector Current

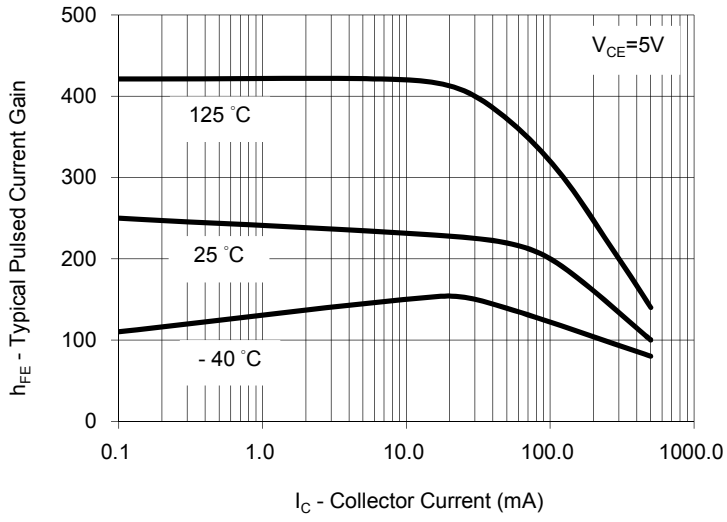


Fig. 2 Collector-Emitter Saturation Voltage VS. Collector Current

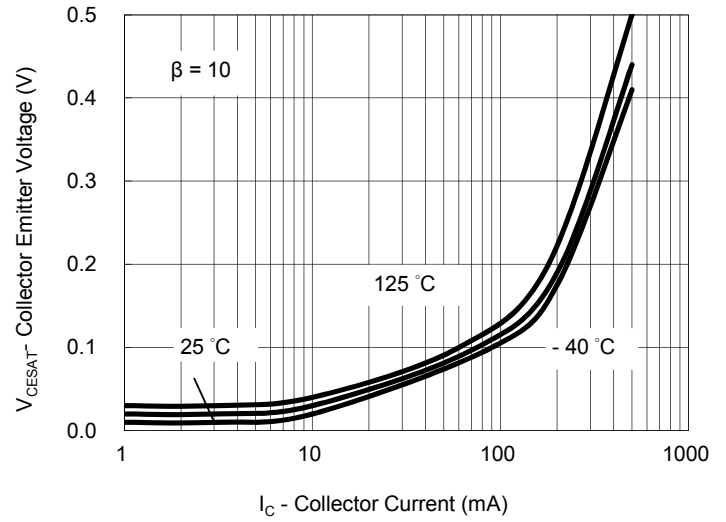


Fig. 3 Base-Emitter Saturation Voltage VS. Collector Current

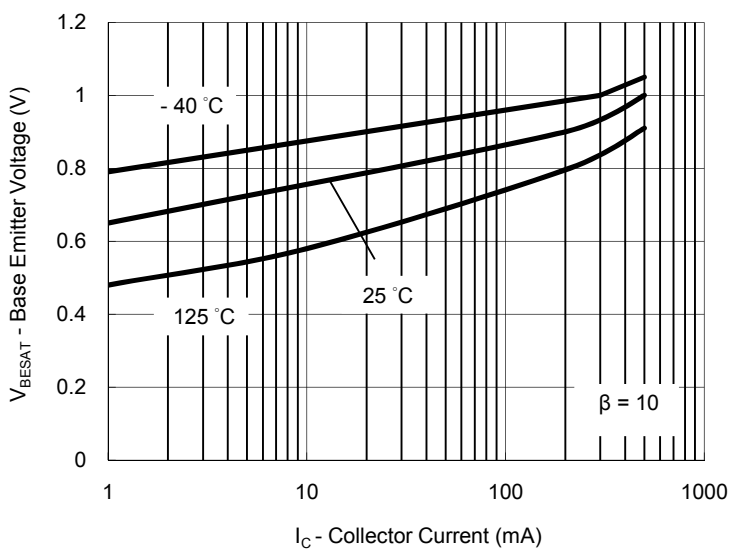


Fig. 4 Base Emitter On Voltage VS. Collector Current

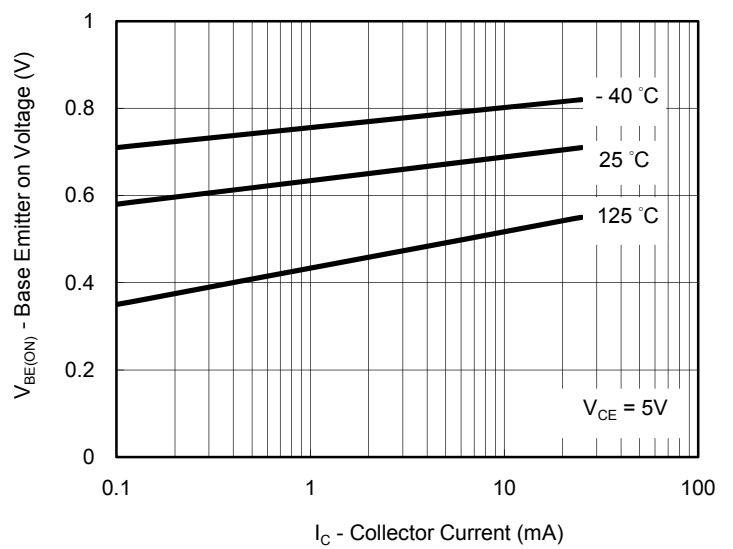


Fig. 5 Collector-Cutoff Current VS. Ambient Temperature

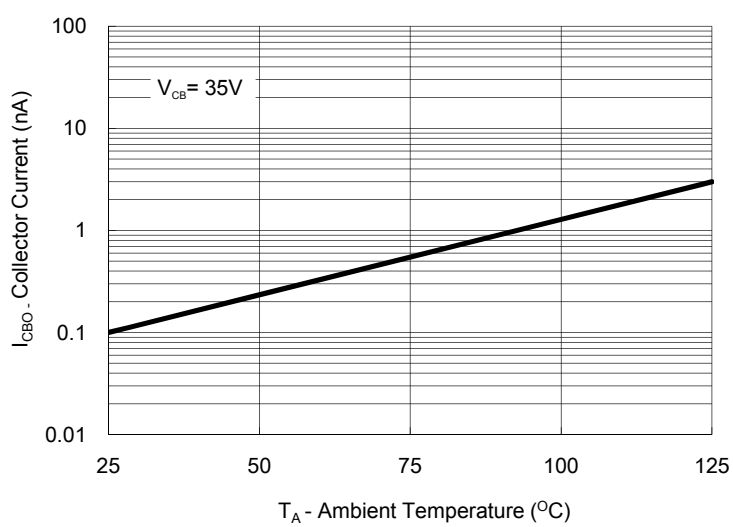
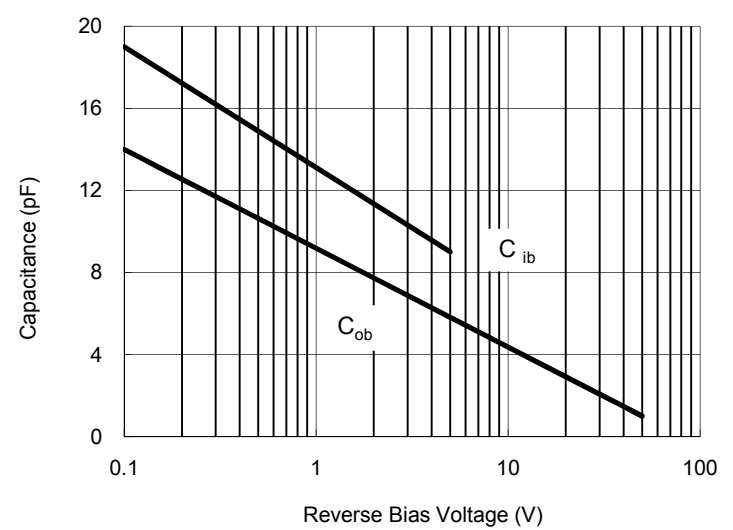


Fig. 6 Input and Output Capacitance VS. Reverse Bias Voltage



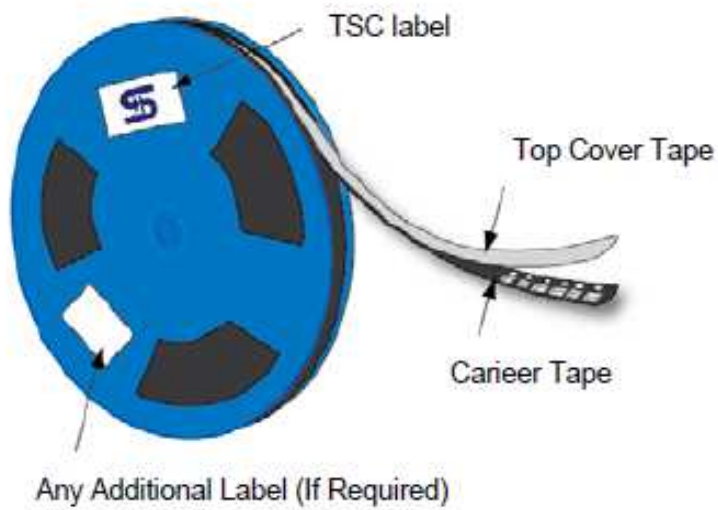
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### Ordering information (Detail, example)

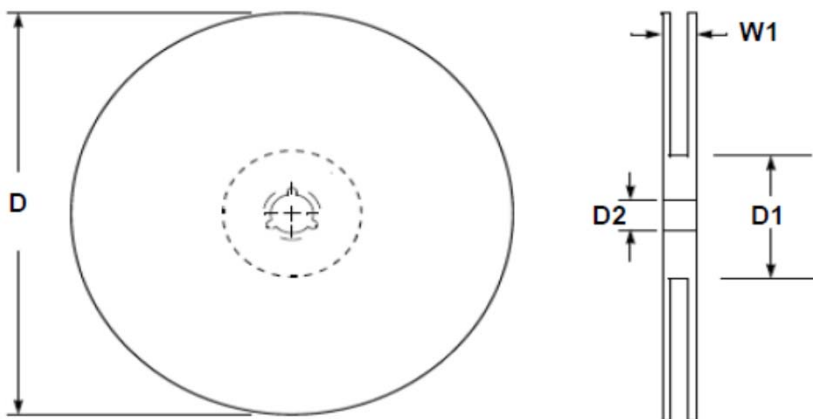
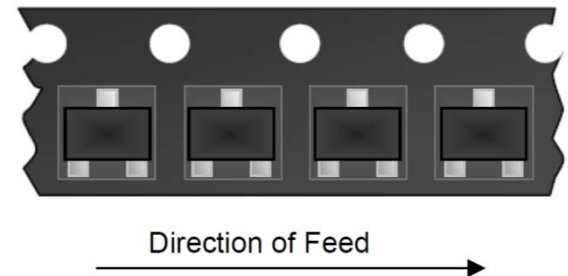
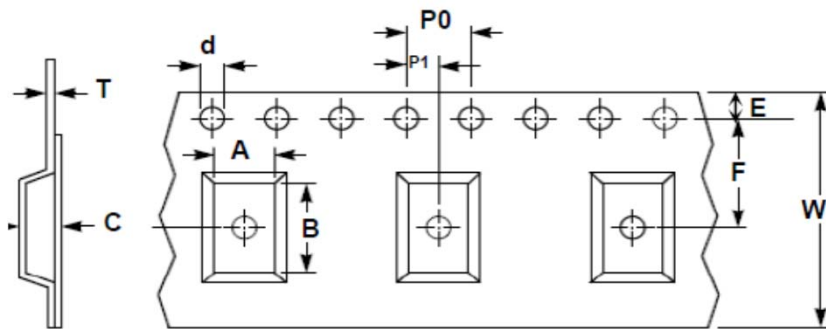
Part No.	Package	Packing	Packing code	Packing code (Green)	Marking	Manufacture code
MMBT2907A	SOT-23	3K / 7" Reel	RF	RFG	2F	(Note)
MMBT2907A	SOT-23	3K / 7" Reel	RF	RFG	2F	

Note : Manufacture special control, if empty means no special control requirement.

### Tape & Reel specification

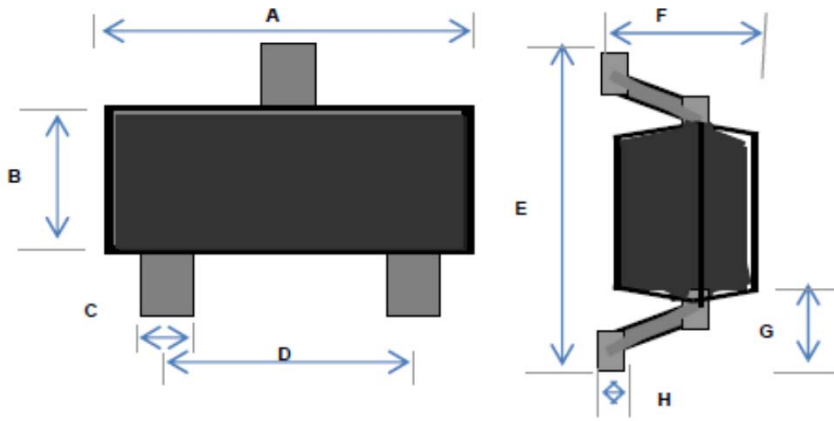


Item	Symbol	Dimension
Carrier width	A	3.15 ± 0.10
Carrier length	B	2.77 ± 0.10
Carrier depth	C	1.22 ± 0.10
Sprocket hole	d	1.50 ± 0.10
Reel outside diameter	D	178 ± 1
Reel inner diameter	D1	55 Min
Feed hole width	D2	13.0 ± 0.20
Sprocket hole position	E	1.75 ± 0.10
Punch hole position	F	3.50 ± 0.05
Sprocket hole pitch	P0	4.00 ± 0.10
Embossment center	P1	2.00 ± 0.05
Overall tape thickness	T	0.229 ± 0.013
Tape width	W	8.10 ± 0.20
Reel width	W1	12.30 ± 0.20



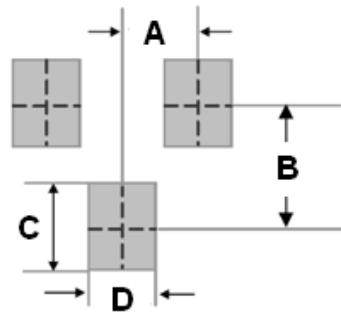
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### Dimensions



DIM.	Unit(mm)		Unit(inch)	
	Min	Max	Min	Max
A	2.70	3.10	0.106	0.122
B	1.10	1.50	0.043	0.059
C	0.30	0.51	0.012	0.020
D	1.78	2.04	0.070	0.080
E	2.10	2.64	0.083	0.104
F	0.89	1.30	0.035	0.051
G	0.550 REF		0.022 REF	
H	0.1 REF		0.004 REF	

### Suggested PAD Layout



DIM.	Unit(mm)	Unit(inch)
	Typ.	Typ.
A	0.95	0.037
B	2.0	0.079
C	0.9	0.035
D	0.8	0.031