

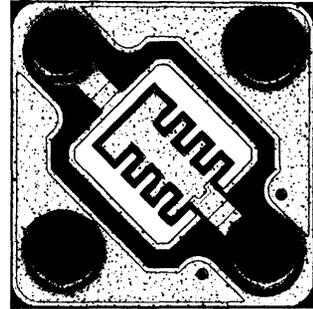
# MMCF2906, MMCF2906A (SILICON) MMCF2907, MMCF2907A

## FLIP-CHIP PNP SWITCH AND AMPLIFIER TRANSISTORS

Flip-Chip – General purpose PNP switching and amplifier transistor family similar to the 2N2906,A and 2N2907,A devices.

### Primary Electrical Features:

- DC Current Gain specified for 0.1 to 300 mAdc
- Low Collector-Emitter Saturation Voltage
- DC to VHF Amplifier Applications
- Complements to MMCF2221,A and MMCF2222,A



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### MAXIMUM RATINGS

Rating	Symbol	MMCF2906 MMCF2907	MMCF2906A MMCF2907A	Unit
Collector-Emitter Voltage	$V_{CEO}$	40	60	Vdc
Collector-Base Voltage	$V_{CB}$	60		Vdc
Emitter-Base Voltage	$V_{EB}$	5.0		Vdc
Collector Current – Continuous	$I_C$	500		mAdc

MMCF2906, MMCF2906A, MMCF2907, MMCF2907 (continued)

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

Characteristic	Symbol	Min	Max	Unit
<b>OFF CHARACTERISTICS</b>				
Collector-Emitter Breakdown Voltage(1) ( $I_C = 10\text{ mAdc}$ , $I_B = 0$ )  MMCF2906, MMCF2907 MMCF2906A, MMCF2907A	$BV_{CEO}$	40 60		Vdc
Collector-Base Breakdown Voltage ( $I_C = 10\ \mu\text{Adc}$ , $I_E = 0$ )	$BV_{CBO}$	60		Vdc
Emitter-Base Breakdown Voltage ( $I_E = 10\ \mu\text{Adc}$ , $I_C = 0$ )	$BV_{EBO}$	5.0		Vdc
Collector Cutoff Current ( $V_{CB} = 50\text{ Vdc}$ , $I_E = 0$ )  MMCF2906, MMCF2907 MMCF2906A, MMCF2907A	$I_{CBO}$		20 10	nAdc
Emitter Cutoff Current ( $V_{EB} = 3.0\text{ Vdc}$ , $I_C = 0$ )	$I_{EBO}$		10	nAdc

**ON CHARACTERISTICS**

DC Current Gain ( $I_C = 0.1\text{ mAdc}$ , $V_{CE} = 10\text{ Vdc}$ )  MMCF2906 MMCF2906A MMCF2907 MMCF2907A	$h_{FE}$	20 40 35 75		
( $I_C = 1.0\text{ mAdc}$ , $V_{CE} = 10\text{ Vdc}$ )  MMCF2906 MMCF2906A MMCF2907 MMCF2907A		25 40 50 100		
( $I_C = 10\text{ mAdc}$ , $V_{CE} = 10\text{ Vdc}$ )  MMCF2906 MMCF2906A MMCF2907 MMCF2907A		35 40 75 100		
( $I_C = 150\text{ mAdc}$ , $V_{CE} = 10\text{ Vdc}$ )(1)  MMCF2906,A MMCF2907,A		40 100	150 300	
( $I_C = 300\text{ mAdc}$ , $V_{CE} = 10\text{ Vdc}$ )(1)  MMCF2906 MMCF2906A MMCF2907 MMCF2907A		30 40 50 75		
Collector-Emitter Saturation Voltage(1) ( $I_C = 150\text{ mAdc}$ , $I_B = 15\text{ mAdc}$ )	$V_{CE(sat)}$		0.5	Vdc
Base-Emitter Saturation Voltage(1) ( $I_C = 150\text{ mAdc}$ , $I_B = 15\text{ mAdc}$ )	$V_{BE(sat)}$		1.5	Vdc

**DYNAMIC CHARACTERISTICS**

Current-Gain-Bandwidth Product ( $I_C = 50\text{ mAdc}$ , $V_{CE} = 20\text{ Vdc}$ , $f = 100\text{ MHz}$ )	$f_T$	200		MHz
Output Capacitance ( $V_{CB} = 10\text{ Vdc}$ , $I_E = 0$ , $f = 100\text{ kHz}$ )	$C_{ob}$		12	pF

(1) Pulse Test: Pulse Width  $\leq 300\ \mu\text{s}$ , Duty Cycle  $\leq 2.0\%$

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