

# MMCF A93 (SILICON)

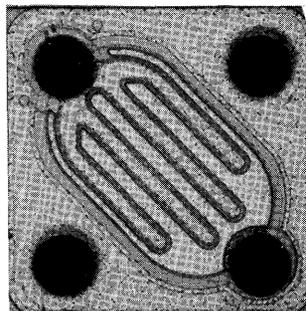
## FLIP-CHIP PNP HIGH-VOLTAGE TRANSISTOR

Flip-Chip — PNP silicon annular transistor designed for applications requiring high breakdown voltages with low saturation voltages.

- Complement to NPN Type MMCF A43

### MAXIMUM RATINGS

Rating	Symbol	Value	Unit
Collector-Emitter Voltage	$V_{CEO}$	200	Vdc
Collector-Base Voltage	$V_{CB}$	200	Vdc
Emitter-Base Voltage	$V_{EB}$	5.0	Vdc
Collector Current — Continuous	$I_C$	500	mAdc



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### ELECTRICAL CHARACTERISTICS

Characteristic	Symbol	Min	Max	Unit
Collector-Emitter Breakdown Voltage ( $I_C = 1.0$ mAdc, $I_B = 0$ )	$BV_{CEO}$	200	—	Vdc
Collector-Base Breakdown Voltage ( $I_C = 100$ $\mu$ Adc, $I_E = 0$ )	$BV_{CBO}$	200	—	Vdc
Emitter-Base Breakdown Voltage ( $I_E = 100$ $\mu$ Adc, $I_C = 0$ )	$BV_{EBO}$	5.0	—	Vdc
Collector Cutoff Current ( $V_{CB} = 160$ Vdc, $I_E = 0$ )	$I_{CBO}$	—	250	nAdc
Emitter Cutoff Current ( $V_{BE} = 3.0$ Vdc, $I_C = 0$ )	$I_{EBO}$	—	100	nAdc
DC Current Gain ( $I_C = 1.0$ mAdc, $V_{CE} = 10$ Vdc) ( $I_C = 10$ mAdc, $V_{CE} = 10$ Vdc) ( $I_C = 30$ mAdc, $V_{CE} = 10$ Vdc)	$h_{FE}$	25 40 25	— — 150	—
Collector-Emitter Saturation Voltage ( $I_C = 20$ mAdc, $I_B = 2.0$ mAdc)	$V_{CE(sat)}$	—	0.5	Vdc
Base-Emitter Saturation Voltage ( $I_C = 20$ mAdc, $I_B = 2.0$ mAdc)	$V_{BE(sat)}$	—	0.9	Vdc