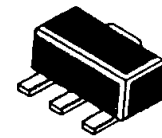


# MXR5943

Die Source Same as 2N5943

**RF TRANSISTOR**  
**NPN SILICON**



CASE 345-01, STYLE 1  
 SOT-89

### MAXIMUM RATINGS

Rating	Symbol	Value	Unit
Collector-Emitter Voltage	$V_{CEO}$	30	V
Collector-Base Voltage	$V_{CBO}$	40	V
Emitter-Base Voltage	$V_{EBO}$	3.5	V
Collector Current — Continuous	$I_C$	400	mA
Operating and Storage Junction Temperature Range	$T_J, T_{stg}$	-55 to +150	°C

### THERMAL CHARACTERISTICS

Characteristic	Symbol	Max	Unit
*Total Device Dissipation, $T_A = 25^\circ\text{C}$ Derate above $25^\circ\text{C}$	$P_D$	1.0 8.0	Watt mW/°C
Storage Temperature	$T_{stg}$	150	°C
*Thermal Resistance Junction to Ambient	$R_{\theta JA}$	125	°C/W

\*Package mounted on 99.5% alumina 10 x 12 x 0.6 mm.

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

Characteristic	Symbol	Min	Max	Unit
<b>OFF CHARACTERISTICS</b>				
Collector-Emitter Breakdown Voltage ( $I_C = 5.0 \text{ mA}$ )	$V_{(BR)CEO}$	30	—	V
Collector-Base Breakdown Voltage ( $I_C = 100 \mu\text{A}$ )	$V_{(BR)CBO}$	40	—	V
Emitter-Base Breakdown Voltage ( $I_E = 100 \mu\text{A}$ )	$V_{(BR)EBO}$	3.5	—	V
Collector Cutoff Current ( $V_{CE} = 20 \text{ V}$ )	$I_{CEO}$	—	50	$\mu\text{A}$
Collector Cutoff Current ( $V_{CB} = 15 \text{ V}$ )	$I_{CBO}$	—	10	$\mu\text{A}$
<b>ON CHARACTERISTICS</b>				
DC Current Gain ( $I_C = 50 \text{ mA}, V_{CE} = 15 \text{ V}$ )	$h_{FE}$	25	300	—
Collector-Emitter Saturation Voltage ( $I_C = 100 \text{ mA}, I_B = 10 \text{ mA}$ )	$V_{CE(sat)}$	—	0.2	V
Base-Emitter Saturation Voltage ( $I_C = 100 \text{ mA}, I_B = 10 \text{ mA}$ )	$V_{BE(sat)}$	—	1.0	V
<b>SMALL SIGNAL CHARACTERISTICS</b>				
Current-Gain — Bandwidth Product ( $I_C = 25 \text{ mA}, V_{CE} = 15 \text{ V}, f = 200 \text{ MHz}$ ) ( $I_C = 50 \text{ mA}, V_{CE} = 15 \text{ V}, f = 200 \text{ MHz}$ ) ( $I_C = 100 \text{ mA}, V_{CE} = 15 \text{ V}, f = 200 \text{ MHz}$ )	$f_T$	1000 1200 1000	— — —	MHz