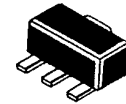


6367254 MOTOROLA SC (XSTRS/R F)

89D 79460 DT-31-23

**MOTOROLA
SEMICONDUCTOR
TECHNICAL DATA**
MXR5583

Die Source Same as 2N5583

**HIGH FREQUENCY
RF TRANSISTOR
PNP 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}	30	V
Emitter-Base Voltage	V_{EBO}	3.0	V
Collector Current — Continuous	I_C	500	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°C	P_D	1.0 8.0	Watt $\text{mW}/^\circ\text{C}$
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
OFF CHARACTERISTICS				
Collector-Emitter Breakdown Voltage(1) ($I_C = 10 \text{ mA}$)	$V_{(BR)CEO}$	30	—	V
Collector-Base Breakdown Voltage ($I_C = 10 \mu\text{A}$)	$V_{(BR)CBO}$	30	—	V
Emitter-Base Breakdown Voltage ($I_E = 100 \mu\text{A}$)	$V_{(BR)EBO}$	3.0	—	V
Collector Cutoff Current ($V_{CB} = 20 \text{ V}$)	I_{CBO}	—	50	nA
Emitter Cutoff Current ($V_{EB} = 2.0 \text{ V}$)	I_{EBO}	—	0.5	μA
ON CHARACTERISTICS				
DC Current Gain (1) ($I_C = 40 \text{ mA}, V_{CE} = 2.0 \text{ V}$) ($I_C = 100 \text{ mA}, V_{CE} = 2.0 \text{ V}$) ($I_C = 300 \text{ mA}, V_{CE} = 5.0 \text{ V}$)	h_{FE}	20 25 15	— 100 —	—
Collector-Emitter Saturation Voltage (1) ($I_C = 100 \text{ mA}, I_B = 10 \text{ mA}$)	$V_{CE(sat)}$	—	0.8	V
Base-Emitter On Voltage (1) ($I_C = 100 \text{ mA}, V_{CE} = 2.0 \text{ V}$)	$V_{BE(on)}$	—	1.8	V
SMALL-SIGNAL CHARACTERISTICS				
Current-Gain — Bandwidth Product ($I_C = 40 \text{ mA}, V_{CE} = 10 \text{ V}, f = 100 \text{ MHz}$) ($I_C = 100 \text{ mA}, V_{CE} = 10 \text{ V}, f = 100 \text{ MHz}$)	f_T	1000 1300	— —	MHz

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

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MOTOROLA RF DEVICE DATA

3-950