New Jersey Semi-Conductor Products, Inc.

20 STERN AVE. SPRINGFIELD, NEW JERSEY 07081 U.S.A. TELEPHONE: (973) 376-2922

(212) 227-6005

FAX: (973) 376-8960

The RF Line NPN Silicon RF Power Transistor

... designed for 12.5 Volt VHF large—signal power amplifier applications required in commercial and industrial equipment operating to VHF frequencies.

Specified 12.5 Volt, 175 MHz Characteristics —

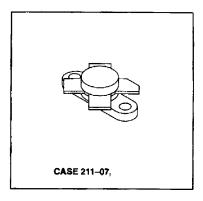
Output Power = 40 W Power Gain = 4.5 dB Min Efficiency = 70% Min

MRF224

40 W, 175 MHz RF POWER TRANSISTOR NPN SILICON

MAXIMUM RATINGS

Rating	Symbol	Value	Unit Vdc	
Collector-Emitter Voltage	VCEO	18		
Collector-Base Voltage	VCBO	36	Vdc	
Emitter-Base Voltage	V _{EBO}	4.0	Vdc	
Collector Current — Continuous	lc	7.0	Adc	
Total Device Dissipation @ T _C = 25°C (2) Derate above 25°C	₽D	80 0.46	Watts W/°C	
Storage Temperature Range	T _{stg}	-65 to +200	°C	
Stud Torque (1)	_	6.5	in. lb.	



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

Characteristic .	Symbol	Min	Тур	Max	Unit
OFF CHARACTERISTICS				· · · · · · · · · · · · · · · · · · ·	
Collector-Emitter Breakdown Voltage (I _C = 100 mAdc, I _B = 0)	V(BR)CEO	18		<u> </u>	Vdic
Collector-Emitter Breakdown Voltage ($I_C = 20 \text{ mAdc}$, $V_{BE} = 0$)	V(BR)CES	36	-		Vdc
Emitter-Base Breakdown Voltage (IE = 10 mAdc, IC = 0)	V(BR)EBO	4.0	_		Vdc
Collector Cutoff Current (VCE = 15 Vdc, VBE = 0, TC = +55°C)	lCES	_		10	mAdc
Collector Cutoff Current (VCB = 15 Vdc, IE = 0)	Ісво	_	_	2.5	mAdc
ON CHARACTERISTICS				-	•
DC Current Gain (I _C = 1.0 Adc, V _{CE} = 5.0 Vdc)	hFE	5.0	_	-	_
DYNAMIC CHARACTERISTICS			<u> </u>		
Output Capacitance (VCB = 15 Vdc, IE = 0, f = 0.1 MHz)	C _{ob}		170	200	pF
FUNCTIONAL TESTS	•	1	I	L	
Common-Emitter Amplifier Power Gain (Pout = 40 W, V _{CC} = 12.5 Vdc, f = 175 MHz)	GpE	4.5	_	_	dB
Collector Efficiency (Pout = 40 W, V _{CC} = 12.5 Vdc, f = 175 MHz)	η	70	_	_	%

NOTES

- 1. For repeated assembly use 5 in, lb.
- These devices are designed for RF operation. The total device dissipation rating applies only when the devices are operated as RF amplifiers.

NJ Semi-Conductors reserves the right to change test conditions, parameter limits and package dimensions without notice. Information furnished by NJ Semi-Conductors is believed to be both accurate and reliable at the time of going to press. However, NJ Semi-Conductors assumes no responsibility for any errors or omissions discovered in its use. NJ Semi-Conductors encourages customers to verify that datasheets are current before placing orders.

Quality Semi-Conductors