

The Jackson Final: MRF 477

Courtesy "Custom Conversions", may be reprinted.

O.K. - everyone is asking for specifications on this transistor as is causing some trouble... Advice to turn down the AM and SSB power levels has not been heeded, and in most cases max'ed out.

You can rename the transistor 'The Boothill Special', as has put plenty of linear amplifiers in the ground. I know of one particular unit that 'smoked out' a complete company's fleet of linear amps, for 5 notches on the side of case!

Availability of MRF 477 is no problem, standard Motorola RF Line. Specifications are: 40W (PEP) - 30 MHz

RF POWER TRANSISTOR

NPN, Silicon

Low-Cost, Common Emitter TO-220 case.

Specified 12.5 V, 30MHz Performance

Output Power - 40W CW or PEP

Power Gain - 15db Minimum

Efficiency - 40% Minimum (PEP)

Intermodulation Distortion at 40W (PEP)

-30db - maximum

30:1 VSWR Load Mismatch Capability at Rated

Output Power and Supply Voltage

MAXIMUM RATINGS: Collector-Emitter Voltage: 18 Vdc

Collector-Base Voltage: 36 Vdc

Emitter-Base Voltage: 4.0 Vdc

Collector Current, Continuous: 5.0 Amps

Collector Current, Maximum: 8.0 Amps

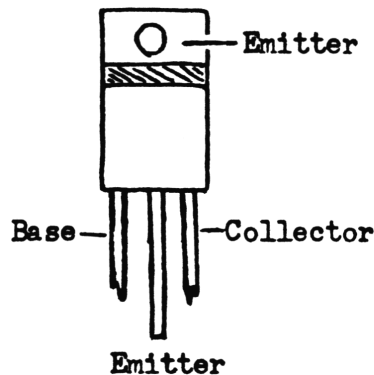
\*Total Device Dissipation: 87.5 Watts

(\*) At 25° C - above, derate at 0.5W/degree Centigrade....

Using above is easy to see why they have been going bad, as are operated at near maximum. 10W Deadkey, but when modulation is applied 25+W is not uncommon in AM. In SSB when turned up all the way 60+W, about the norm. Subtract the temperature factor and you can see are asking for trouble...\$\$

Unless you have a pocket full of money/experience/time; adjust the AM power for 15W with modulation applied; and SSB power for 30W. Why support your local transistor distributor?

Transistor lead configuration: Flat side down...



Note: If using with RF Amp suggest turning AM down to 4W with modulation, SSB to 10W....