ELECTRONICS, INC.
44 FARRAND STREET
BLOOMFIELD, NJ 07003
(973) 748–5089

NTE477
Silicon NPN Transistor
RF Power Output

Description:
The NTE477 is a silicon NPN epitaxial planar type transistor designed for RF power amplifiers in VHF band mobile radio applications.

Features:
- High power gain: $G_{pe} \geq 8.2$dB @ $V_{CC} = 13.5$V; $V_O = 40$W; t = 175MHz
- Emitter ballasted construction and gold metallization for high reliability, and good performances
- Low thermal resistance ceramic package with flange
- Ability of withstanding more than 20:1 load VSWR when operated at $V_{CC} = 15.2$V, $P_O = 40$W, f = 175MHz, $T_C = 25°C$

Applications:
30 to 35 watts output power amplifiers in VHF band mobile radio applications.

Absolute Maximum Ratings: ($T_C = +25°C$ unless otherwise specified)

Collector–Base Voltage, V_{CBO} 35V
Emitter–Base Voltage, V_{EBO} 4V
Collector–Emitter Voltage ($R_{BE} = \infty$), V_{CEO} 17V
Collector Current, I_C 10A
Collector Dissipation, P_C
- $T_A = +25°C$ 4.5W
- $T_C = +25°C$ 75W

Junction Temperature, T_j . . . . . +175°C
Storage Temperature Range, T_{stg} . . . . . –55° to +175°C
Thermal Resistance, Junction–to–Ambient, R_{thJA} . . . . . 33.3°C/W
Thermal Resistance, Junction–to–Case, R_{thJC} . . . . . 2°C/W

Electrical Characteristics: ($T_C = +25°C$ unless otherwise specified)

Parameter	Symbol	Test Conditions	Min	Typ	Max	Unit
Emitter–Base Breakdown Voltage	$V_{(BR)EBO}$	$I_E = 10$mA, $I_O = 0$	3	–	–	V
Collector–Base Breakdown Voltage	$V_{(BR)CBO}$	$I_O = 10$mA, $I_E = 0$	35	–	–	V
Collector–Emitter Breakdown Voltage	$V_{(BR)CEO}$	$I_O = 0.1$A, $R_{BE} = \infty$	17	–	–	V

Electrical Characteristics (Cont'd): (T_C = +25°C unless otherwise specified)

Parameter	Symbol	Test Conditions	Min	Typ	Max	Unit
Collector Cutoff Current	I_{CBO}	V_{OB} = 15V, I_E = 0	–	–	2.5	mA
Emitter Cutoff Current	I_{EBO}	V_{EB} = 3V, I_O = 0	–	–	2	mA
DC Forward Current Gain	h_{FE}	V_{CE} = 10V, I_C = 0.2A	10	60	180	–
Output Power	P_O	V_{CC} = 13.5V Pin = 6W, f = 175MHz	40	45	–	W
			60	70	–	%