

NEC[®]

T-33-05

**CLASS C, 500 MHz,
12 VOLT POWER TRANSISTOR****NE050214-12****FEATURES**

- GOOD RF PERFORMANCE
- HIGH EFFICIENCY: 65% TYP.
- HIGH GAIN NE050214-12: 8 dB
- REPLACES MEDIUM POWER STUD MOUNT DEVICES

DESCRIPTION AND APPLICATIONS

NEC's NE050214-12 NPN epitaxial UHF power transistor is designed specifically for large volume mobile/portable radio applications in the 335 to 512 MHz band. The NE050214-12 offers high efficiency and high gain and is a natural choice for hand held radio applications.

ABSOLUTE MAXIMUM RATINGS (TA = 25°C)

SYMBOLS	PARAMETERS	UNITS	RATINGS
V _{CB0}	Collector to Base Voltage	V	35
V _{CE0}	Collector to Emitter Voltage	V	18
V _{EB0}	Emitter to Base Voltage	V	3
I _C	Collector Current	A	0.4
P _C	Device Dissipation Free Air (TA = 25°C)	mW	800
P _T	Total Device Dissipation (T _C = 25°C)	W	7
T _J	Junction Temperature	°C	200
T _{STG}	Storage Temperature	°C	-65 to +200
R _{TH}	Thermal Resistance (Junction-to-Case)	°C/W	20

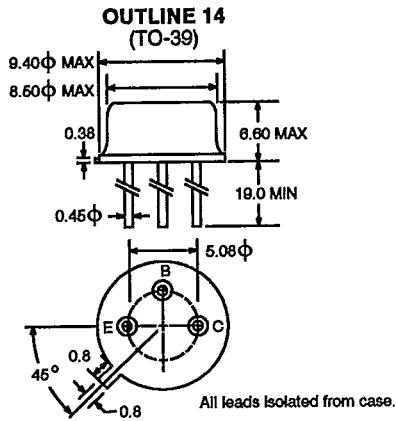
PERFORMANCE SPECIFICATIONS (TA = 25°C)

PART NUMBER EIAJ' REGISTERED NUMBER PACKAGE OUTLINE		NE050214-12 29C2672 14			
SYMBOLS	PARAMETERS AND CONDITIONS	UNITS	MIN	TYP	MAX
P _{OUT}	Power Output at V _{CC} = 12.6 V, f = 500 MHz P _{in} = 24 dBm	dBm	30.0	31.5	
η _C	Collector Efficiency	%	55	65	
I _{CB0}	Collector Cutoff Current at V _{CS} = 20 V, I _E = 0	mA			0.1
I _{EB0}	Emitter Cutoff Current at V _{ES} = 2 V, I _E = 0	mA			0.1
h _{FE}	DC Forward Current Gain at V _{CE} = 10 V, I _C = 100 mA (Pulsed)		20	60	200
C _{OB}	Output Capacitance ^a at V _{CS} = 10 V, I _E = 0, f = 1 MHz	pF		2.5	4

Notes:

1. Electronic Industrial Association of Japan.
2. Emitter and case are grounded.

OUTLINE DIMENSIONS (Units in mm)



TYPICAL PERFORMANCE CHARACTERISTICS (T_A = 25°C)

