MITSUBISHI RF POWER TRANSISTOR

2SC5125

NPN EPITAXIAL PLANAR TYPE

DESCRIPTION

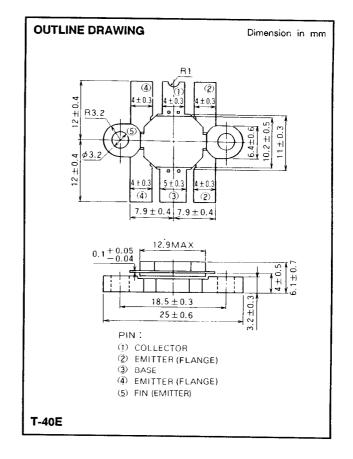
2SC5125 is a silicon NPN epitaxial planar type transistor specifically designed for high power amplifiers in VHF band.

FEATURES

- High power output and high gain: Po≥80W, Gpe≥7.2dB,
 Vcc = 12.5V, f = 175MHz, Pin = 15W
- Emitter ballasted construction.
- Load mismatch: Ability to withstand more than 8:1 load VSWR when operated at Vcc = 15.2V, Po = 80W, f = 175MHz,
- High reliability due to gold metalization die.
- Flange type ceramic package.

APPLICATIONS

For output stage of 70W power amplifiers in VHF band.



ABSOLUTE MAXIMUM RATINGS (Tc = 25 ℃ unless otherwise noted)

Symbol	Parameter	Conditions	Ratings	Unit
Vсво	Collector-base voltage		35	V
VEBO	Emitter-base voltage		4	+ ·
VCEO	Collector-emitter voltage	R _{BE} = ∞	17	
lc	Collector current		25	+ · · ·
Pc	Collector dissipation		170	T w
Tj	Junction temperature		175	00
Tstg	Storage temperature		- 55 to 175	

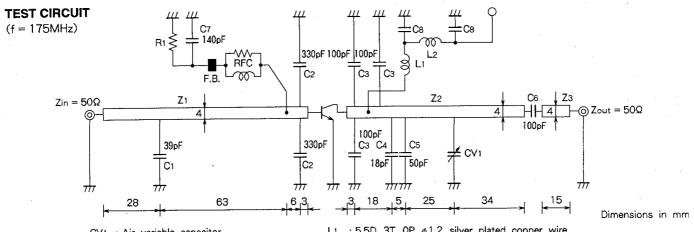
Note. Above parameters are guaranteed independently.

ELECTRICAL CHARACTERISTICS (Tc = 25 °C unless otherwise noted)

Symbol	Parameter	Test conditions	Limits		11.2
			Min	Max	Unit
V(BR)CBO	Collector-base breakdown voltage	Ic = 20mA, IE = 0	35		V
V(BR)EBO	Emitter-base breakdown voltage	IE = 20mA, IC = 0	4		T V
V(BR)CEO	Collector-emitter breakdown voltage	Ic = 100mA, R _{BE} = ∞	17		V
Ісво	Collector cutoff current	V _{CB} = 15V, I _E = 0		5	mA
ГЕВО	Emitter cutoff current	V _{EB} = 3V, I _C = 0		5	mA
hfe	DC forward current gain	VcE = 5V, Ic = 5A	10	180	
Po	Output power	Vcc = 12.5V, f = 175MHz, Pin = 15W	80	1.00	W
ηс	Collector efficiency		60	-	%

Note. Above parameters, ratings, limits and conditions are subject to change.

NPN EPITAXIAL PLANAR TYPE



CV1 : Air variable capacitor

: Mica capacitor C1

C2~C6: Metal clad mica capacitor

: Ceramic capacitor **C7**

: 47pF, 2200pF, 22000pF in paralleled

L1 : 5.5D, 3T, 0P, ϕ 1.2, silver plated copper wire L2 : 5.5D, 4T, 0P, ϕ 1.2, silver plated copper wire RFC : 2.7k Ω × 3 in Parallel, 5D, 5T, 0P, ϕ 0.8 enameled

 $R1\ :1\Omega$

Z1~Z3 : Microstrip

Board material: teflon t=1.6mm, $\epsilon r=2.6$

TYPICAL PERFORMANCE DATA

