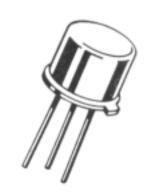
2N3553 Silicon NPN Transistor RF Power Driver

Description:

The 2N3553 is a silicon NPN transistor in a TO39 type package designed for amplifier and oscillator applications in military and industrial equipment. Suitable for use as an output, driver, or in predriver stages in VHF equipment.



CBE

Features:

• Specified 175MHz, 28V Characteristics:

Output Power: 2.5W Minimum Gain: 10dB

Efficiency: 50%

Absolute Maximum Ratings:

Collector-Emitter Voltage, V _{CEO}	40V
Collector-Base Voltage, V _{CB} , V _{DG2}	65V
Emitter-Base Voltage, V _{EB} , V _{DG2}	4V
Collector Current, I _C	1A
Total Device Dissipation ($T_C = +25^{\circ}C$), P_D	7W
Derate above 25°C	40mW/°C
Operating Junction Temperature Range, T _J	-65° to +200°C
Storage Temperature Range, T _{eta}	-65° to +200°C

Electrical Characteristics: $(T_A = +25^{\circ}C \text{ unless otherwise specified})$

Parameter	Symbol	Test Conditions	Min	Typ	Max	Unit
OFF Characteristics						
Collector-Emitter Sustaining Voltage Voltage	V _{CEO(sus)}	$I_{\rm C} = 200 {\rm mA}, I_{\rm B} = 0, {\rm Note} 1$	40	-	-	V
Emitter-Base Breakdown Voltage	V _{(BR)EBO}	$I_E = 0.1 \text{ mA}, I_C = 0$	4	-	-	V
Collector Cutoff Current	I _{CEO}	$V_{CE} = 30V, I_{B} = 0$	-	-	0.1	mA
	I _{CEX}	$V_{CE} = 30V, V_{BE(off)} = 1.5V, T_{C} = +200$ °C	-	-	5.0	mA
		$V_{CE} = 65V, V_{BE(off)} = 1.5V$	-	-	1.0	mA
Emitter Cutoff Current	I _{EBO}	$V_{BE} = 4V, I_C = 0$	-	-	0.1	mA
ON Characteristics						
DC Current Gain	h _{FE}	$V_{CE} = 5V, I_C = 5V$	10	-	-	
Collector-Emitter Saturation Voltage	V _{CE(sat)}	$I_C = 250 \text{mA}, I_B = 50 \text{mA}$	-	-	1.0	V
Dynamic Characteristics	·			,		
Current Gain-Bandwidth Product	f_{T}	$V_{CE} = 28V, I_{C} = 100mA, f = 100MHz$	-	500	-	MHz
Output Capacitance	C _{ob}	$V_{CB} = 30V, I_E = 0, f = 100kHz$	-	8	10	pF
Functional Tests						
Power Input	P _{in}	$V_{CE} = 28V, P_{out} = 2.5W, f = 175MHz$	-	-	0.25	W
Common-Emitter Amplifier Power Gain	G_{pe}		10	-	-	dB
Collector Efficiency			50	-	-	%

Note 1. Pulsed through a 25mH inductor.