Wireless Bipolar Power Transistor 40W, 850-1450MHz, 28V



- NPN silicon microwave power transistor
- Common emitter configuration
- Broadband Class AB operation
- Interdigitated geometry
- Diffused emitter ballasting resistors
- Gold metalization system
- Internal input and output impedance matching
- Hermetic metal / ceramic package

ABSOLUTE MAXIMUM RATING AT 25°C

Parameter	Symbol	Rating	Units
Collector-Base Voltage	V _{CBO}	56	V
Collector-Emitter Voltage	V _{CES}	56	V
Emitter-Base Voltage	V_{EBO}	3.0	V
Collector Current	Ιc	5.6	А
Total Power Dissipation	P _{TOT}	175	W
Junction Temperature	$T_{\rm J}$	200	°C
Storage Temperature	T _{STG}	-55 to + 200	°C
Thermal Resistance	θ_{JC}	1.0	°C/W

ELECTRICAL SPECIFICATIONS AT 25°C					. Tolerances are. Inches ± .005 (minimeters ± 0.15min)
Parameter	Symbol	Min	Max	Units	Test Conditions
Collector-Emitter Breakdown Voltage	BV _{CES}	56	-	V	I _C = 50mA
Collector-Emitter Leakage Current	I _{CES}	-	5.0	mA	V _{CE} = 28V
Collector-Base Breakdown Voltage	BV _{CBO}	56	-	V	I _C = 50mA
Emitter-Base Breakdown Voltage	BV _{EBO}	3.0	-	V	I _B = 10mA
DC Forward Current Gain	h _{FE}	15	100	-	V _{CE} = 5.0V, Ic = 0.5 A
Input Power	P _{IN}	5.5	8.8	W	V_{CC} = 28V, Icq = 12 mA, P _{out} = 42 W, F = 1450MHz
Collector Current	Ι _C	-	3.75	А	V_{CC} = 28V, Icq = 12 mA, P _{out} = 42 W, F = 1450MHz
Input Return Loss	RL	10	-	dB	V _{CC} = 28V, IcQ = 12 mA, P _{out} = 42 W, F =1450MHz
Saturated Output Power	P _{SAT}	50	-	W	V_{CC} = 28V, Icq = 12 mA, F =1450MHz
Load Mismatch Tolerance	VSWR-T	-	3.1	-	V _{CC} = 28V, IcQ = 12 mA, P _{out} = 42 W, F =1450MHz
Load Mismatch Tolerance	IMD ₃	-	1.5:1	-	V _{CC} = 28V, IcQ = 12 mA, P _{out} = 42 W, F =850MHz

TYPICAL OPTIMUM DEVICE IMPEDANCES

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F (MHz)	Z _{IN} (Ω)	Z _{OF} (Ω)
850	2.0 - j3.6	3.0 - j4.9
950	2.4 - j2.5	2.3 - j3.1
1050	3.1 - j1.8	2.0 - j2.0
1150	3.5 - j1.9	1.8 - j1.4
1250	3.3 - j2.4	1.7 - j0.9
1350	2.5 - j2.4	1.4 - j0.5
1450	1.7 - j1.8	1.2 - j0.1



Outline Drawing¹



Notes: (unless otherwise specified)

 $nillimators \pm 0.12mm$



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