

SILICON BIPOLAR NPN POWER TRANSISTOR 2 W, in the 140 – 512 MHz Frequency Range

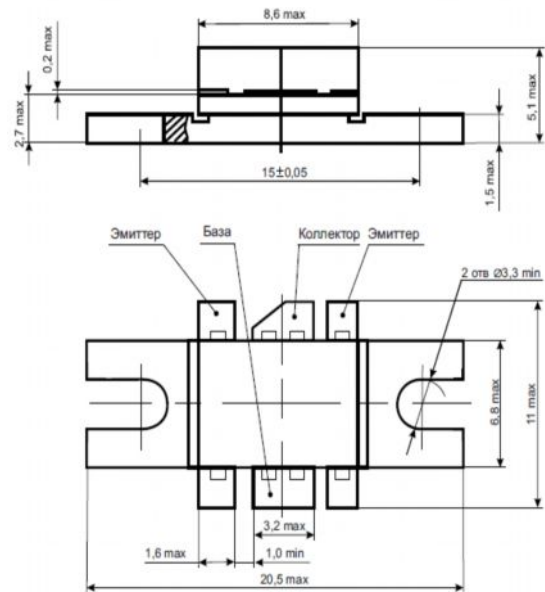
The silicon bipolar n-p-n transistor is designed for wideband large-signal output and driver amplifier stages in the 140 to 512 MHz frequency range.

Features (At 470 MHz):

- Output Power: 2 W
- Power Gain: 8 dB Min
- Efficiency: 55% Min

Absolute Maximum Ratings

Parameters	Sym	Value	Unit
Collector-Base Voltage	V_{CBO}	20	V_{DC}
Emitter-Base Voltage	V_{EBO}	3	V_{DC}
Collector Current	I_C	1.0	A_{DC}
Operation Junction Temperature	T_j	-65 ÷ +200	°C
Storage Temperature Range	T_{STG}	-65 ÷ +150	°C
Thermal Resistance, Junction to Case	$R_{\theta JC}$	6	°C/W
Total Power Dissipation, $T_C=25\text{ °C}$	P_D	29	W



Case KT-83

Parameters

Parameter	Symbol	Min.	Typ.	Max.	Unit
Collector-Emitter Breakdown Voltage ($I_C = 50\text{ mA}$, $V_{BE} = 0\text{ V}$)	$V_{(BR)CES}$	20	—	—	V_{DC}
Emitter-Base Breakdown Voltage ($I_E = 5\text{ mA}$, $I_C = 0\text{ A}$)	$V_{(BR)EBO}$	3	—	—	V_{DC}
Collector-Base Leakage Current ($V_{CB} = 20\text{ V}$, $I_E = 0\text{ A}$)	I_{CBO}	—	—	6	mA_{DC}
DC Current Gain ($V_{CE} = 10\text{ V}$, $I_C = 0.1\text{ A}$)	h_{FE}	20	—	100	
Output Capacitance ($V_{CB} = 7.5\text{ V}$, $I_E = 0\text{ A}$, $f = 1\text{ MHz}$)	C_{OB}	—	—	24	pF
Power Gain ($V_{CC} = 7.5\text{ V}$, $f = 470\text{ MHz}$, $P_{OUT} = 2\text{ W}$)	Gp	8	—	—	dB
Drain Efficiency ($V_{CC} = 7.5\text{ V}$, $f = 470\text{ MHz}$, $P_{OUT} = 2\text{ W}$)	η	55	—	—	%