

### SILICON BIPOLAR NPN POWER TRANSISTOR 0.5 W, in the 140 – 512 MHz Frequency Range

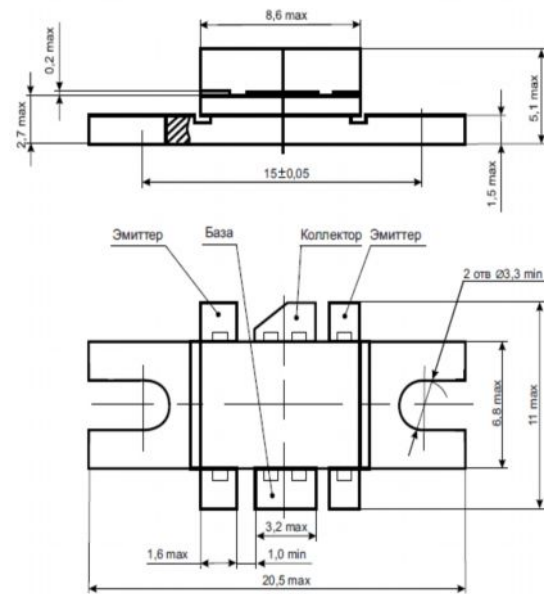
The silicon bipolar n-p-n transistor is designed for wideband large-signal output and driver amplifier stages in the 140 to 512 MHz frequency range.

Features (At 470 MHz):

- Output Power: 0.5 W
- Power Gain: 10 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	$I_C$	0.5	$A_{DC}$
Operation Junction Temperature	$T_j$	$-65 \div +200$	$^{\circ}C$
Storage Temperature Range	$T_{STG}$	$-65 \div +150$	$^{\circ}C$
Thermal Resistance, Junction to Case	$R_{\theta JC}$	12	$^{\circ}C/W$
Total Power Dissipation, $T_C=25^{\circ}C$	$P_D$	15	W



CaseKT-83

#### Parameters

Parameter	Symbol	Min.	Typ.	Max.	Unit
Collector-Base 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 ( $V_{CB} = 20 \text{ V}$ , $I_E = 0 \text{ A}$ )	$I_{CBO}$	—	—	2	$mA_{DC}$
DC Current Gain ( $V_{CE} = 10 \text{ V}$ , $I_C = 0.1 \text{ A}$ )	$h_{FE}$	20	—	100	
Output Capacitance ( $V_{CB} = 7.5 \text{ V}$ , $I_E = 0 \text{ A}$ , $f = 1 \text{ MHz}$ )	$C_{OB}$	—	—	12	pF
Power Gain ( $V_{CC} = 7.5 \text{ V}$ , $f = 470 \text{ MHz}$ , $P_{OUT} = 0.5 \text{ W}$ )	Gp	10	—	—	dB
Drain Efficiency ( $V_{CC} = 7.5 \text{ V}$ , $f = 470 \text{ MHz}$ , $P_{OUT} = 0.5 \text{ W}$ )	$\eta$	55	—	—	%

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Specification is subject to change without notice