

DESCRIPTION

2SC2630 is a silicon NPN epitaxial planar type transistor designed for RF power amplifiers in VHF band mobile radio applications.

FEATURES

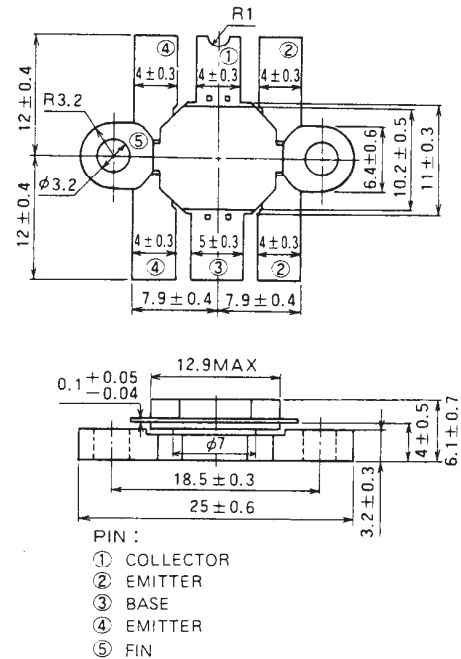
- High power gain: $G_{pe} \geq 7\text{dB}$
@ $V_{CC} = 12.5\text{V}$, $P_O = 50\text{W}$, $f = 175\text{MHz}$
- Emitter ballasted construction and gold metallization for high reliability and good performances.
- Low thermal resistance ceramic package with flange.
- Ability of withstanding more than 20:1 load VSWR when operated at $V_{CC} = 15.2\text{V}$, $P_O = 50\text{W}$, $f = 175\text{MHz}$, $T_C = 25^\circ\text{C}$.
- Equivalent input/output series impedance:
 $Z_{in} = 0.8 + j1.2\Omega$ @ $P_O = 60\text{W}$, $V_{CC} = 12.5\text{V}$, $f = 175\text{MHz}$
 $Z_{out} = 1.5 - j0.6\Omega$

APPLICATION

40 to 60 watts output power amplifiers in VHF band mobile radio applications.

OUTLINE DRAWING

Dimensions in mm



T-40

NOTE: ALL ELECTRODES ARE ISOLATED FROM FLANGE.

ABSOLUTE MAXIMUM RATINGS ($T_C = 25^\circ\text{C}$ unless otherwise specified)

Symbol	Parameter	Conditions	Ratings	Unit
V_{CB0}	Collector to base voltage		35	V
V_{EB0}	Emitter to base voltage		4	V
V_{CE0}	Collector to emitter voltage	$R_{BE} = \infty$	17	V
I_C	Collector current		14	A
P_C	Collector dissipation	$T_a = 25^\circ\text{C}$	5.5	W
		$T_C = 25^\circ\text{C}$	100	
T_j	Junction temperature		175	$^\circ\text{C}$
T_{stg}	Storage temperature		-55 to 175	$^\circ\text{C}$
R_{th-a}	Thermal resistance	Junction to ambient	27.2	$^\circ\text{C/W}$
R_{th-c}		Junction to case	1.5	$^\circ\text{C/W}$

Note: Above parameters are guaranteed independently.

ELECTRICAL CHARACTERISTICS ($T_C = 25^\circ\text{C}$ unless otherwise specified)

Symbol	Parameter	Test conditions	Limits			Unit
			Min	Typ	Max	
$V_{(BR)EB0}$	Emitter to base breakdown voltage	$I_E = 10\text{mA}$, $I_C = 0$	4			V
$V_{(BR)CB0}$	Collector to base breakdown voltage	$I_C = 10\text{mA}$, $I_E = 0$	35			V
$V_{(BR)CE0}$	Collector to emitter breakdown voltage	$I_C = 0.1\text{A}$, $R_{BE} = \infty$	17			V
I_{CB0}	Collector cutoff current	$V_{CB} = 15\text{V}$, $I_E = 0$			5	mA
I_{EB0}	Emitter cutoff current	$V_{EB} = 3\text{V}$, $I_C = 0$			5	mA
h_{FE}	DC forward current gain *	$V_{CE} = 10\text{V}$, $I_C = 0.2\text{A}$	10	40	180	—
P_O	Output power	$V_{CC} = 12.5\text{V}$, $P_{in} = 10\text{W}$, $f = 175\text{MHz}$	50	60		W
η_C	Collector efficiency		60	70		%

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