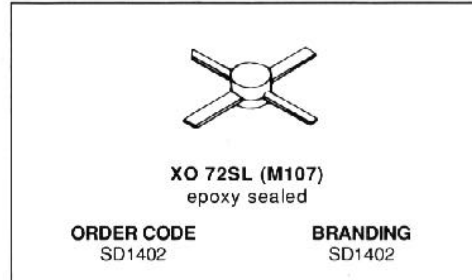


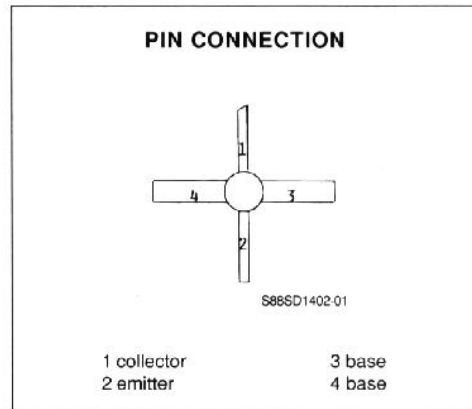
**RF & MICROWAVE TRANSISTORS**  
**860-960MHz CLASS C, MOBILE APPLICATION**

- CLASS C TRANSISTOR
- FREQUENCY 870MHz
- VOLTAGE 12.5V
- POWER OUT 0.3W
- POWER GAIN 8.0dB
- COMMON BASE



**DESCRIPTION**

The SD1402 transistor is a silicon epitaxial planar transistor, wired common base, that was specifically designed for low level amplifier and multiplier use in 800MHz mobile and portable equipment. It achieves infinite VSWR at rated operating conditions.



**ABSOLUTE MAXIMUM RATINGS** ( $T_{case} = 25^{\circ}C$ )

Symbol	Parameter	Value	Unit
$V_{CEO}$	Collector - Emitter Voltage	36.0	V
$V_{CES}$	Collector - Emitter Voltage	18.0	V
$V_{EB0}$	Emitter - Base Voltage	4.0	V
$I_C$	Collector Current	0.3	A
$P_{tot}$	Total Power Dissipation	3.0	W
$T_{stg}$	Storage Temperature	- 65 to 150	$^{\circ}C$
$T_j$	Junction Temperature	200	$^{\circ}C$

**THERMAL DATA**

$R_{th(j-c)}$	Junction-case Thermal Resistance	58.3	$^{\circ}C/W$
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**SD1402****ELECTRICAL CHARACTERISTICS** ( $T_{\text{case}} = 25^{\circ}\text{C}$ )

## STATIC

Symbol	Test Conditions		Value			Unit
			Min.	Typ.	Max.	
$BV_{\text{CES}}$	$I_{\text{C}} = 10.0\text{mA}$	$V_{\text{BE}} = 0$	36.0			V
$BV_{\text{CEO}}$	$I_{\text{E}} = 10.0\text{mA}$	$I_{\text{B}} = 0$	18.0			V
$BV_{\text{EBO}}$	$I_{\text{E}} = 5.0\text{mA}$	$I_{\text{C}} = 0$	4.0			V
$I_{\text{CBO}}$	$V_{\text{CB}} = 12.5\text{V}$	$I_{\text{E}} = 0$			1.0	mA
$h_{\text{FE}}$	$V_{\text{CE}} = 5.0\text{V}$	$I_{\text{C}} = 150\text{mA}$	20.0			

## DYNAMIC

Symbol	Test Conditions		Value			Unit
			Min.	Typ.	Max.	
$P_{\text{O}}$	$f = 870\text{MHz}$	$V_{\text{CC}} = 12.5\text{V}$	0.3			W
$G_{\text{P}}$	$f = 870\text{MHz}$	$V_{\text{CC}} = 12.5\text{V}$	8			dB
$\eta_{\text{C}}$	$f = 870\text{MHz}$	$V_{\text{CC}} = 12.5\text{V}$		60		%
$C_{\text{OB}}$	$f = 1\text{MHz}$	$V_{\text{CB}} = 12.5\text{V}$			4.0	pF

**IMPEDANCE DATA** (typical)

$$Z_{\text{s}} = 29.0 + j 0.9 \text{ ohms}$$

$$Z_{\text{cl}} = 9.9 + j 45.0 \text{ ohms}$$

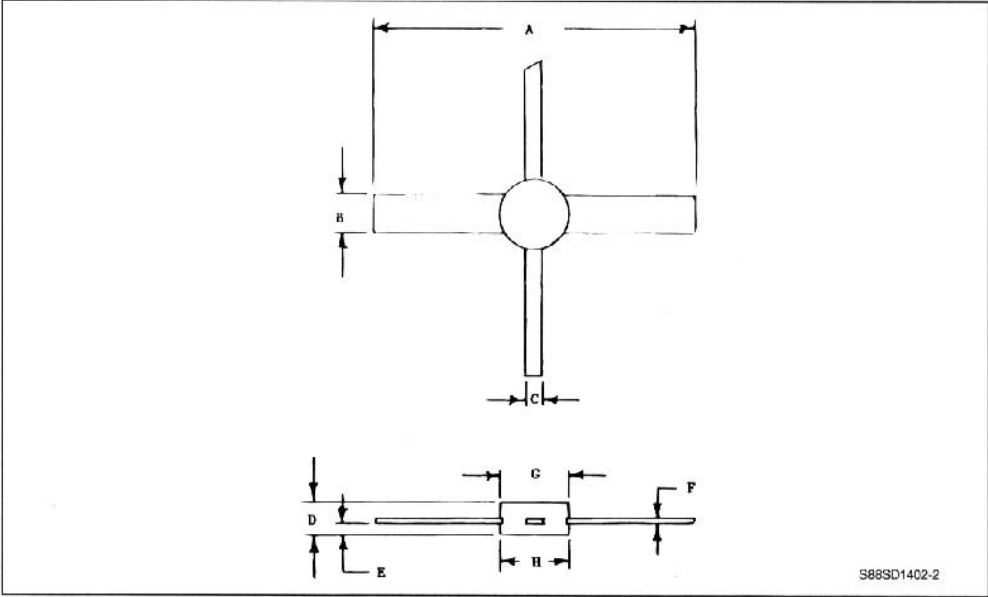
$$F = 870\text{MHz}$$

$$V_{\text{CE}} = 12.5\text{V}$$

$$P_{\text{O}} = 0.3\text{W}$$

PACKAGE MECHANICAL DATA

X0 72SL



	Minimum Inches	Maximum Inches
A	.890	
B	.120	.130
C	.027	.033
D		.135
E	.40	.050
F	.003	.007
G	.201	.207
H	.201	.207