

**Silicon PNP Power Transistor**

**2SB1015**

**DESCRIPTION**

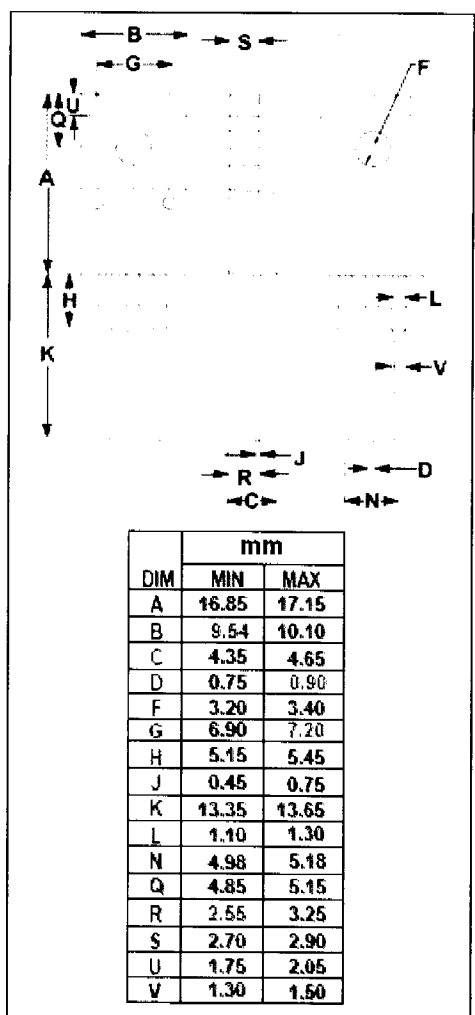
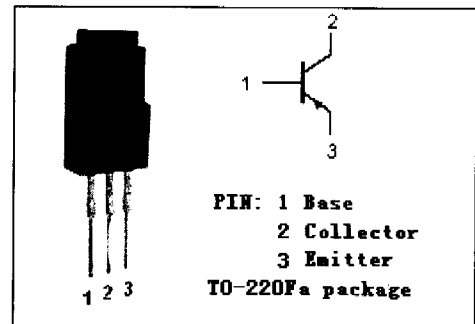
- Low Collector Saturation Voltage-  
 $V_{CE(sat)} = -1.7 \text{ V(Max)} @ I_C = -3\text{A}$
- Good Linearity of  $h_{FE}$
- Complement to Type 2SD1406

**APPLICATIONS**

- Designed for audio frequency power amplifier applications.

**ABSOLUTE MAXIMUM RATINGS( $T_a=25^\circ\text{C}$ )**

SYMBOL	PARAMETER	VALUE	UNIT
$V_{CBO}$	Collector-Base Voltage	-60	V
$V_{CEO}$	Collector-Emitter Voltage	-60	V
$V_{EBO}$	Emitter-Base Voltage	-7	V
$I_C$	Collector Current-Continuous	-3	A
$I_B$	Base Current-Continuous	-0.5	A
$P_C$	Collector Power Dissipation @ $T_a=25^\circ\text{C}$	2	W
	Collector Power Dissipation @ $T_C=25^\circ\text{C}$	25	
$T_J$	Junction Temperature	150	$^\circ\text{C}$
$T_{stg}$	Storage Temperature Range	-55~150	$^\circ\text{C}$



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## ELECTRICAL CHARACTERISTICS

$T_C=25^\circ\text{C}$  unless otherwise specified

SYMBOL	PARAMETER	CONDITIONS	MIN	TYP.	MAX	UNIT
$V_{(BR)CEO}$	Collector-Emitter Breakdown Voltage	$I_C = -30\text{mA}; I_B = 0$	-60			V
$V_{CE(sat)}$	Collector-Emitter Saturation Voltage	$I_C = -3\text{A}; I_B = -0.3\text{A}$			-1.7	V
$V_{BE(on)}$	Base-Emitter On Voltage	$I_C = -0.5\text{A}; V_{CE} = -5\text{V}$			-1.0	V
$I_{CBO}$	Collector Cutoff Current	$V_{CB} = -60\text{V}; I_E = 0$			-100	$\mu\text{A}$
$I_{EBO}$	Emitter Cutoff Current	$V_{EB} = -7\text{V}; I_C = 0$			-100	$\mu\text{A}$
$h_{FE-1}$	DC Current Gain	$I_C = -0.5\text{A}; V_{CE} = -5\text{V}$	60		200	
$h_{FE-2}$	DC Current Gain	$I_C = -3\text{A}; V_{CE} = -5\text{V}$	20			
$C_{OB}$	Output Capacitance	$I_E = 0; V_{CB} = -10\text{V}; f = 1\text{MHz}$		150		pF
$f_T$	Current-Gain—Bandwidth Product	$I_C = -0.5\text{A}; V_{CE} = -5\text{V}$		9		MHz

### Switching times

$t_{on}$	Turn-on Time	$I_C = -2.0\text{A}, I_{B1} = -I_{B2} = -0.2\text{A}, V_{CC} = -30\text{V}; R_L = 15\Omega$		0.4		$\mu\text{s}$
$t_{stg}$	Storage Time			1.7		$\mu\text{s}$
$t_f$	Fall Time			0.5		$\mu\text{s}$

### ◆ $h_{FE-1}$ Classifications

O	Y
60-120	100-200