

Silicon PNP Power Transistor

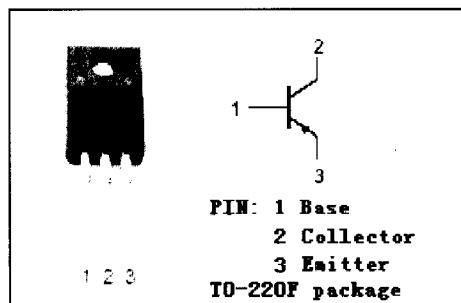
2SB1018A

DESCRIPTION

- Low Collector Saturation Voltage-
 $V_{CE(sat)} = -0.5V(\text{Max}) @ I_C = -4A$
- High Current Capability- $I_C = -7A$
- Complement to Type 2SD1411A

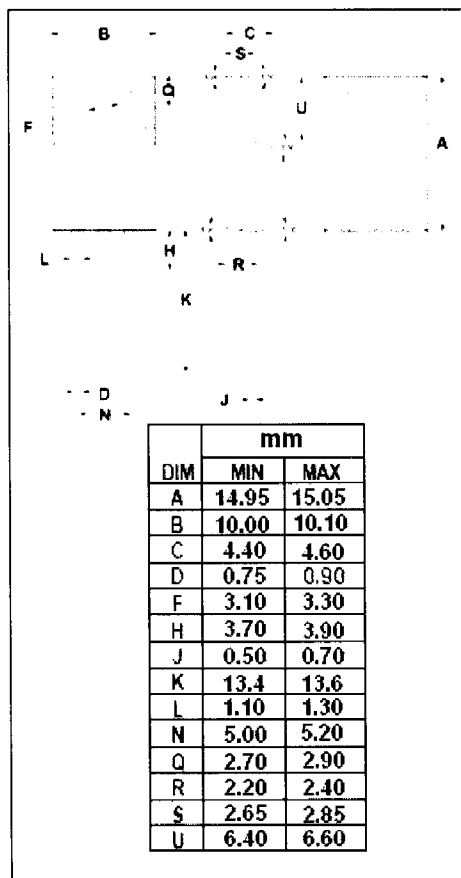
APPLICATIONS

- High current switching applications.
- Power amplifier applications.



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

SYMBOL	PARAMETER	VALUE	UNIT
V_{CBO}	Collector-Base Voltage	-100	V
V_{CEO}	Collector-Emitter Voltage	-80	V
V_{EBO}	Emitter-Base Voltage	-5	V
I_C	Collector Current-Continuous	-7	A
I_B	Base Current-Continuous	-1	A
P_C	Collector Power Dissipation @ $T_a=25^\circ\text{C}$	2	W
	Collector Power Dissipation @ $T_C=25^\circ\text{C}$	30	
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	$I_C = -50\text{mA}; I_B = 0$	-80			V
$V_{CE(sat)}$	Collector-Emitter Saturation Voltage	$I_C = -4\text{A}; I_B = -0.4\text{A}$			-0.5	V
$V_{BE(sat)}$	Base-Emitter Saturation Voltage	$I_C = -4\text{A}; I_B = -0.4\text{A}$			-1.4	V
I_{CBO}	Collector Cutoff Current	$V_{CB} = -100\text{V}; I_E = 0$			-5	μA
I_{EBO}	Emitter Cutoff Current	$V_{EB} = -5\text{V}; I_C = 0$			-5	μA
h_{FE-1}	DC Current Gain	$I_C = -1\text{A}; V_{CE} = -1\text{V}$	70		240	
h_{FE-2}	DC Current Gain	$I_C = -4\text{A}; V_{CE} = -1\text{V}$	30			
C_{OB}	Output Capacitance	$I_E = 0; V_{CB} = -10\text{V}; f = 1\text{MHz}$		250		pF
f_T	Current-Gain—Bandwidth Product	$I_C = -1\text{A}; V_{CE} = -4\text{V}$		10		MHz

Switching Times

t_{on}	Turn-on Time	$I_C = -3.0\text{A}, I_{B1} = -I_{B2} = -0.3\text{A}, V_{CC} = -30\text{V}, R_L = 10\Omega$		0.4		μs
t_{stg}	Storage Time			2.5		μs
t_f	Fall Time			0.5		μs

◆ h_{FE-1} Classifications

O	Y
70-140	120-240