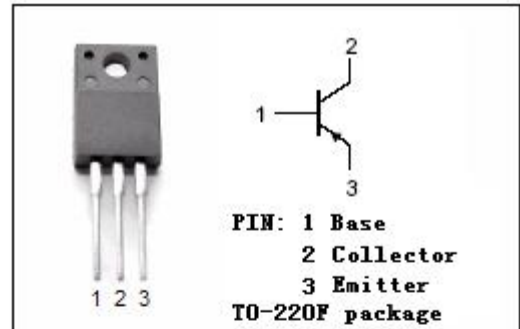


isc Silicon PNP Power Transistor
2SB1603
DESCRIPTION

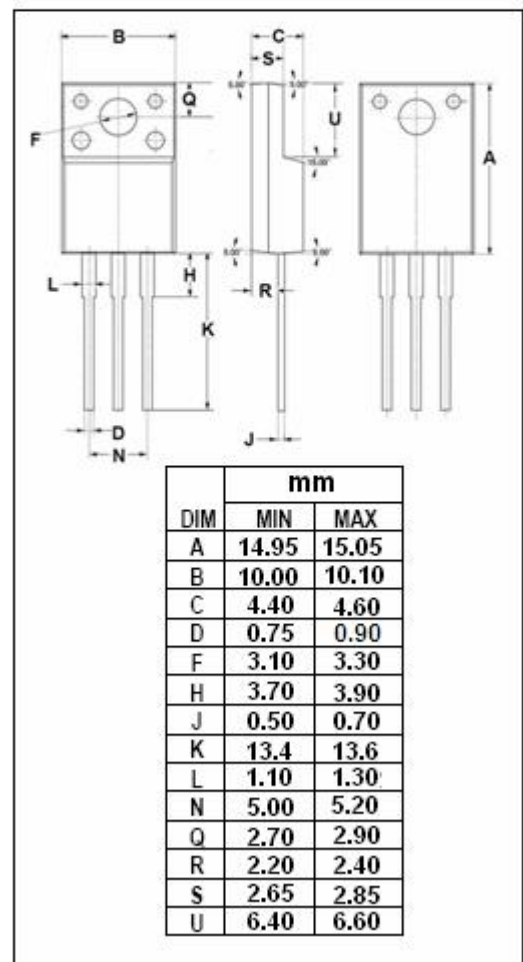
- High-speed Switching
- Low Collector to Emitter Saturation Voltage
: $V_{CE(sat)} = -0.5V(\text{Max.}) @ I_C = -2A$
- Full-pack Package With Outstanding Insulation, Which Can Be Installed to The Heat Sink With One Screw
- Minimum Lot-to-Lot variations for robust device performance and reliable operation

APPLICATIONS

- Designed for low-voltage switching and general purpose applications.


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

SYMBOL	PARAMETER	VALUE	UNIT
V_{CBO}	Collector-Base Voltage	-40	V
V_{CEO}	Collector-Emitter Voltage	-20	V
V_{EBO}	Emitter-Base Voltage	-5	V
I_C	Collector Current-Continuous	-4	A
I_{CM}	Collector Current-Peak	-8	A
P_C	Collector Power Dissipation @ $T_a=25^\circ\text{C}$	2	W
	Collector Power Dissipation @ $T_C=25^\circ\text{C}$	25	W
T_J	Junction Temperature	150	$^\circ\text{C}$
T_{stg}	Storage Temperature Range	-55~150	$^\circ\text{C}$



isc Silicon PNP Power Transistor

2SB1603

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	$I_C = -10\text{mA}$; $I_B = 0$	-20			V
$V_{CE(sat)}$	Collector-Emitter Saturation Voltage	$I_C = -2\text{A}$; $I_B = -0.1\text{A}$			-0.5	V
$V_{BE(sat)}$	Base-Emitter Saturation Voltage	$I_C = -2\text{A}$; $I_B = -0.1\text{A}$			-1.5	V
I_{CBO}	Collector Cutoff Current	$V_{CB} = -40\text{V}$; $I_E = 0$			-50	μA
I_{EBO}	Emitter Cutoff Current	$V_{EB} = -5\text{V}$; $I_C = 0$			-50	μA
h_{FE-1}	DC Current Gain	$I_C = -0.1\text{A}$; $V_{CE} = -2\text{V}$	45			
h_{FE-2}	DC Current Gain	$I_C = -1\text{A}$; $V_{CE} = -2\text{V}$	90		260	
f_T	Current-Gain—Bandwidth Product	$I_E = 0.5\text{A}$; $V_{CE} = -5\text{V}$; $f = 10\text{MHz}$		150		MHz

Switching Times

t_{on}	Turn-on Time	$I_C = -2\text{A}$; $I_{B1} = -I_{B2} = -0.2\text{A}$,		0.3		μs
t_{stg}	Storage Time			0.4		μs
t_f	Fall Time			0.1		μs

◆ h_{FE-2} Classifications

Q	P
90-180	130-260

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