

isc Silicon PNP Darlington Power Transistor

2SB1020

DESCRIPTION

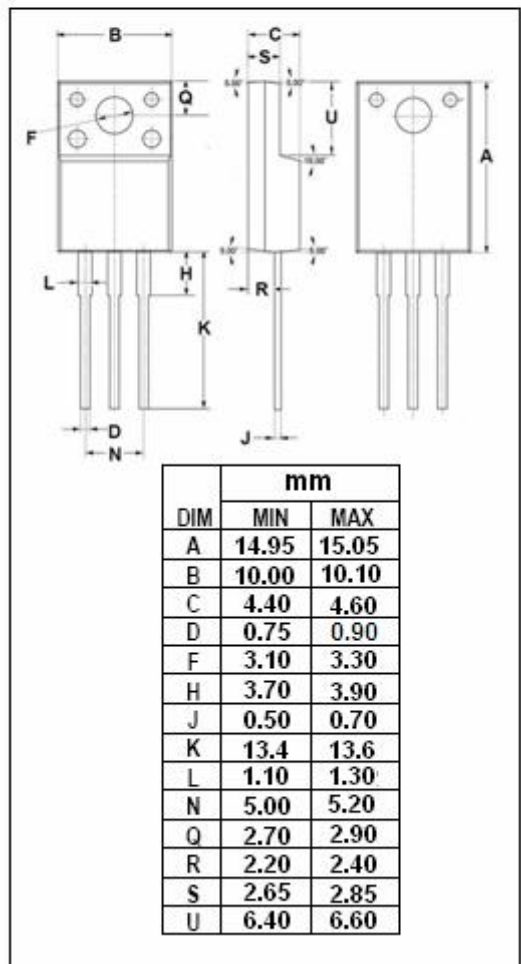
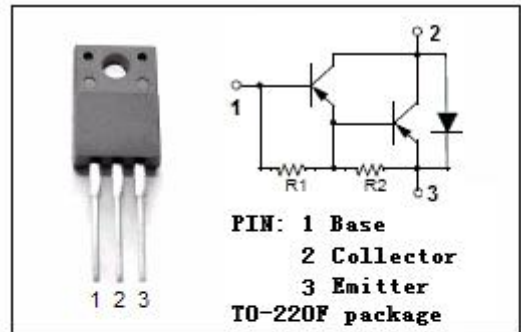
- High DC Current Gain-
: $h_{FE} = 2000(\text{Min.}) @ I_C = -3A$
- Low Collector Saturation Voltage-
: $V_{CE(\text{sat})} = -1.5V(\text{Max}) @ I_C = -3A$
- Good Linearity of h_{FE}
- Complement to Type 2SD1415
- Minimum Lot-to-Lot variations for robust device performance and reliable operation

APPLICATIONS

- High power switching applications.
- Hammer drive, pulse motor drive 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	-100	V
V_{EBO}	Emitter-Base Voltage	-5	V
I_C	Collector Current-Continuous	-7	A
I_B	Base Current-Continuous	-0.2	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	$^\circ\text{C}$



isc Silicon PNP Darlington Power Transistor**2SB1020****ELECTRICAL CHARACTERISTICS****T_c=25°C unless otherwise specified**

SYMBOL	PARAMETER	CONDITIONS	MIN	TYP.	MAX	UNIT
V _{(BR)CEO}	Collector-Emitter Breakdown Voltage	I _C = -30mA; I _B = 0	-100			V
V _{CE(sat)-1}	Collector-Emitter Saturation Voltage	I _C = -3A; I _B = -6mA			-1.5	V
V _{CE(sat)-2}	Collector-Emitter Saturation Voltage	I _C = -7A; I _B = -14mA			-2.0	V
V _{BE(sat)}	Base-Emitter Saturation Voltage	I _C = -3A; I _B = -6mA			-2.5	V
I _{CBO}	Collector Cutoff Current	V _{CB} = -100V; I _E = 0			-100	μ A
I _{EBO}	Emitter Cutoff Current	V _{EB} = -5V; I _C = 0			-4.0	mA
h _{FE-1}	DC Current Gain	I _C = -3A; V _{CE} = -3V	2000		15000	
h _{FE-2}	DC Current Gain	I _C = -7A; V _{CE} = -3V	1000			

Switching Times

t _{on}	Turn-on Time	I _C = -3.0A, I _{B1} = -I _{B2} = -6mA, V _{CC} ≈ -45V; R _L = 15 Ω		0.8		μ s
t _{stg}	Storage Time			2.0		μ s
t _f	Fall Time			2.5		μ s