

isc Silicon PNP Darlington Power Transistor

2SB1020

DESCRIPTION

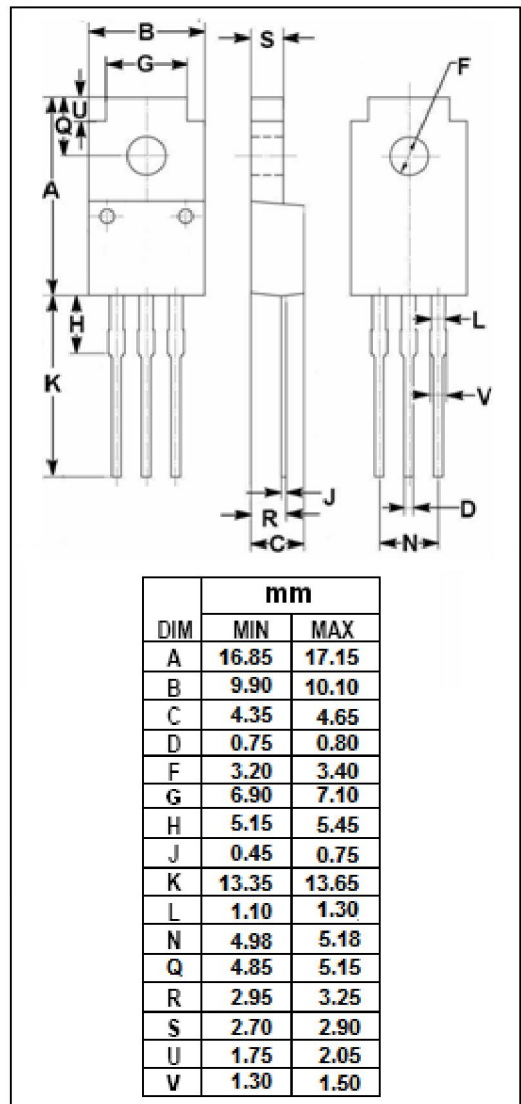
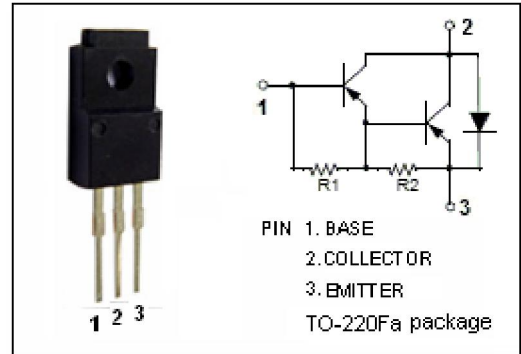
- High DC Current Gain-
: $h_{FE} = 2000(\text{Min.}) @ I_C = -3A$
- Low Collector Saturation Voltage-
: $V_{CE(\text{sat})} = -1.5V(\text{Max}) @ I_C = -3A$
- Good Linearity of h_{FE}
- Complement to Type 2SD1415

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

SYMBOL	PARAMETER	CONDITIONS	MIN	TYP.	MAX	UNIT
$V_{(BR)CEO}$	Collector-Emitter Breakdown Voltage	$I_C = -50\text{mA}; I_B = 0$	-100			V
$V_{CE(sat)-1}$	Collector-Emitter Saturation Voltage	$I_C = -3\text{A}; I_B = -6\text{mA}$			-1.5	V
$V_{CE(sat)-2}$	Collector-Emitter Saturation Voltage	$I_C = -7\text{A}; I_B = -14\text{mA}$			-2.0	V
$V_{BE(sat)}$	Base-Emitter Saturation Voltage	$I_C = -3\text{A}; I_B = -6\text{mA}$			-2.5	V
I_{CBO}	Collector Cutoff Current	$V_{CB} = -100\text{V}; I_E = 0$			-100	μA
I_{EBO}	Emitter Cutoff Current	$V_{EB} = -5\text{V}; I_C = 0$			-4.0	mA
h_{FE-1}	DC Current Gain	$I_C = -3\text{A}; V_{CE} = -3\text{V}$	2000		15000	
h_{FE-2}	DC Current Gain	$I_C = -7\text{A}; V_{CE} = -3\text{V}$	1000			

Switching Times

t_{on}	Turn-on Time	$I_C = -3.0\text{A}, I_{B1} = -I_{B2} = -6\text{mA}, V_{CC} \approx -45\text{V}; R_L = 15\Omega$		0.8		μs
t_{stg}	Storage Time			2.0		μs
t_f	Fall Time			2.5		μs