

isc Silicon PNP Darlington Power Transistor

2SB1420

DESCRIPTION

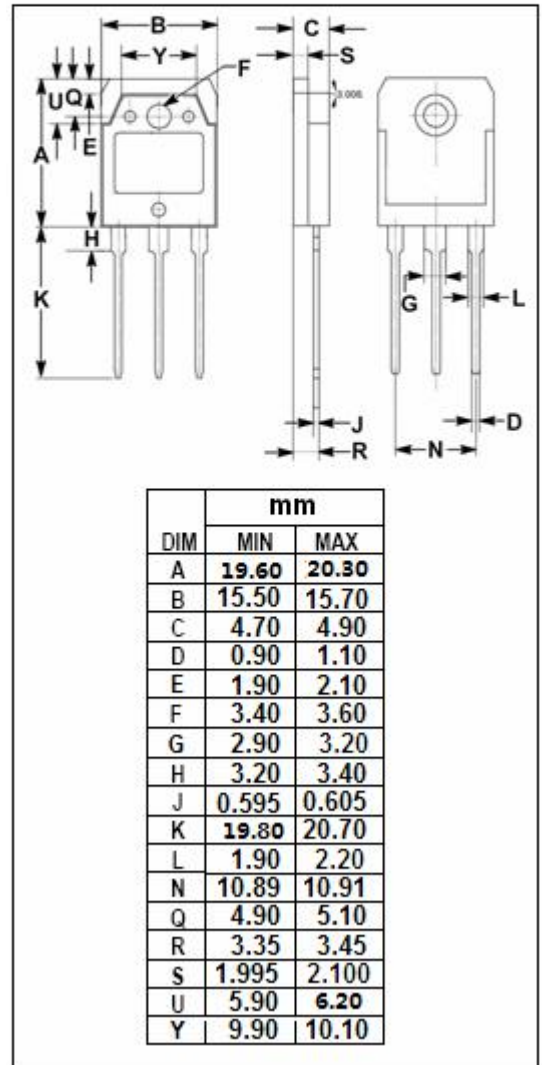
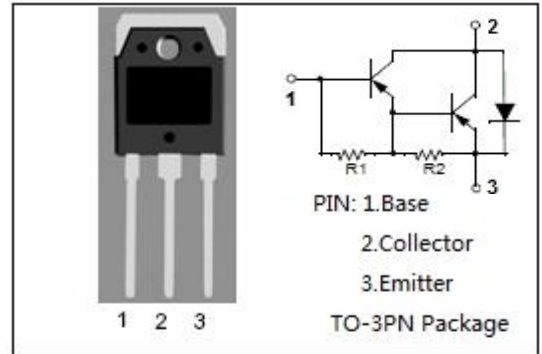
- Collector-Emitter Breakdown Voltage-
: $V_{(BR)CEO} = -120V(\text{Min})$
- High DC Current Gain-
: $h_{FE} = 2000(\text{Min})@I_C = -8A$
- Minimum Lot-to-Lot variations for robust device performance and reliable operation

APPLICATIONS

- Driver for chopper regulator, DC motor driver and general purpose applications.

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

SYMBOL	PARAMETER	VALUE	UNIT
V_{CBO}	Collector-Base Voltage	-120	V
V_{CEO}	Collector-Emitter Voltage	-120	V
V_{EBO}	Emitter-Base Voltage	-6	V
I_C	Collector Current-Continuous	-16	A
I_{CP}	Collector Current-Pulse	-26	A
I_B	Base Current-Continuous	-1	A
P_C	Collector Power Dissipation @ $T_C = 25^\circ\text{C}$	80	W
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	$I_C = -10\text{mA}; I_B = 0$	-120			V
$V_{CE(sat)}$	Collector-Emitter Saturation Voltage	$I_C = -8\text{A}; I_B = -16\text{mA}$			-1.5	V
$V_{BE(sat)}$	Base-Emitter Saturation Voltage	$I_C = -8\text{A}; I_B = -16\text{mA}$			-2.5	V
I_{CBO}	Collector Cutoff Current	$V_{CB} = -120\text{V}; I_E = 0$			-10	μA
I_{EBO}	Emitter Cutoff Current	$V_{EB} = -6\text{V}; I_C = 0$			-10	mA
h_{FE}	DC Current Gain	$I_C = -8\text{A}; V_{CE} = -4\text{V}$	2000			
C_{OB}	Output Capacitance	$I_E = 0; V_{CB} = -10\text{V}; f_{test} = 1.0\text{MHz}$		350		pF
f_T	Current-Gain—Bandwidth Product	$I_E = 1\text{A}; V_{CE} = -12\text{V}$		50		MHz

Switching Times

t_{on}	Turn-on Time	$I_C = -12\text{A}; I_{B1} = -I_{B2} = -24\text{mA}, V_{CC} = -24\text{V}, R_L = 2\Omega$		1.0		μs
t_{stg}	Storage Time			3.0		μs
t_f	Fall Time			1.0		μs

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