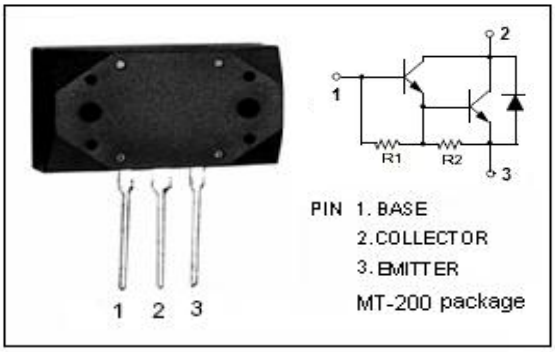
isc Silicon NPN Darlington Power Transistor 2SD1678

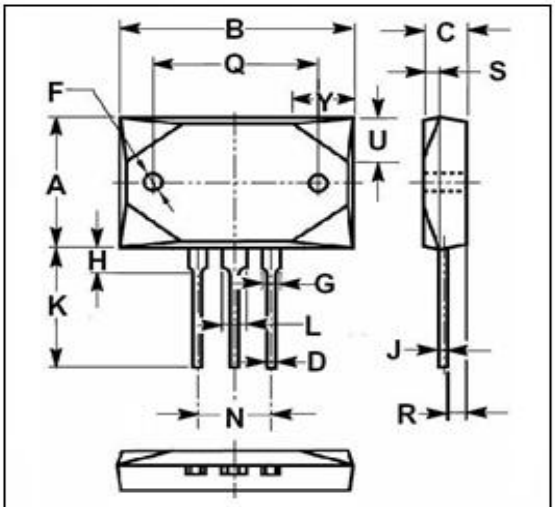


DESCRIPTION

- High DC Current Gain-h_{FE}= 750(Min)@ I_C= 15A
- High Collector-Emitter Sustaining Voltage-
  : $V_{CEO(SUS)}$ = 100V(Min)
- Minimum Lot-to-Lot variations for robust device performance and reliable operation

APPLICATIONS

- Designed for general purpose amplifier and low speed switching applications



DIM	mm MIN	MAX
A	21.00	21.70
B	35.80	36.70
C	5.60	6.20
D	1.04	1.07
F	3.10	3.50
G	1.90	2.40
H	3.60	4.00
J	0.55	0.85
K	20.00	20.80
L	2.90	3.40
N	10.50	11.10
Q	24.00	24.50
R	2.90	3.30
S	2.00	2.20
U	6.90	7.10
Y	8.90	9.10

ABSOLUTE MAXIMUM RATINGS(T_a=25℃)

SYMBOL	PARAMETER	VALUE	UNIT
V_{CER}	Collector-Emitter Voltage	100	V
V_{CEO}	Collector-Emitter Voltage	100	V
V_{EBO}	Emitter-Base Voltage	5	V
I_C	Collector Current-Continuous	15	A
I_B	Base Current-Continuous	0.5	A
P_C	Collector Power Dissipation @ T_a=25℃	3.5	W
	Collector Power Dissipation @ T_C=25℃	100	
T_J	Junction Temperature	150	℃
T_{stg}	Storage Temperature Range	-65~150	℃

isc Silicon NPN Darlington Power Transistor 2SD1678

ELECTRICAL CHARACTERISTICS

T_C=25℃ unless otherwise specified

SYMBOL	PARAMETER	CONDITIONS	MIN	TYP.	MAX	UNIT
$V_{CEO(SUS)}$	Collector-Emitter Sustaining Voltage	I_C= 30mA, R_{BE}= ∞	100			V
$V_{(BR)CEO}$	Collector-Emitter Breakdown Voltage	I_C= 1mA, R_{BE}= ∞	100			V
$V_{(BR)EBO}$	Emitter-Base Breakdown Voltage	I_E= 5mA ,I_C= 0	7			V
$V_{CE(sat)-1}$	Collector-Emitter Saturation Voltage	I_C= 8A , I_B= 16mA			2.0	V
$V_{CE(sat)-2}$	Collector-Emitter Saturation Voltage	I_C= 15A , I_B= 150mA			3.0	V
$V_{BE(sat)-1}$	Base-Emitter Saturation Voltage	I_C= 8A , I_B= 16mA			2.5	V
$V_{BE(sat)-2}$	Base-Emitter Saturation Voltage	I_C= 15A , I_B= 150mA			3.5	V
I_{CBO}	Collector Cutoff current	V_{CB}= 100V, I_E= 0			0.1	mA
I_{CEO}	Collector Cutoff current	V_{CE}= 100V, R_{BE}= ∞			0.1	mA
I_{EBO}	Emitter Cutoff Current	V_{EB}= 5V; I_C=0			5.0	mA
h_{FE-1}	DC Current Gain	I_C= 8A ; V_{CE}= 3V	1000		20000	
h_{FE-2}	DC Current Gain	I_C= 15A ; V_{CE}= 3V	750			
Switching Times						
t_{on}	Turn-on Time	I_C = 8A,I_{B1} = I_{B2}= 16mA			2.5	μs
t_{stg}	Storage Time				16	μs
t_f	Fall Time				5.0	μs

isc Silicon NPN Darlington Power Transistor 2SD1678

NOTICE:

ISC reserves the rights to make changes of the content herein the datasheet at any time without notification. The information contained herein is presented only as a guide for the applications of our products.

ISC products are intended for usage in general electronic equipment. The products are not designed for use in equipment which require specialized quality and/or reliability, or in equipment which could have applications in hazardous environments, aerospace industry, or medical field. Please contact us if you intend our products to be used in these special applications.

ISC makes no warranty or guarantee regarding the suitability of its products for any particular purpose, nor does ISC assume any liability arising from the application or use of any products, and specifically disclaims any and all liability, including without limitation special, consequential or incidental damages.