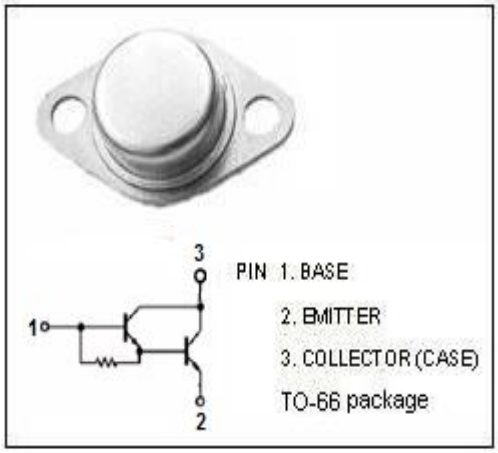
isc Silicon NPN Darlington Power Transistor 2SD684

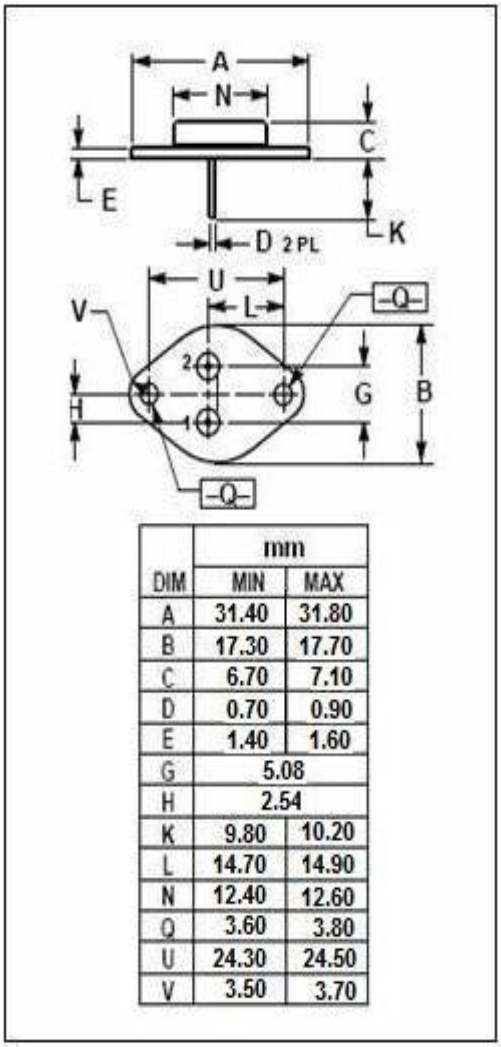


DESCRIPTION

- Collector-Emitter Sustaining Voltage-
  : $V_{CEO(SUS)}$= 300V(Min)
- High DC Current Gain-
  : h_{FE}= 1500(Min.)@I_C= 2A
- Low Collector-Emitter Saturation Voltage-
  : $V_{CE(sat)}$= 2.0V(Max) @I_C= 4A
- Minimum Lot-to-Lot variations for robust device performance and reliable operation

APPLICATIONS

- Igniter applications.
- High voltage switching applications.



DIM	mm MIN	MAX
A	31.40	31.80
B	17.30	17.70
C	6.70	7.10
D	0.70	0.90
E	1.40	1.60
G	5.08	
H	2.54	
K	9.80	10.20
L	14.70	14.90
N	12.40	12.60
Q	3.60	3.80
U	24.30	24.50
V	3.50	3.70

ABSOLUTE MAXIMUM RATINGS(T_a=25℃)

SYMBOL	PARAMETER	VALUE	UNIT
V_{CBO}	Collector-Base Voltage	600	V
V_{CEO}	Collector-Emitter Voltage	300	V
V_{EBO}	Emitter-Base Voltage	5	V
I_C	Collector Current-Continuous	6	A
I_B	Base Current-Continuous	1	A
P_C	Collector Power Dissipation @ T_C=25℃	30	W
T_J	Junction Temperature	150	℃
T_{stg}	Storage Temperature Range	-65~150	℃

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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; I_B= 0	300			V
$V_{CE(sat)}$	Collector-Emitter Saturation Voltage	I_C= 4A; I_B= 40mA			2.0	V
$V_{BE(sat)}$	Base-Emitter Saturation Voltage	I_C= 4A; I_B= 40mA			2.5	V
I_{CBO}	Collector Cutoff Current	V_{CB}= 600V; I_E= 0			500	μA
I_{EBO}	Emitter Cutoff Current	V_{EB}= 5V; I_C= 0			500	μA
h_{FE-1}	DC Current Gain	I_C= 2A; V_{CE}= 2V	1500			
h_{FE-2}	DC Current Gain	I_C= 4A; V_{CE}= 2V	200			
C_{OB}	Collector Output Capacitance	V_{CB}= 50V, I_E= 0; f_{test}= 1MHz		35		pF
Switching Times						
t_{on}	Turn-On Time	I_C= 4A; I_{B1}= I_{B2}= 40mA; R_L= 25Ω ,V_{CC} =100V		1.0		μs
t_s	Storage Time			8.0		μs
t_f	Fall Time			5.0		μs

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