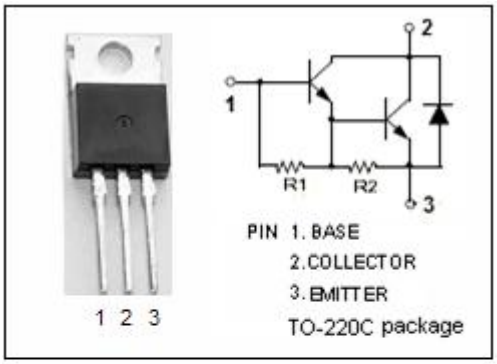
isc Silicon NPN Darlington Power Transistor — 2SD1141



DESCRIPTION

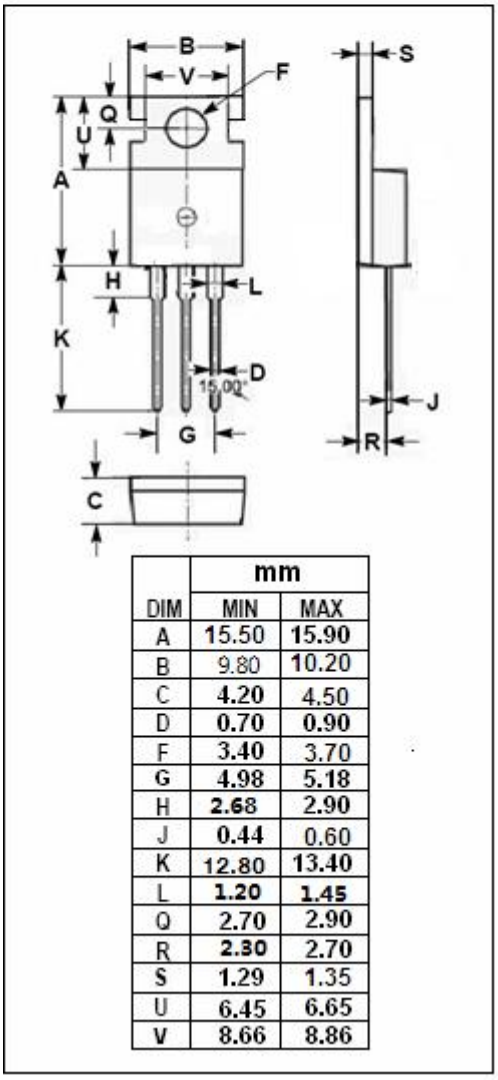
- Collector-Emitter Sustaining Voltage-
  : $V_{CEO(SUS)}$= 300V(Min)
- High DC Current Gain
  : h_{FE}= 500(Min)@I_C= 4A
- Minimum Lot-to-Lot variations for robust device performance and reliable operation

APPLICATIONS

- Designed for high voltage switching, igniter applications.

ABSOLUTE MAXIMUM RATINGS(T_a=25℃)

SYMBOL	PARAMETER	VALUE	UNIT
V_{CBO}	Collector-Base Voltage	400	V
V_{CEO}	Collector-Emitter Voltage	300	V
V_{EBO}	Emitter-Base Voltage	7	V
I_C	Collector Current-Continuous	6	A
I_{CM}	Collector Current-Peak	10	A
P_C	Collector Power Dissipation @ T_C=25℃	40	W
T_J	Junction Temperature	150	℃
T_{stg}	Storage Temperature Range	-55~150	℃



DIM	mm MIN	mm MAX
A	15.50	15.90
B	9.80	10.20
C	4.20	4.50
D	0.70	0.90
F	3.40	3.70
G	4.98	5.18
H	2.68	2.90
J	0.44	0.60
K	12.80	13.40
L	1.20	1.45
Q	2.70	2.90
R	2.30	2.70
S	1.29	1.35
U	6.45	6.65
V	8.66	8.86

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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; L= 10mH, PW= 50 μs; f= 50Hz	300			V
$V_{(BR)CBO}$	Collector-Base Breakdown Voltage	I_C= 0.1mA; I_E= 0	400			V
$V_{(BR)EBO}$	Emitter-Base Breakdown Voltage	I_E= 5mA; I_C= 0	7			V
$V_{CE(sat)}$	Collector-Emitter Saturation Voltage	I_C= 4A; I_B= 40mA			1.5	V
$V_{BE(sat)}$	Base-Emitter Saturation Voltage	I_C= 4A; I_B= 40mA			2.0	V
I_{CEO}	Collector Cutoff Current	V_{CE}= 300V; R_{BE}= ∞			100	μA
h_{FE}	DC Current Gain	I_C= 4A; V_{CE}= 2V	500			
Switching times						
t_{on}	Turn-on Time	I_C= 4A, I_{B1}= I_{B2}= 40mA		2.0		μs
t_{off}	Turn-Off Time			23		μs