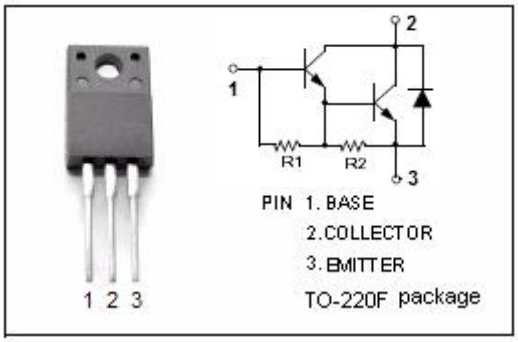
isc Silicon NPN Darlington Power Transistor 2SD2014

DESCRIPTION

- Collector-Emitter Breakdown Voltage-
  : $V_{(BR)CEO}$= 80V(Min)
- Collector-Emitter Saturation Voltage-
  : $V_{CE(sat)}$= 1.5V(Max) @I_C= 3A
- High DC Current Gain
  : h_{FE}= 2000(Min) @ I_C= 3A, V_{CE}= 2V
- Complement to Type 2SB1257
- Minimum Lot-to-Lot variations for robust device performance and reliable operation

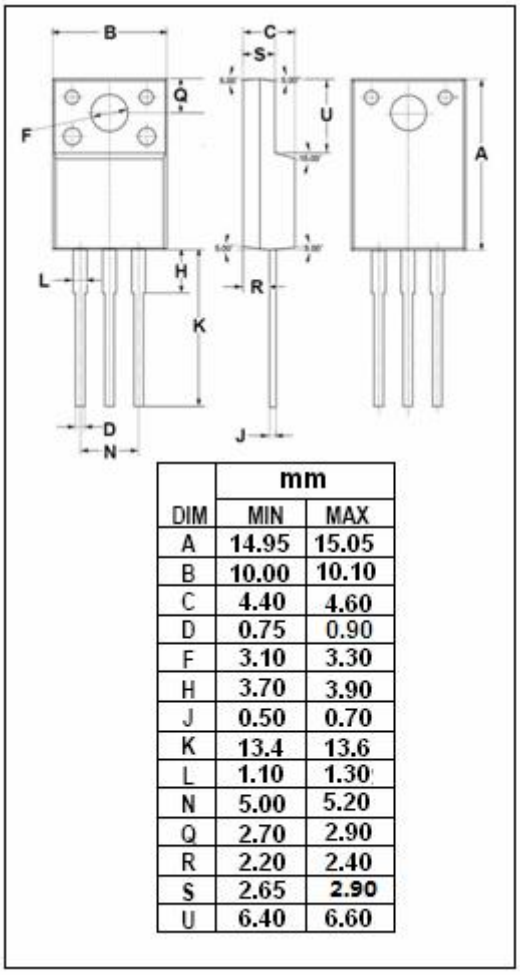


APPLICATIONS

- Designed of driver of solenoid, relay and motor, series regulator and general purpose applications

ABSOLUTE MAXIMUM RATINGS(T_a=25℃)

SYMBOL	PARAMETER	VALUE	UNIT
V_{CBO}	Collector-Base Voltage	120	V
V_{CEO}	Collector-Emitter Voltage	80	V
V_{EBO}	Emitter-Base Voltage	6	V
I_C	Collector Current-Continuous	4	A
I_B	Base Current-Continuous	0.5	A
P_C	Collector Power Dissipation @ T_C=25℃	25	W
T_J	Junction Temperature	150	℃
T_{stg}	Storage Temperature Range	-55~150	℃



DIM	mm MIN	MAX
A	14.95	15.05
B	10.00	10.10
C	4.40	4.60
D	0.75	0.90
F	3.10	3.30
H	3.70	3.90
J	0.50	0.70
K	13.4	13.6
L	1.10	1.30
N	5.00	5.20
Q	2.70	2.90
R	2.20	2.40
S	2.65	2.90
U	6.40	6.60

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ELECTRICAL CHARACTERISTICS

T_C=25℃ unless otherwise specified

SYMBOL	PARAMETER	CONDITIONS	MIN	TYP.	MAX	UNIT
$V_{(BR)CEO}$	Collector-Emitter Breakdown Voltage	I_C= 10mA ; I_B= 0	80			V
$V_{CE(sat)}$	Collector-Emitter Saturation Voltage	I_C= 3A; I_B= 3mA			1.5	V
$V_{BE(sat)}$	Base-Emitter Saturation Voltage	I_C= 3A; I_B= 3mA			2.0	V
I_{CBO}	Collector Cutoff Current	V_{CB}= 120V; I_E= 0			10	μA
I_{EBO}	Emitter Cutoff Current	V_{EB}= 6V; I_C= 0			10	mA
h_{FE}	DC Current Gain	I_C= 3A ; V_{CE}= 2V	2000			
f_T	Current-Gain—Bandwidth Product	I_E= -0.1A ; V_{CE}= 12V		75		MHz
C_{OB}	Output Capacitance	I_E= 0; V_{CB}= 10V,f_{test}= 1MHz		45		pF
Switching times						
t_{on}	Turn-on Time	I_C= 3A; I_{B1}= I_{B2}= 10mA; R_L= 10Ω ; V_{CC}= 30V		1.0		μs
t_{stg}	Storage Time			4.0		μs
t_f	Fall Time			1.5		μs

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