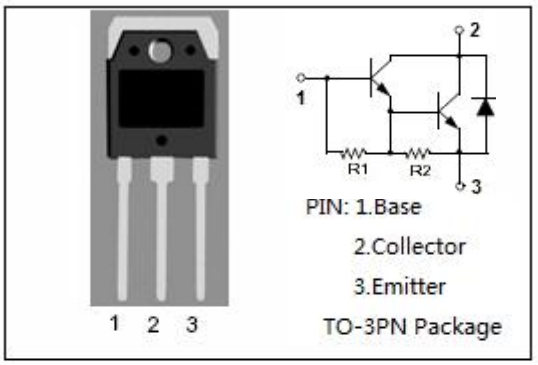
isc Silicon NPN Darlington Power Transistor — 2SD2083

DESCRIPTION

- High DC Current Gain
  : h_{FE}= 2000(Min.)@ I_C= 12A, V_{CE}= 4V
- High Collector-Emitter Breakdown Voltage-
  : $V_{(BR)CEO}$ = 120V(Min)
- Complement to Type 2SB1383
- Minimum Lot-to-Lot variations for robust device performance and reliable operation

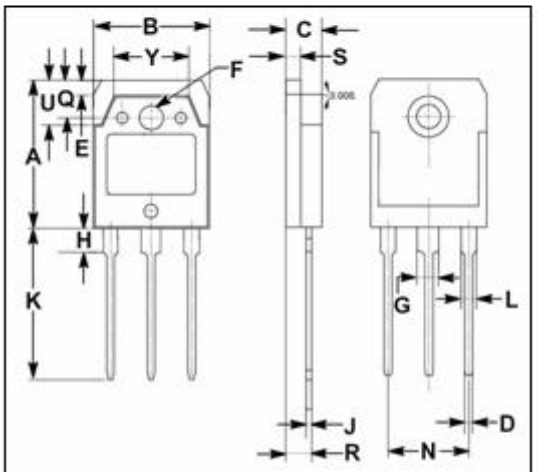


APPLICATIONS

- Designed for driver of solenoid, motor 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	120	V
V_{EBO}	Emitter-Base Voltage	6	V
I_C	Collector Current-Continuous	25	A
I_{CM}	Collector Current-Peak	40	A
I_B	Base Current- Continuous	2	A
P_C	Collector Power Dissipation @T_C=25℃	120	W
T_j	Junction Temperature	150	℃
T_{stg}	Storage Temperature Range	-55~150	℃



DIM	mm MIN	MAX
A	19.60	20.30
B	15.50	15.70
C	4.70	4.90
D	0.90	1.10
E	1.90	2.10
F	3.40	3.60
G	2.90	3.20
H	3.20	3.40
J	0.595	0.605
K	19.80	20.70
L	1.90	2.20
N	10.89	10.91
Q	4.90	5.10
R	3.35	3.45
S	1.995	2.100
U	5.90	6.20
Y	9.90	10.10

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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= 25mA ,I_B= 0	120			V
$V_{CE(sat)}$	Collector-Emitter Saturation Voltage	I_C= 12A ,I_B= 24mA			1.8	V
$V_{BE(sat)}$	Base-Emitter Saturation Voltage	I_C= 12A ,I_B= 24mA			2.5	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= 12A ; V_{CE}= 4V	2000			
C_{OB}	Output Capacitance	I_E= 0; V_{CB}= 10V; f_{test}= 1MHz		340		pF
f_T	Current-Gain—Bandwidth Product	I_E= -1A ; V_{CE}= 12V		20		MHz