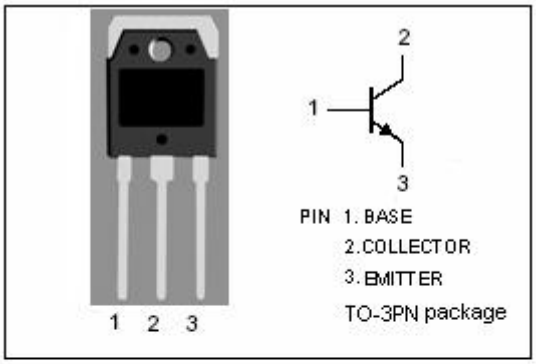
isc Silicon NPN Power Transistor — 2SC4157

DESCRIPTION

- High Collector-Emitter Breakdown Voltage-
  : $V_{(BR)CEO}$= 450V(Min)
- High Switching Speed
- 100% avalanche tested
- Minimum Lot-to-Lot variations for robust device performance and reliable operation

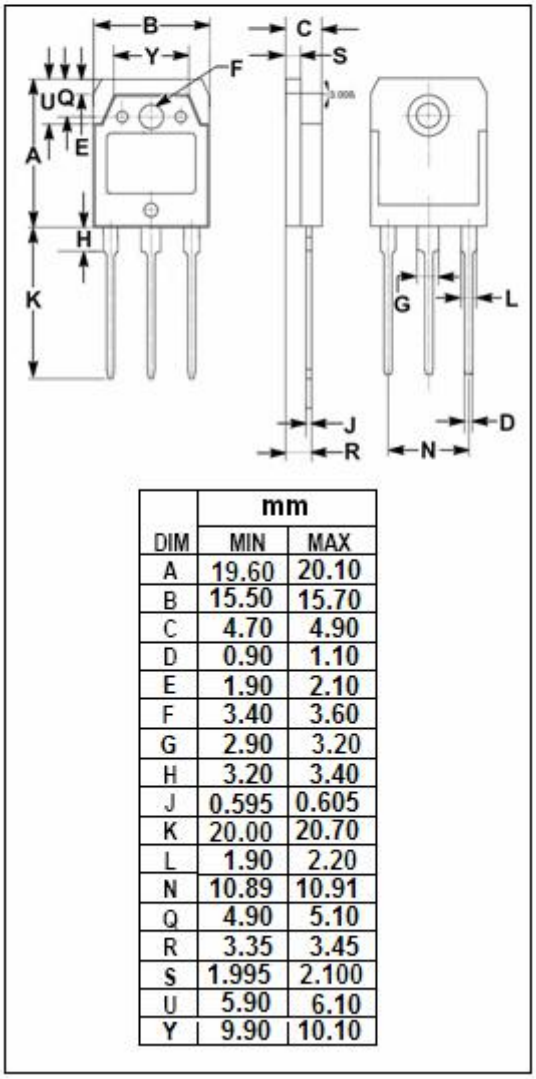


APPLICATIONS

- Switching regulator and high voltage switching applications.
- High speed DC-DC converter applications.

ABSOLUTE MAXIMUM RATINGS(T_a=25℃)

SYMBOL	PARAMETER	VALUE	UNIT
V_{CBO}	Collector-Base Voltage	600	V
V_{CEO}	Collector-Emitter Voltage	450	V
V_{EBO}	Emitter-Base voltage	8	V
I_C	Collector Current-Continuous	10	A
I_{CM}	Collector Current-Pulse	20	A
I_B	Base Current-Continuous	5	A
P_C	Collector Power Dissipation @ T_C=25℃	100	W
T_J	Junction Temperature	150	℃
T_{stg}	Storage Temperature Range	-55~150	℃



DIM	mm MIN	MAX
A	19.60	20.10
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	20.00	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	6.10
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= 10mA ; I_B= 0	450			V
$V_{(BR)CBO}$	Collector-Base Breakdown Voltage	I_C= 1mA ; I_E= 0	600			V
$V_{CE(sat)}$	Collector-Emitter Saturation Voltage	I_C= 5A; I_B= 1A			1.0	V
$V_{BE(sat)}$	Base-Emitter Saturation Voltage	I_C= 5A; I_B= 1A			2.0	V
I_{CBO}	Collector Cutoff Current	V_{CB}= 500V; I_E= 0			0.1	mA
I_{EBO}	Emitter Cutoff Current	V_{EB}= 8V; I_C= 0			1.0	mA
h_{FE}	DC Current Gain	I_C= 5A; V_{CE}= 5V	15			
Switching times						
t_r	Rise Time	$V_{CC}\approx$ 200V , I_{B1}= -I_{B2}= 0.5A R_L= 40Ω ;P_W=20μs Duty Cycle≤1%			0.5	μs
t_{stg}	Storage Time				2.5	μs
t_f	Fall Time				0.5	μs

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