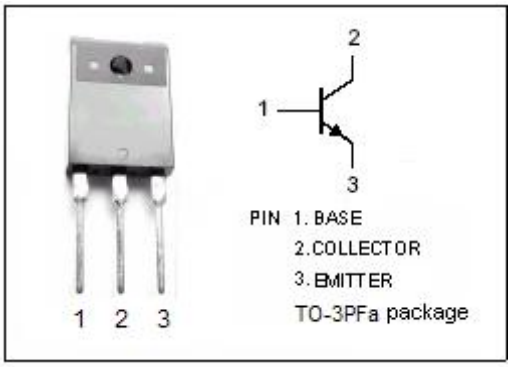
isc Silicon NPN Power Transistor 2SC3981

DESCRIPTION

- Collector-Base Breakdown Voltage-
  : $V_{(BR)CBO}$= 900V(Min.)
- Wide Area of Safe Operation
- High Speed Switching
- Minimum Lot-to-Lot variations for robust device performance and reliable operation

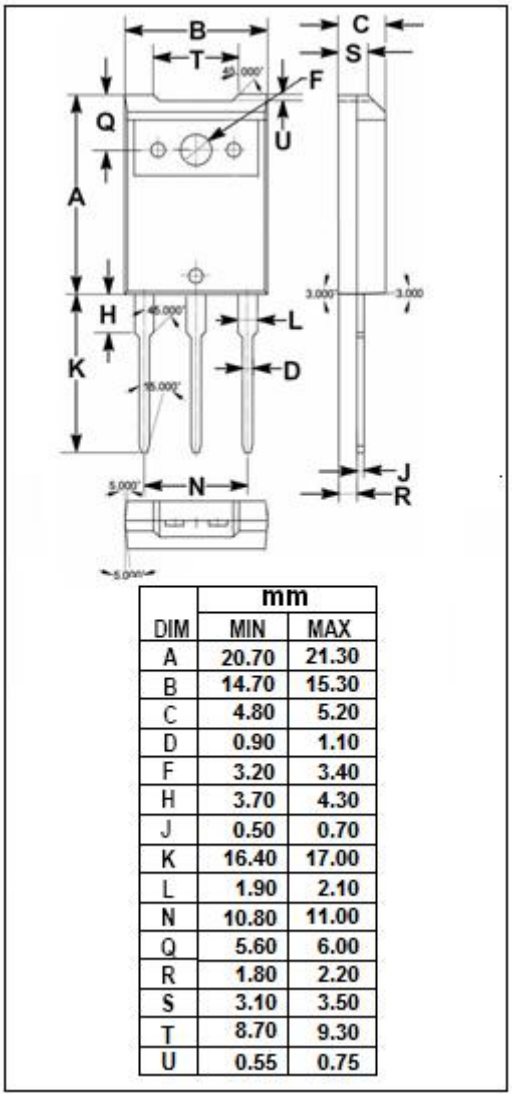


APPLICATIONS

- Designed for high speed switching applications.

ABSOLUTE MAXIMUM RATINGS (T_a=25℃)

SYMBOL	PARAMETER	VALUE	UNIT
V_{CBO}	Collector-Base Voltage	900	V
V_{CES}	Collector-Emitter Voltage	900	V
V_{CEO}	Collector-Emitter Voltage	800	V
V_{EBO}	Emitter-Base Voltage	7	V
I_C	Collector Current-Continuous	5	A
I_{CM}	Collector Current-Peak	10	A
I_B	Base Current-Continuous	3	A
P_C	Collector Power Dissipation @T_a=25℃	3	W
	Collector Power Dissipation @T_C=25℃	80	
T_j	Junction Temperature	150	℃
T_{stg}	Storage Temperature Range	-55~150	℃



DIM	mm MIN	MAX
A	20.70	21.30
B	14.70	15.30
C	4.80	5.20
D	0.90	1.10
F	3.20	3.40
H	3.70	4.30
J	0.50	0.70
K	16.40	17.00
L	1.90	2.10
N	10.80	11.00
Q	5.60	6.00
R	1.80	2.20
S	3.10	3.50
T	8.70	9.30
U	0.55	0.75

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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	800			V
$V_{CE(sat)}$	Collector-Emitter Saturation Voltage	I_C= 3A; I_B= 0.6A			1.5	V
$V_{BE(sat)}$	Base-Emitter Saturation Voltage	I_C= 3A; I_B= 0.6A			1.5	V
I_{CBO}	Collector Cutoff Current	V_{CB}= 900V; I_E= 0			50	μA
I_{EBO}	Emitter Cutoff Current	V_{EB}= 7V; I_C= 0			50	μA
h_{FE-1}	DC Current Gain	I_C= 0.1A; V_{CE}= 5V	8			
h_{FE-2}	DC Current Gain	I_C= 3A; V_{CE}= 5V	6			
f_T	Current-Gain—Bandwidth Product	I_C= 0.5A; V_{CE}= 5V; f= 1MHz		15		MHz
Switching Times						
t_{on}	Turn-on Time	I_C= 3A; I_{B1}= 0.6A; I_{B2}= -1.2A; V_{CC}= 250V			0.7	μs
t_s	Storage Time				2.5	μs
t_f	Fall Time				0.3	μs