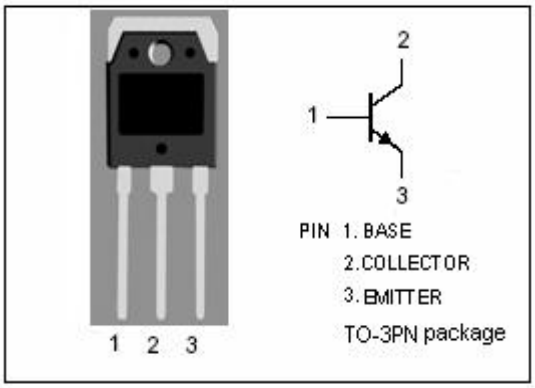
isc Silicon NPN Power Transistor — 2SC3850

DESCRIPTION

- High Collector-Emitter Sustaining Voltage-
  : $V_{CEO(SUS)}$= 400V(Min)
- Good Linearity of h_{FE}
- High Collector Current
- Minimum Lot-to-Lot variations for robust device performance and reliable operation

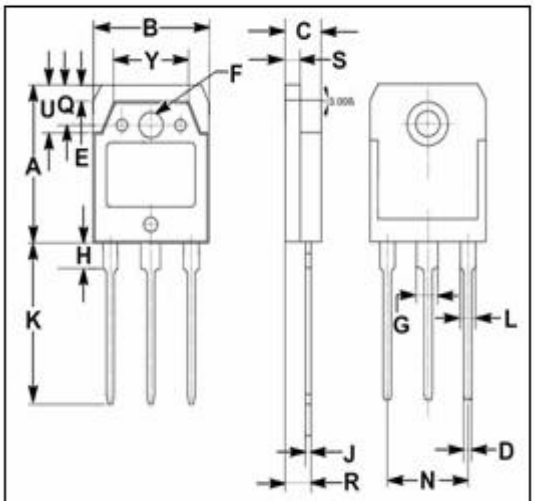


APPLICATIONS

- Designed for power switching and general purpose applications.

ABSOLUTE MAXIMUM RATINGS(T_a=25℃)

SYMBOL	PARAMETER	VALUE	UNIT
V_{CBO}	Collector-Base Voltage	500	V
V_{CES}	Collector-Emitter Voltage	500	V
V_{CEO}	Collector-Emitter Voltage	400	V
V_{EBO}	Emitter-Base voltage	7	V
I_C	Collector Current-Continuous	20	A
I_{CM}	Collector Current-Peak	30	A
I_B	Base Current-Continuous	6	A
P_C	Collector Power Dissipation @ T_C=25℃	125	W
	Collector Power Dissipation @ T_a=25℃	2.5	
T_J	Junction Temperature	150	℃
T_{stg}	Storage Temperature Range	-55~150	℃



DIM	mm MIN	mm 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

isc Silicon NPN Power Transistor 2SC3850

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; I_B=0	400			V
$V_{CE(sat)}$	Collector-Emitter Saturation Voltage	I_C= 10A; I_B= 2A			1.0	V
$V_{BE(sat)}$	Base-Emitter Saturation Voltage	I_C= 10A; I_B= 2A			1.5	V
I_{CBO}	Collector Cutoff Current	V_{CB}= 500V ; I_E= 0			100	μA
I_{EBO}	Emitter Cutoff Current	V_{EB}= 7V; I_C= 0			100	μA
h_{FE-1}	DC Current Gain	I_C= 2A ; V_{CE}= 5V	15			
h_{FE-2}	DC Current Gain	I_C= 10A ; V_{CE}= 5V	10			
f_T	Current-Gain—Bandwidth Product	I_C= 1A ; V_{CE}= 10V; f= 1MHz		15		MHz
Switching Times						
t_{on}	Turn-on Time	I_C= 10A, I_{B1}= -I_{B2}= 2A; V_{CC}= 125V			1.0	μs
t_{stg}	Storage Time				2.5	μs
t_f	Fall Time				1.0	μs