

isc Silicon NPN Power Transistor
2SC3850
DESCRIPTION

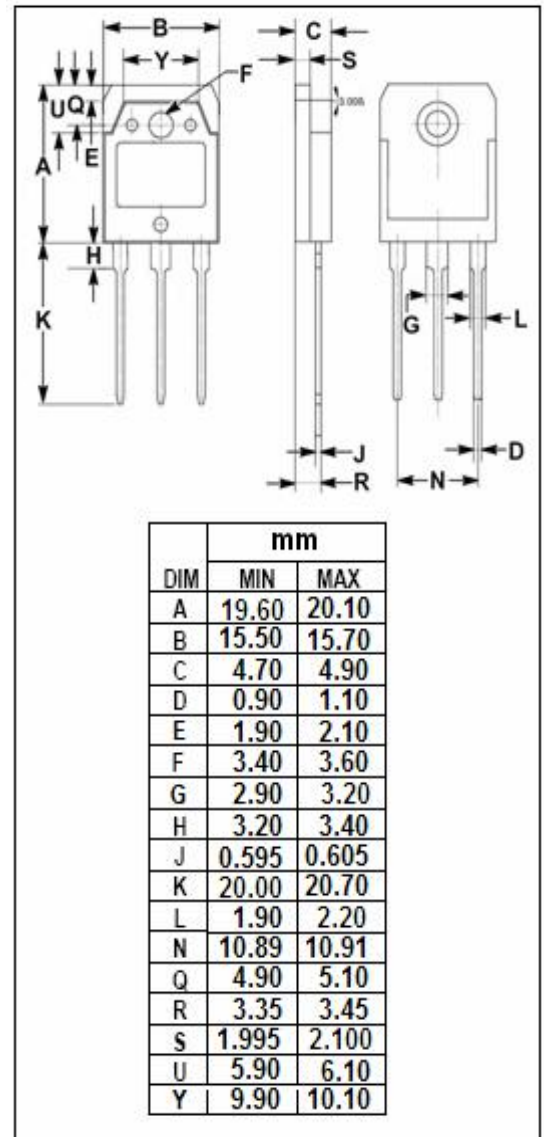
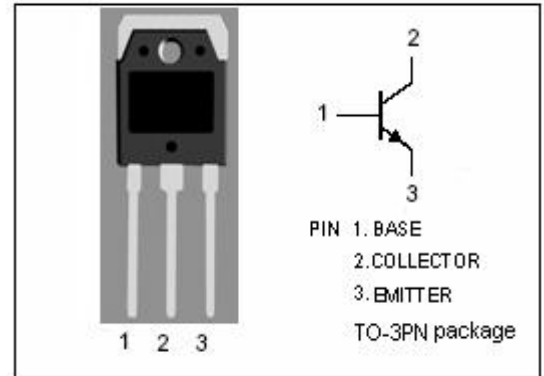
- High Collector-Emitter Sustaining Voltage-
: $V_{CEO(SUS)} = 400V(\text{Min})$
- Good Linearity of h_{FE}
- High Collector Current
- Minimum Lot-to-Lot variations for robust device performance and reliable operation

APPLICATIONS

- Designed for power switching and general purpose applications.

ABSOLUTE MAXIMUM RATINGS ($T_a = 25^\circ\text{C}$)

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 @ $T_c = 25^\circ\text{C}$	125	W
	Collector Power Dissipation @ $T_a = 25^\circ\text{C}$	2.5	
T_J	Junction Temperature	150	$^\circ\text{C}$
T_{stg}	Storage Temperature Range	-55~150	$^\circ\text{C}$



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ELECTRICAL CHARACTERISTICS

T_c=25°C 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	μ A
I _{EBO}	Emitter Cutoff Current	V _{EB} = 7V; I _C = 0			100	μ A
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	μ s
t _{stg}	Storage Time				2.5	μ s
t _f	Fall Time				1.0	μ s

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