

isc Silicon NPN Power Transistor

2SC4060

DESCRIPTION

- High Collector-Emitter Sustaining Voltage-
: $V_{CEO(SUS)} = 450V(\text{Min})$
- High Switching Speed
- High Reliability
- Minimum Lot-to-Lot variations for robust device performance and reliable operation

APPLICATIONS

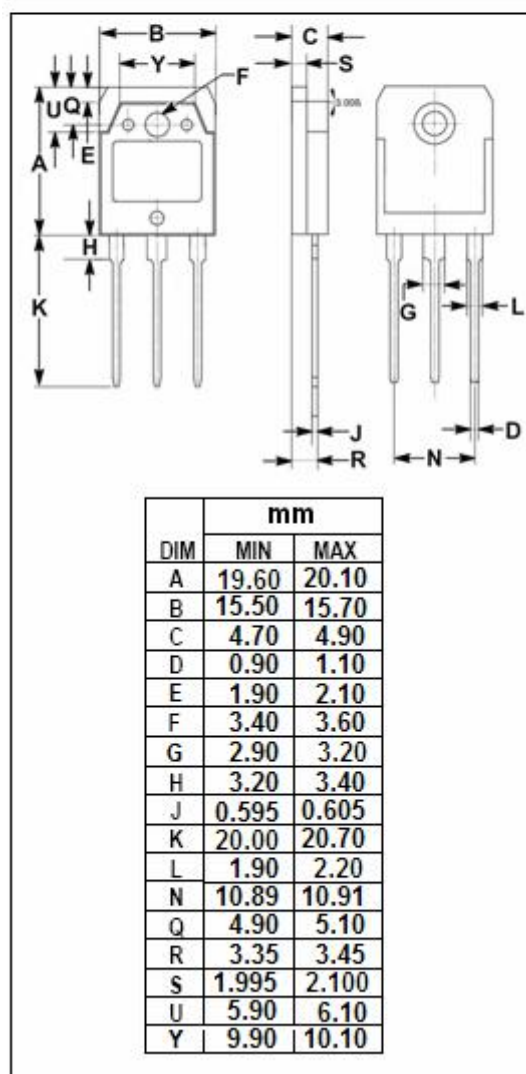
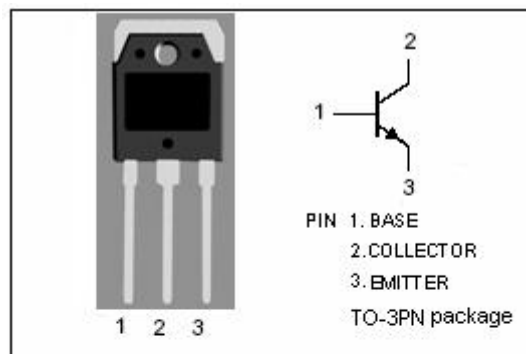
- Designed for switching regulator and general purpose applications.

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

SYMBOL	PARAMETER	VALUE	UNIT
V_{CBO}	Collector-Base Voltage	600	V
V_{CEO}	Collector-Emitter Voltage	450	V
V_{EBO}	Emitter-Base voltage	7	V
I_C	Collector Current-Continuous	20	A
I_{CM}	Collector Current-Peak	40	A
I_B	Base Current-Continuous	7	A
I_{BM}	Base Current-Peak	14	A
P_C	Collector Power Dissipation @ $T_C=25^\circ\text{C}$	150	W
T_J	Junction Temperature	150	$^\circ\text{C}$
T_{stg}	Storage Temperature Range	-55~150	$^\circ\text{C}$

THERMAL CHARACTERISTICS

SYMBOL	PARAMETER	MAX	UNIT
$R_{th\ j-c}$	Thermal Resistance, Junction to Case	0.83	$^\circ\text{C}/\text{W}$



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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	450			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} = 600V; I _E = 0			0.1	mA
I _{CEO}	Collector Cutoff Current	V _{CE} = 450V; I _B = 0			0.1	mA
I _{EBO}	Emitter Cutoff Current	V _{EB} = 7V; I _C = 0			0.1	mA
h _{FE-1}	DC Current Gain	I _C = 10A; V _{CE} = 5V	10			
h _{FE-2}	DC Current Gain	I _C = 1mA; V _{CE} = 5V	5			
f _T	Current-Gain—Bandwidth Product	I _C = 2A; V _{CE} = 10V		20		MHz

Switching Times

t _{on}	Turn-on Time	I _C = 10A, I _{B1} = 2A; I _{B2} = -4A R _L = 15 Ω; V _{BB2} = 4V			0.5	μs
t _{stg}	Storage Time				2.0	μs
t _f	Fall Time				0.2	μs

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