

isc Silicon NPN Power Transistor

ISC13009

DESCRIPTION

- High Collector-Emitter Breakdown Voltage-
: $V_{(BR)CEO} = 400V(\text{Min})$
- Minimum Lot-to-Lot variations for robust device performance and reliable operation

APPLICATIONS

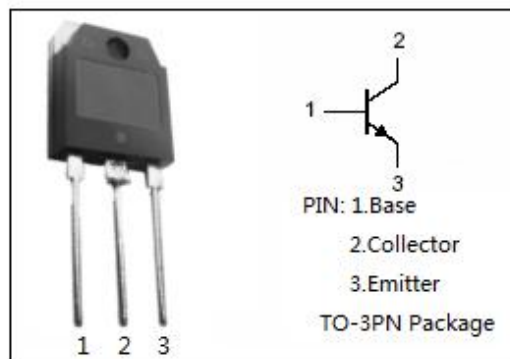
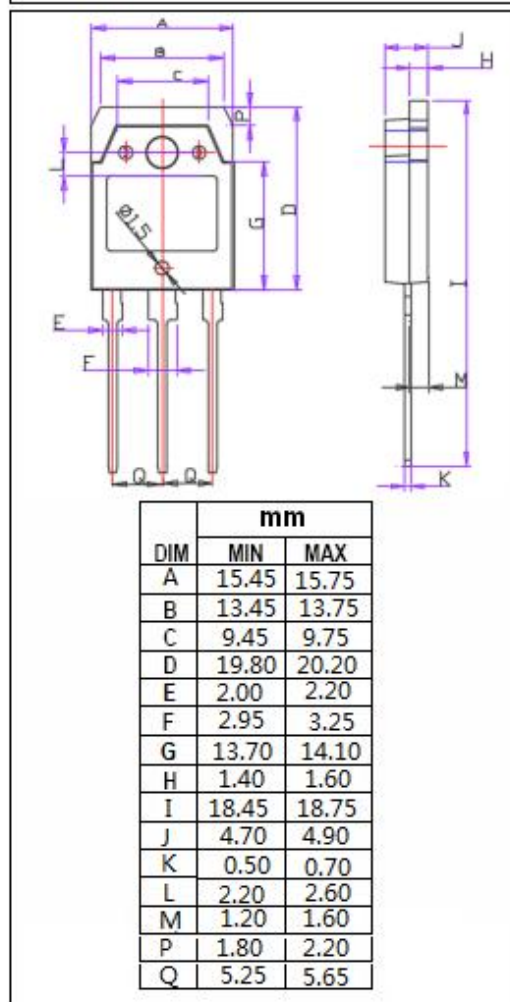
- Switching regulators
- Ultrasonic generators
- High frequency inverters
- General purpose power amplifiers

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

SYMBOL	PARAMETER	VALUE	UNIT
V_{CBO}	Collector-Base Voltage	700	V
V_{CEO}	Collector-Emitter Voltage	400	V
V_{EBO}	Emitter-Base voltage	9	V
I_C	Collector Current-Continuous	12	A
P_C	Collector Power Dissipation @ $T_C=25^\circ\text{C}$	130	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	1.04	$^\circ\text{C/W}$



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ELECTRICAL CHARACTERISTICS

T_C=25°C unless otherwise specified

SYMBOL	PARAMETER	CONDITIONS	MIN	TYP.	MAX	UNIT
V _{(BR)CEO}	Collector-Emitter Breakdown Voltage	I _C = 10mA ; I _B = 0	400			V
V _{(BR)CBO}	Collector-Base Breakdown Voltage	I _C = 1mA ; I _E = 0	700			V
V _{(BR)EBO}	Emitter-Base Breakdown Voltage	I _E = 0.1mA ; I _C = 0	9			V
V _{CE(sat)}	Collector-Emitter Saturation Voltage	I _C = 5A; I _B = 1A			1.0	V
		I _C = 8A; I _B = 1.6A			1.5	
		I _C = 12A; I _B = 3A			3.0	
V _{BE(sat)}	Base-Emitter Saturation Voltage	I _C =5A; I _B = 1A			1.2	V
		I _C = 8A; I _B = 1.6A			1.6	
I _{CBO}	Collector Cutoff Current	V _{CB} = 450V ; I _E =0			1.0	mA
I _{EBO}	Emitter Cutoff Current	V _{EB} = 7V; I _C =0			1	mA
h _{FE}	DC Current Gain	I _C = 5A ; V _{CE} = 5V	10		40	
		I _C = 8A ; V _{CE} = 5V	6			

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