

isc Silicon NPN Power Transistor

BUY23

DESCRIPTION

- Collector-Emitter Breakdown Voltage-
: $V_{(BR)CEO} = 250V(\text{Min.})$
- Excellent Safe Operating Area
- High Speed Switching
- Minimum Lot-to-Lot variations for robust device performance and reliable operation

APPLICATIONS

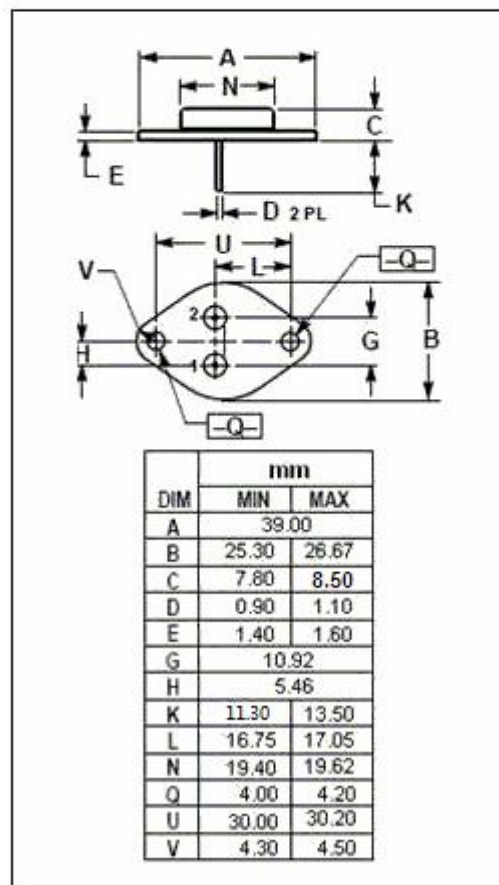
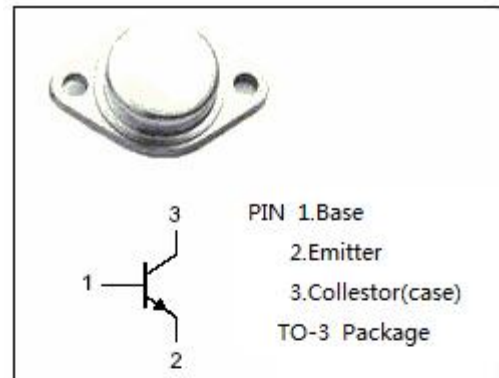
- Designed for use in switching-control amplifiers, power gates, switching regulators, converters, and inverter.

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	250	V
V_{EBO}	Emitter-Base Voltage	7	V
I_C	Collector Current-Continuous	10	A
I_{CM}	Collector Current-Peak	15	A
I_B	Base Current-Continuous	2	A
P_T	Total Power Dissipation @ $T_C \leq 25^\circ\text{C}$	100	W
T_J	Junction Temperature	175	$^\circ\text{C}$
T_{stg}	Storage Temperature Range	-65~175	$^\circ\text{C}$

THERMAL CHARACTERISTICS

SYMBOL	PARAMETER	MAX	UNIT
$R_{th\ j-c}$	Thermal Resistance, Junction to Case	1.25	$^\circ\text{C/W}$



isc Silicon NPN Power Transistor**BUY23****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	250			V
V _{CE(sat)-1}	Collector-Emitter Saturation Voltage	I _C = 5A; I _B = 0.5A			0.5	V
V _{CE(sat)-2}	Collector-Emitter Saturation Voltage	I _C = 10A; I _B = 1A			1.5	V
V _{BE(sat)-1}	Base-Emitter Saturation Voltage	I _C = 5A; I _B = 0.5A			1.2	V
V _{BE(sat)-2}	Base-Emitter Saturation Voltage	I _C = 10A; I _B = 1A			1.5	V
I _{CBO}	Collector Cutoff Current	V _{CB} =600V; I _E =0			0.1	mA
I _{EBO}	Emitter Cutoff current	V _{EB} =6V; I _C =0			0.1	mA
h _{FE-1}	DC Current Gain	I _C = 1A ; V _{CE} = 5V	60			
h _{FE-2}	DC Current Gain	I _C = 2.5A ; V _{CE} = 5V	20		200	
h _{FE-3}	DC Current Gain	I _C = 10A ; V _{CE} = 5V	10			
f _T	Current-Gain—Bandwidth Product	I _C = 0.5 A; V _{CE} = 10V; f _{test} = 1MHz	10			MHz

NOTICE:

ISC reserves the rights to make changes of the content herein the datasheet at any time without notification. The information contained herein is presented only as a guide for the applications of our products.

ISC products are intended for usage in general electronic equipment. The products are not designed for use in equipment which require specialized quality and/or reliability, or in equipment which could have applications in hazardous environments, aerospace industry, or medical field. Please contact us if you intend our products to be used in these special applications.

ISC makes no warranty or guarantee regarding the suitability of its products for any particular purpose, nor does ISC assume any liability arising from the application or use of any products, and specifically disclaims any and all liability, including without limitation special, consequential or incidental damages.