

isc Silicon NPN Power Transistor

3DD523

DESCRIPTION

- Excellent safe operating area
- Low Collector-Emitter Saturation Voltage
- Minimum Lot-to-Lot variations for robust device performance and reliable operation

APPLICATIONS

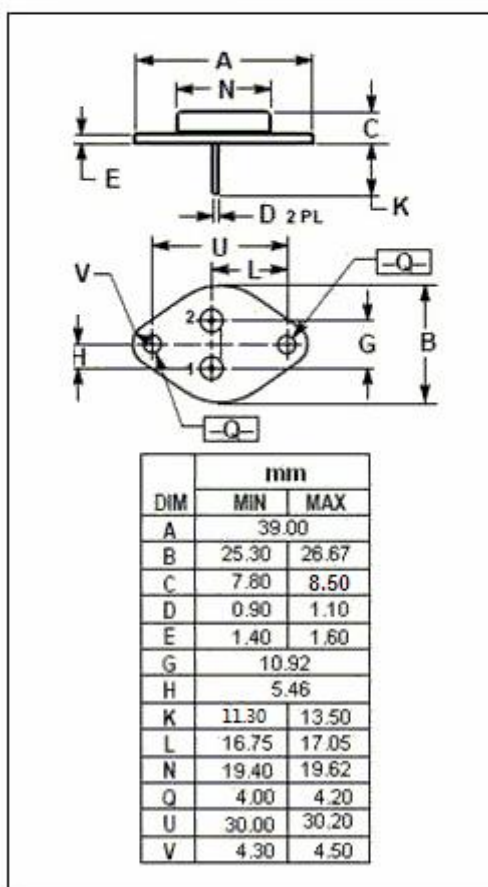
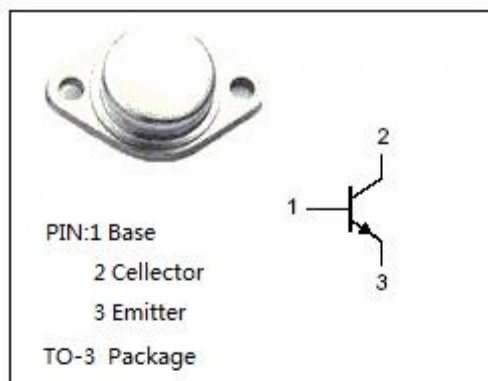
- Designed for general purpose switching and amplifier applications

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

SYMBOL	PARAMETER	VALUE	UNIT
V_{CBO}	Collector-Base Voltage	150	V
V_{CEO}	Collector-Emitter Voltage	150	V
V_{EBO}	Emitter-Base Voltage	7	V
I_C	Collector Current-Continuous	10	A
P_C	Collector Power Dissipation @ $T_C=25^\circ\text{C}$	100	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	1.52	$^\circ\text{C/W}$



ELECTRICAL CHARACTERISTICS**T_C=25℃ unless otherwise specified**

SYMBOL	PARAMETER	CONDITIONS	MIN	TYP.	MAX	UNIT
V _{(BR)CEO}	Collector-Emitter Breakdown Voltage	I _C = 30mA; I _B = 0	150			V
V _{(BR)EBO}	Emitter-Base Breakdown Voltage	I _E = 1mA; I _C = 0	7			V
V _{(BR)CBO}	Collector-Base Breakdown Voltage	I _C = 5mA; I _E = 0	150			V
V _{CE(sat)} -1	Collector-Emitter Saturation Voltage	I _C = 4A; I _B = 0.4A			1.1	V
V _{CE(sat)} -2	Collector-Emitter Saturation Voltage	I _C = 10A ;I _B = 3.3A			3.0	V
V _{BE(sat)}	Base-Emitter Saturation Voltage	I _C = 4A ;I _B = 4A			1.5	V
I _{CBO}	Collector Cutoff Current	V _{CB} = 150V; I _E = 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 = 5A; V _{CE} = 5V	55		80	
h _{FE-2}	DC Current Gain	I _C = 10A; V _{CE} = 5V	5			

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