

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

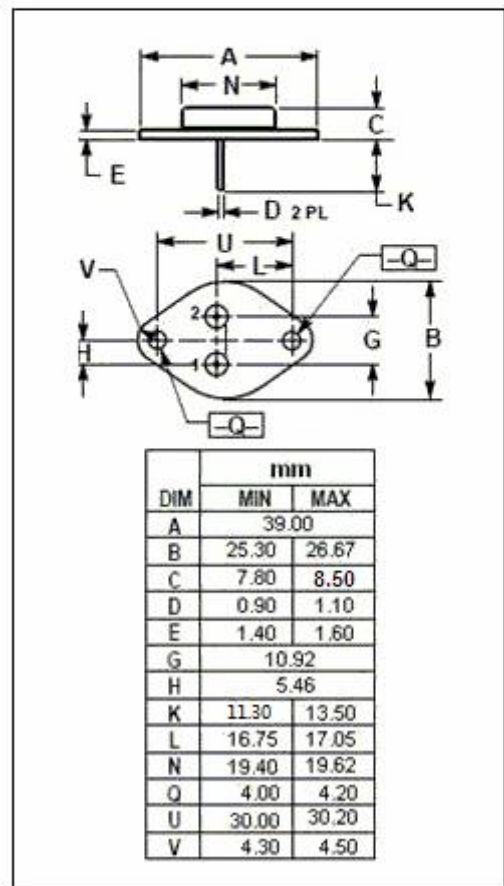
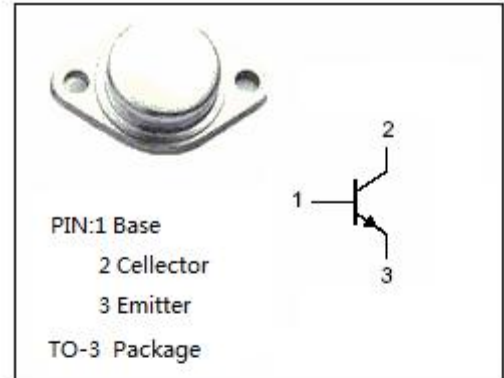
- Designed for general purpose switching and amplifier applications

ABSOLUTE MAXIMUM RATINGS(T_a=25°C)

SYMBOL	PARAMETER	VALUE	UNIT
V _{CB0}	Collector-Base Voltage	150	V
V _{CEO}	Collector-Emitter Voltage	150	V
V _{EB0}	Emitter-Base Voltage	7	V
I _C	Collector Current-Continuous	10	A
P _C	Collector Power Dissipation @ T _C =25°C	100	W
T _J	Junction Temperature	150	°C
T _{stg}	Storage Temperature Range	-55~150	°C

THERMAL CHARACTERISTICS

SYMBOL	PARAMETER	MAX	UNIT
R _{th j-c}	Thermal Resistance, Junction to Case	1.52	°C/W



ELECTRICAL CHARACTERISTICS
 $T_c=25^{\circ}\text{C}$ unless otherwise specified

SYMBOL	PARAMETER	CONDITIONS	MIN	TYP.	MAX	UNIT
$V_{(BR)CEO}$	Collector-Emitter Breakdown Voltage	$I_C= 30\text{mA}; I_B= 0$	150			V
$V_{(BR)EBO}$	Emitter-Base Breakdown Voltage	$I_E= 1\text{mA}; I_C= 0$	7			V
$V_{(BR)CBO}$	Collector-Base Breakdown Voltage	$I_C= 5\text{mA}; I_E= 0$	150			V
$V_{CE(sat)-1}$	Collector-Emitter Saturation Voltage	$I_C= 4\text{A}; I_B= 0.4\text{A}$			1.1	V
$V_{CE(sat)-2}$	Collector-Emitter Saturation Voltage	$I_C= 10\text{A}; I_B= 3.3\text{A}$			3.0	V
$V_{BE(sat)}$	Base-Emitter Saturation Voltage	$I_C= 4\text{A}; I_B= 4\text{A}$			1.5	V
I_{CBO}	Collector Cutoff Current	$V_{CB}= 150\text{V}; I_E= 0$			0.1	mA
I_{EBO}	Emitter Cutoff Current	$V_{EB}= 7\text{V}; I_C= 0$			0.1	mA
h_{FE-1}	DC Current Gain	$I_C= 5\text{A}; V_{CE}= 5\text{V}$	55		80	
h_{FE-2}	DC Current Gain	$I_C= 10\text{A}; V_{CE}= 5\text{V}$	5			

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