

isc Silicon NPN Power Transistor**MJ12003****DESCRIPTION**

- Collector-Emitter Sustaining Voltage-
: $V_{CEO(SUS)} = 750V(\text{Min})$
- High Switching Speed
- Wide Area of Safe Operation
- Minimum Lot-to-Lot variations for robust device performance and reliable operation

APPLICATIONS

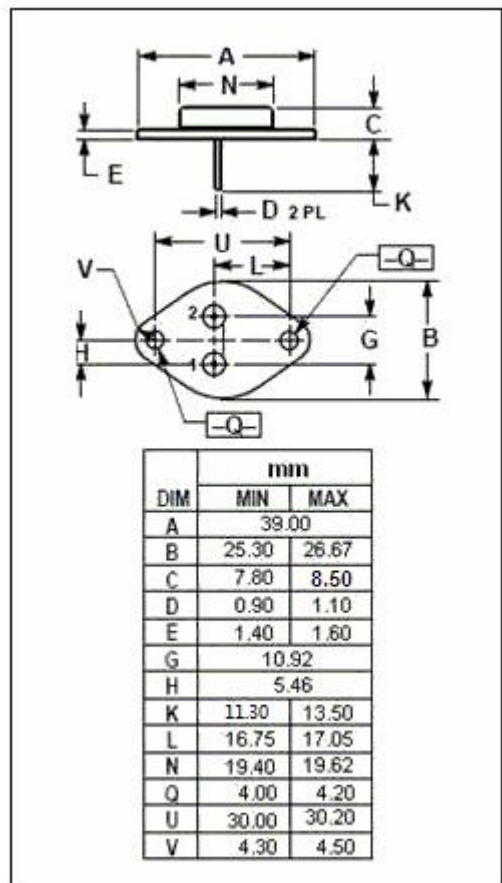
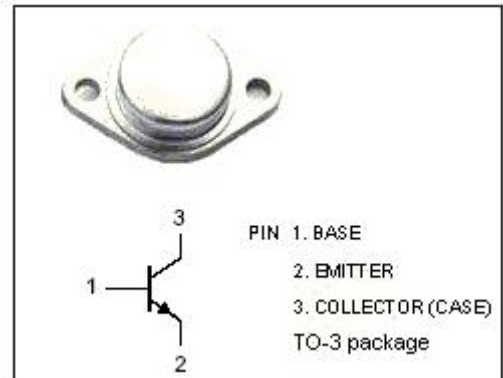
- Designed for use in CRT deflection circuits.

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

SYMBOL	PARAMETER	VALUE	UNIT
V_{CBO}	Collector- Base Voltage	1500	V
$V_{CEO(SUS)}$	Collector-Emitter Voltage	750	V
V_{EBO}	Emitter-Base Voltage	5	V
I_C	Collector Current-Continuous	4	A
I_B	Base Current-Continuous	3	A
I_E	Emitter Current-Continuous	7	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	-65~150	$^\circ\text{C}$

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**MJ12003****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 =10mA ; I _B =0	750			V
V _{CE(sat)}	Collector-Emitter Saturation Voltage	I _C = 3A; I _B = 1.2A			5.0	V
V _{BE(sat)}	Base-Emitter Saturation Voltage	I _C = 3A; I _B = 1.2A			1.5	V
I _{CBO}	Collector Cutoff Current	V _{CB} = 1500V; I _E = 0			1.0	mA
I _{EBO}	Emitter Cutoff Current	V _{EB} = 5V; I _C =0			1.0	mA
h _{FE}	DC Current Gain	I _C = 0.5A ; V _{CE} = 5V	6			
f _T	Current-Gain—Bandwidth Product	I _C = 0.1A; V _{CE} = 5V; f _{test} =1.0MHz		4		MHz
C _{OB}	Output Capacitance	I _E = 0; V _{CB} = 10V; f _{test} =0.1MHz		90		pF
t _f	Fall Time	I _C = 3A , I _{B1} = 1.2A; L _B = 8 μ H		0.5	1.0	μ s

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