

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

APPLICATIONS

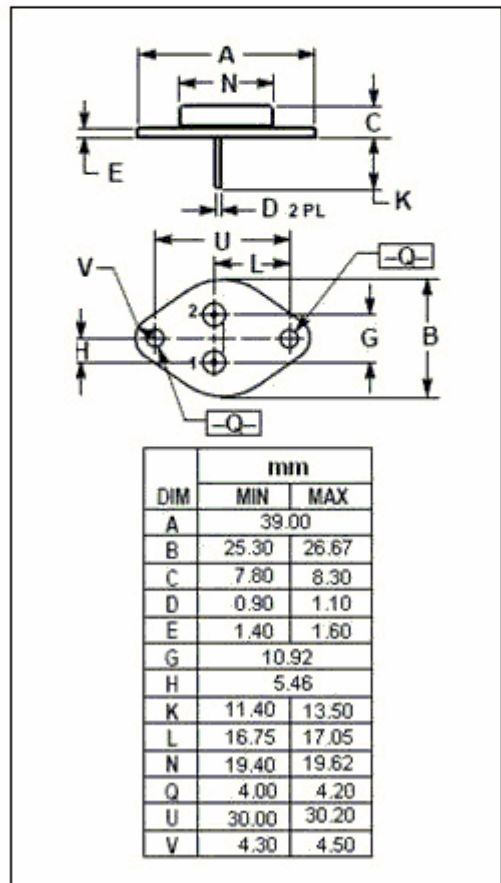
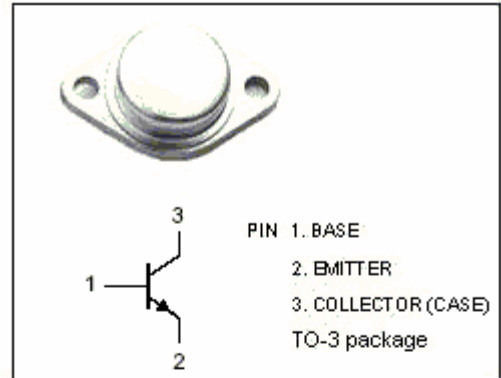
- Designed for use in CRT deflection circuits.

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

SYMBOL	PARAMETER	VALUE	UNIT
V_{CEX}	Collector-Emitter 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** $T_C=25^{\circ}\text{C}$ unless otherwise specified

SYMBOL	PARAMETER	CONDITIONS	MIN	TYP.	MAX	UNIT
$V_{CEO(SUS)}$	Collector-Emitter Sustaining Voltage	$I_C=50\text{mA}$; $I_B=0$	750			V
$V_{CE(sat)}$	Collector-Emitter Saturation Voltage	$I_C= 3\text{A}$; $I_B= 1.2\text{A}$			5.0	V
$V_{BE(sat)}$	Base-Emitter Saturation Voltage	$I_C= 3\text{A}$; $I_B= 1.2\text{A}$			1.5	V
I_{CES}	Collector Cutoff Current	$V_{CE}= 1500\text{V}$; $V_{BE}= 0$			1.0	mA
I_{EBO}	Emitter Cutoff Current	$V_{EB}= 5\text{V}$; $I_C=0$			1.0	mA
h_{FE}	DC Current Gain	$I_C= 0.5\text{A}$; $V_{CE}= 5\text{V}$	6			
f_T	Current-Gain—Bandwidth Product	$I_C= 0.1\text{A}$; $V_{CE}= 5\text{V}$; $f_{test}=1.0\text{MHz}$		4		MHz
C_{OB}	Output Capacitance	$I_E= 0$; $V_{CB}= 10\text{V}$; $f_{test}=0.1\text{MHz}$		90		pF
t_f	Fall Time	$I_C= 3\text{A}$, $I_{B1}= 1.2\text{A}$; $L_B= 8\ \mu\text{H}$		0.5	1.0	μs