

isc Silicon NPN Power Transistor

MJ424

DESCRIPTION

- High Collector-Emitter Voltage- $V_{CEX} = 700V$
- DC Current Gain- $h_{FE} = 10(\text{min}) @ I_C = 2.5A$
- Low Collector-Emitter Saturation Voltage-
 $V_{CE(\text{sat})} = 0.8V_{dc}(\text{max}) @ I_C = 1A_{dc}$

APPLICATIONS

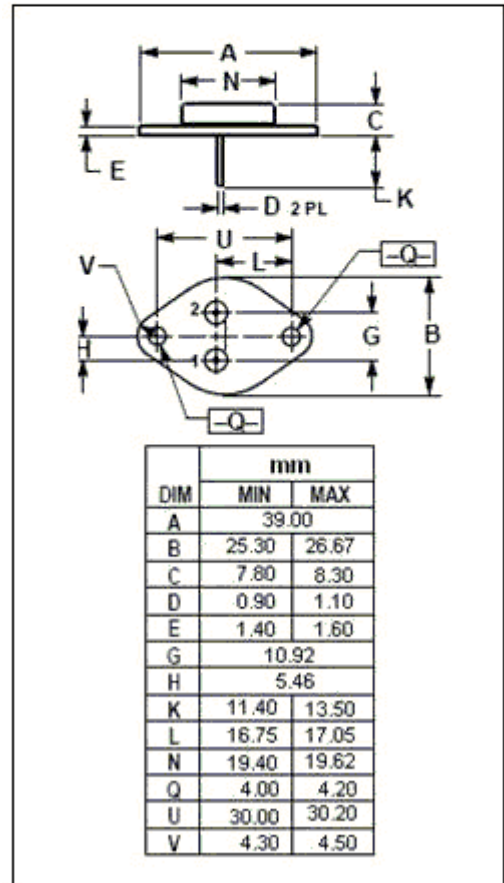
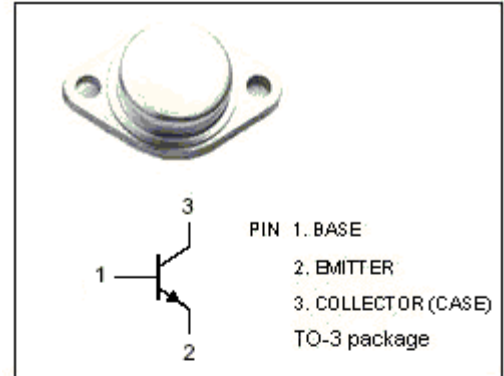
- Designed for use in high voltage applications in deflection circuits, swithing regulators, inverters, and tine operated amplifiers.

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

SYMBOL	PARAMETER	VALUE	UNIT
V_{CBO}	Collector-Base Voltage	700	V
V_{CEO}	Collector-Emitter Voltage	350	V
V_{EBO}	Emitter-Base Voltage	5	V
I_C	Collector Current-Continuous	5	A
I_B	Base Current-Continuous	2	A
P_C	Collector Power Dissipation @ $T_C = 25^\circ C$	100	W
T_J	Junction Temperature	150	$^\circ C$
T_{stg}	Storage Temperature Range	-65~200	$^\circ C$

THERMAL CHARACTERISTICS

SYMBOL	PARAMETER	MAX	UNIT
$R_{th\ j-c}$	Thermal Resistance, Junction to Case	0.75	$^\circ C/W$



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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	$I_C=100\text{mA}; I_B=0$	350			V
$V_{CE(sat)}$	Collector-Emitter Saturation Voltage	$I_C=1\text{A}; I_B=0.1\text{A}$			0.8	V
$V_{BE(sat)}$	Base-Emitter Saturation Voltage	$I_C=1\text{A}; I_B=0.1\text{A}$			1.2	V
I_{CEO}	Collector Cutoff Current	$V_{CE}=350\text{V}; V_{EB(off)}=1.5\text{V}$			0.25	mA
I_{CEX}	Collector Cutoff Current	$V_{CE}=700\text{V}; V_{EB(off)}=1.5\text{V}$			0.5	mA
I_{EBO}	Emitter Cutoff current	$V_{EB}=6\text{V}; I_C=0$			5.0	mA
h_{FE-1}	DC Current Gain	$I_C=1\text{A}; V_{CE}=5\text{V}$	30		90	
h_{FE-2}	DC Current Gain	$I_C=2.5\text{A}; V_{CE}=5\text{V}$	10			
f_T	Current-Gain—Bandwidth Product	$I_C=0.2\text{A}; V_{CE}=10\text{V}; f=1.0\text{MHz}$	2.5			MHz