Silicon NPN Power Transistors MJ1000/1001

DESCRIPTION

·With TO-3 package
·DARLINGTON
·High DC current gain
·Complement to type MJ900/901

APPLICATIONS

·For use as output devices in complementary general purpose amplifier applications

PINNING(see Fig.2)

PIN	DESCRIPTION
1	Base
2	Emitter
3	Collector

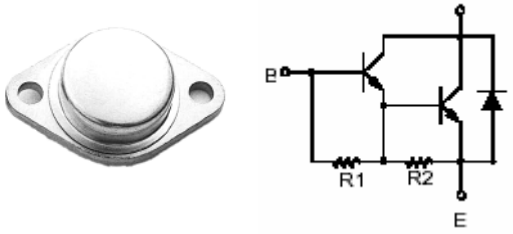

Fig.1 simplified outline (TO-3) and symbol

ABSOLUTE MAXIMUM RATINGS(T_C=25□)

SYMBOL	PARAMETER		CONDITIONS	VALUE	UNIT
V_{CBO}	Collector-base voltage	MJ1000	Open emitter	60	V
		MJ1001		80	
V_{CEO}	Collector-emitter voltage	MJ1000	Open base	60	V
		MJ1001		80	
V_{EBO}	Emitter-base voltage		Open collector	5	V
I_C	Collector current			10	A
I_B	Base current			0.1	A
P_D	Total power dissipation		T_C=25□	90	W
T_j	Junction temperature			200	□
T_{stg}	Storage temperature			-55~200	□

CHARACTERISTICS

Tj=25□ unless otherwise specified

SYMBOL	PARAMETER		CONDITIONS	MIN	TYP.	MAX	UNIT
$V_{(BR)CEO}$	Collector-emitter breakdown voltage	MJ1000	I_C=0.1A ;I_B=0	60			V
		MJ1001		80			
$V_{CE(sat)-1}$	Collector-emitter saturation voltage		I_C=3A; I_B=12mA			2.0	V
$V_{CE(sat)-2}$	Collector-emitter saturation voltage		I_C=8A; I_B=40mA			4.0	V
V_{BE}	Base-emitter on voltage		I_C=3A ; V_{CE}=3V			2.5	V
I_{CER}	Collector cut-off current	MJ1000	V_{CE}=60V; R_{BE}=1.0kΩ T_C=150□			1.0 5.0	mA
		MJ1001	V_{CE}=80V; R_{BE}=1.0kΩ T_C=150□			1.0 5.0	
I_{CEO}	Collector cut-off current	MJ1000	V_{CE}=30V; I_B=0			0.5	mA
		MJ1001	V_{CE}=40V; I_B=0				
I_{EBO}	Emitter cut-off current		V_{EB}=5V; I_C=0			2.0	mA
h_{FE-1}	DC current gain		I_C=3A ; V_{CE}=3V	1000			
h_{FE-2}	DC current gain		I_C=4A ; V_{CE}=3V	750			

THERMAL CHARACTERISTICS

SYMBOL	PARAMETER	MAX	UNIT
$R_{th\ j\text{-}c}$	Thermal resistance junction to case	1.94	□/W

PACKAGE OUTLINE

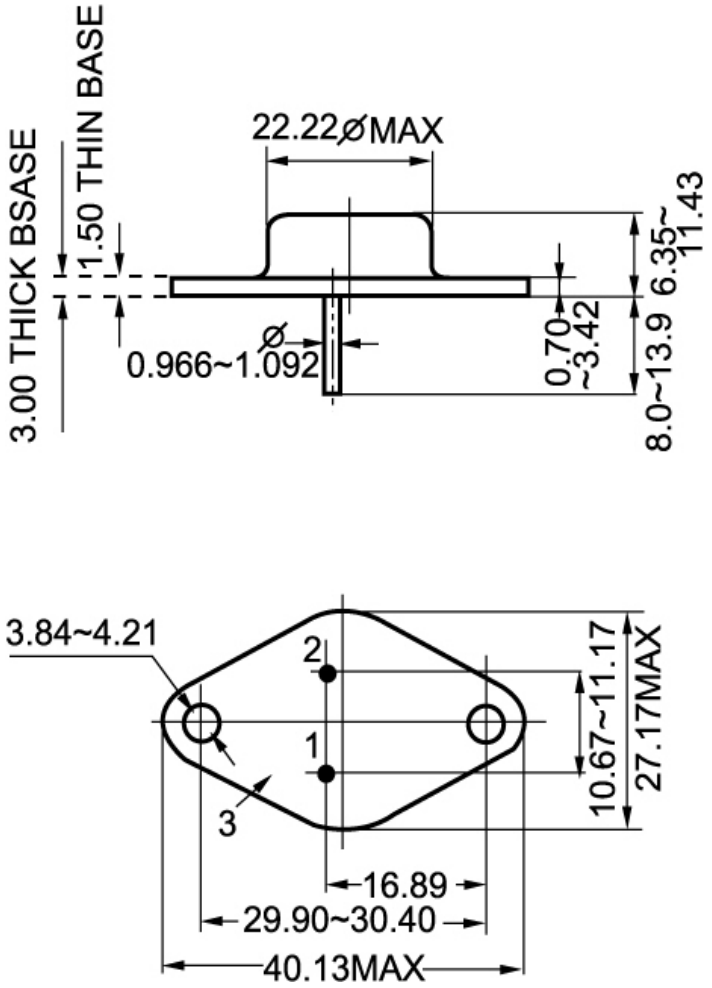

Fig.2 outline dimensions (unindicated tolerance:±0.1mm)