

isc Silicon NPN Power Transistor

MJE3055AT

DESCRIPTION

- Collector-Emitter Breakdown Voltage-
: $V_{(BR)CEO} = 80V(\text{Min})$
- High DC Current Gain-
: $h_{FE} = 150-260@I_C = 1A$
- Bandwidth Product-
: $f_T = 2\text{MHz}(\text{Min})@I_C = 500 \text{ mA}$

APPLICATIONS

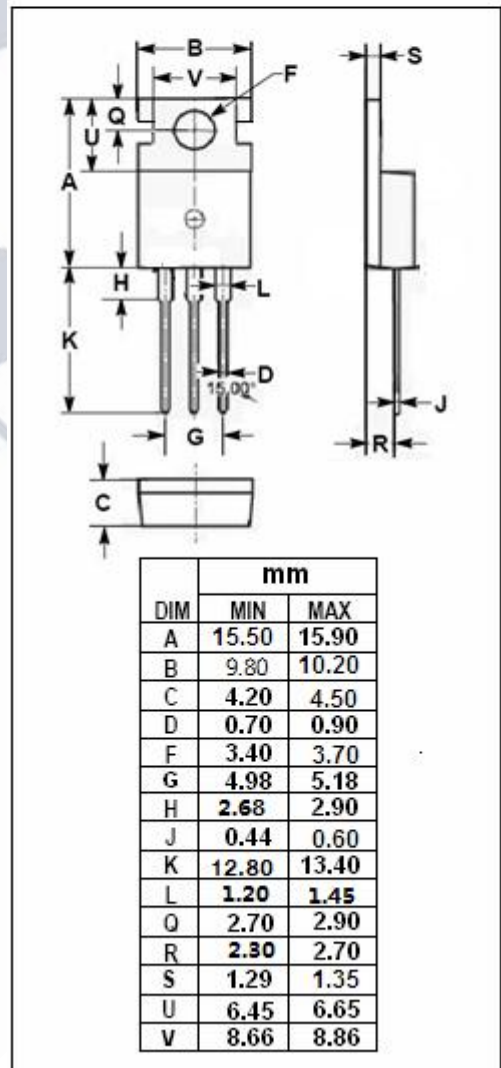
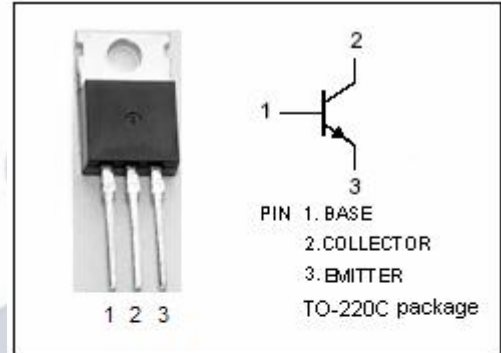
- Designed for use in general-purpose amplifier and switching applications.

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

SYMBOL	PARAMETER	VALUE	UNIT
V_{CBO}	Collector-Base Voltage	100	V
V_{CEO}	Collector-Emitter Voltage	80	V
V_{EBO}	Emitter-Base Voltage	6	V
I_C	Collector Current-Continuous	10	A
I_B	Base Current-Continuous	6	A
P_C	Collector Power Dissipation @ $T_C=25^\circ\text{C}$	75	W
T_J	Junction Temperature	150	$^\circ\text{C}$
T_{stg}	Storage Temperature Range	-55~150	$^\circ\text{C}$

THERMAL CHARACTERISTICS

SYMBOL	PARAMETER	MAX	UNIT
$R_{th\ j-c}$	Thermal Resistance, Junction to Case	1.67	$^\circ\text{C/W}$



isc Silicon NPN Power Transistor**MJE3055AT****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	$I_C=25\text{mA}; I_B=0$	80			V
$V_{(BR)CBO}$	Collector-Base Breakdown Voltage	$I_C=5\mu\text{A}; I_B=0$	100			V
$V_{(BR)EBO}$	Emitter -Base Breakdown Voltage	$I_E=50\mu\text{A}; I_B=0$	6			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	$I_C=10\text{A}; I_B=3.3\text{A}$			8.0	V
$V_{BE(on)}$	Base-Emitter On Voltage	$I_C=4\text{A}; V_{CE}=4\text{V}$			1.8	V
I_{CEO}	Collector Cutoff Current	$V_{CE}=30\text{V}; I_B=0$			0.7	mA
I_{CBO}	Collector Cutoff Current	$V_{CB}=100\text{V}; I_E=0$			10	μA
I_{EBO}	Emitter Cutoff Current	$V_{EB}=6\text{V}; I_C=0$			10	μA
h_{FE-1}	DC Current Gain	$I_C=1\text{A}; V_{CE}=4\text{V}$	150		260	
h_{FE-2}	DC Current Gain	$I_C=4\text{A}; V_{CE}=4\text{V}$	20		100	
h_{FE-3}	DC Current Gain	$I_C=10\text{A}; V_{CE}=4\text{V}$	5			
$I_{s/b}$	Second Breakdown Collector Current with Base Forward Biased	$V_{CE}=37\text{V}, t=0.5\text{s}, \text{Nonrepetitive}$	2.0		A	
f_T	Current Gain-Bandwidth Product	$I_C=0.5\text{A}; V_{CE}=10\text{V}; f=500\text{kHz}$	2.0			MHz