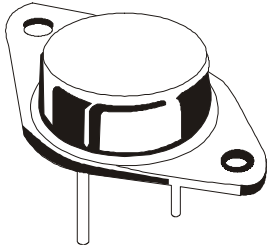


## SILICON PLANAR POWER TRANSISTORS

**2N3055 NPN**  
**MJ2955 PNP**

**TO-3**  
**Metal Can Package**



General Purpose Switching and Amplifier Applications

### ABSOLUTE MAXIMUM RATINGS

DESCRIPTION	SYMBOL	VALUE	UNITS
Collector Base Voltage	$V_{CBO}$	100	V
Collector Emitter Voltage	$V_{CEO}$	60	V
Collector Emitter Voltage ( $R_{BE}=100\Omega$ )	$V_{CER}$	70	V
Emitter Base Voltage	$V_{EBO}$	7	V
Collector Current Continuous	$I_C$	15	A
Base Current	$I_B$	7	A
Power Dissipation @ $T_c=25^\circ\text{C}$	$P_{tot}$	115	W
Derate Above $25^\circ\text{C}$		0.657	W/ $^\circ\text{C}$
Operating And Storage Junction Temperature Range	$T_j, T_{stg}$	- 65 to +200	$^\circ\text{C}$

### THERMAL RESISTANCE

Junction to Case	$R_{th(j-c)}$	1.52	$^\circ\text{C/W}$
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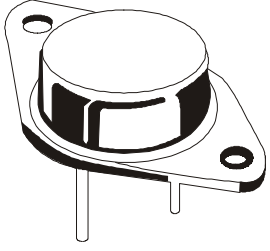
### ELECTRICAL CHARACTERISTICS ( $T_c=25^\circ\text{C}$ unless specified otherwise)

DESCRIPTION	SYMBOL	TEST CONDITION	MIN	MAX	UNITS
Collector Emitter Sustaining Voltage	$V_{CEO(sus)}^*$	$I_C=200\text{mA}, I_B=0$	60		V
Collector Emitter Sustaining Voltage	$V_{CER(sus)}^*$	$I_C=200\text{mA}, R_{BE}=100\Omega$	70		V
Collector Cut Off Current	$I_{CEX}$	$V_{CE}=100\text{V}, V_{BE}=(\text{off})=1.5\text{V}$  $T_c=150^\circ\text{C}$ $V_{CE}=100\text{V}, V_{BE}=(\text{off})=1.5\text{V}$		1.0  5.0	mA
Collector Cut Off Current	$I_{CEO}$	$V_{CE}=30\text{V}, I_B=0$		0.7	mA
Emitter Cut Off Current	$I_{EBO}$	$V_{BE}=7\text{V}, I_C=0$		5.0	mA
Collector Emitter Saturation Voltage	$V_{CE(\text{Sat})}^*$	$I_C=4\text{A}, I_B=400\text{mA}$ $I_C=10\text{A}, I_B=3.3\text{A}$		1.1 3.0	V
Base Emitter on Voltage	$V_{BE(\text{on})}^*$	$I_C=4\text{A}, V_{CE}=4\text{V}$		1.5	V
DC Current Gain	$h_{FE}^*$	$I_C=4\text{A}, V_{CE}=4\text{V}$ $I_C=10\text{A}, V_{CE}=4\text{V}$	20 5	70	

# SILICON PLANAR POWER TRANSISTOR

2N3055 NPN

MJ2955 PNP



TO-3  
Metal Can Package

## ELECTRICAL CHARACTERISTICS ( $T_c=25^\circ\text{C}$ unless specified otherwise)

### Second Breakdown

DESCRIPTION	SYMBOL	TEST CONDITION	MIN	MAX	UNITS
Second Breakdown Collector Current with Base Forward Biased	$I_{S/b}$	$V_{CE}=40\text{V}, t=1.0\text{ s}, \text{Nonrepetitive}$	2.87		A

### Dynamic Characteristics

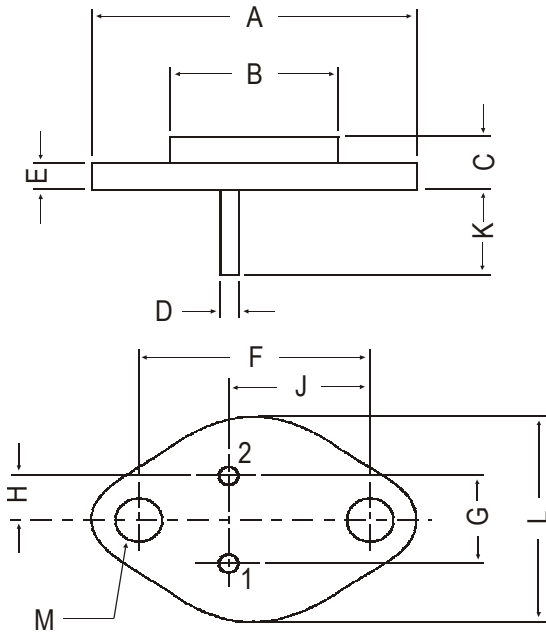
Current Gain - Bandwidth Product	$f_T$	$I_C=0.5\text{A}, V_{CE}=10\text{V}, f=1\text{MHz}$	2.5		MHz
Small Signal Current Gain	$h_{fe}$	$I_C=1\text{A}, V_{CE}=4\text{V}, f=1\text{KHz}$	15	120	
Small Signal Current Gain Cutoff Frequency	$f_{h_{fe}}$	$I_C=1\text{A}, V_{CE}=4\text{V}, f=1\text{KHz}$	10		KHz

\*Pulse Test: Pulse Width  $\leq 300\mu\text{s}$ , Duty Cycle  $\leq 2\%$

2N3055 NPN  
MJ2955 PNP

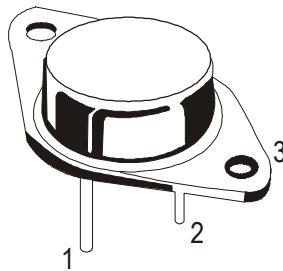
TO-3  
Metal Can Package

### TO-3 Metal Can Package



DIM	MIN.	MAX.
A	—	39.37
B	—	22.22
C	6.35	8.50
D	0.96	1.09
E	—	1.77
F	29.90	30.40
G	10.69	11.18
H	5.20	5.72
J	16.64	17.15
K	11.15	12.25
L	—	26.67
M	3.84	4.19

All dimensions in mm.



PIN CONFIGURATION  
1. BASE  
2. EMITTER  
3. COLLECTOR

### Packing Detail

PACKAGE	STANDARD PACK		INNER CARTON BOX		OUTER CARTON BOX		
	Details	Net Weight/Qty	Size	Qty	Size	Qty	Gr Wt
TO-3	100 pcs/pkt	1.3 kg/100 pcs	12.5" x 8" x 1.8"	0.1K	17" x 11.5" x 21"	2K	27.5 kgs

### **Disclaimer**

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