



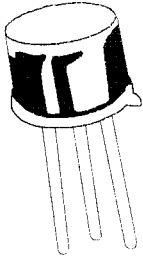
SOLID STATE INC.

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NPN SILICON PLANAR TRANSISTORS

2N3053
2N3053A
TO-39



General Purpose, Medium Current Amplifier Applications.

ABSOLUTE MAXIMUM RATINGS

DESCRIPTION	SYMBOL	2N3053	2N3053A	UNITS
Collector -Emitter Voltage (1)	VCEO	40	60	V
Collector -Base Voltage	VCBO	60	80	V
Emitter -Base Voltage	VEBO		5.0	V
Collector Current Continuous	IC		700	mA
Power Dissipation@ Tc=25 degC	PD		5.0	W
Derate Above 25 deg C			28.6	mW/deg C
Operating And Storage Junction Temperature Range	Tj, Tstg		-65 to +200	deg C
Lead Temperature 1/16", +/- 1/32" From Case for 10 s	TL		+235	deg C
THERMAL RESISTANCE				
Junction to Case	Rth(j-c)		35	deg C/W

(1) Applicable 0 to 100mA(pulsed):

Pulse Width =300us, Duty Cycle=2%

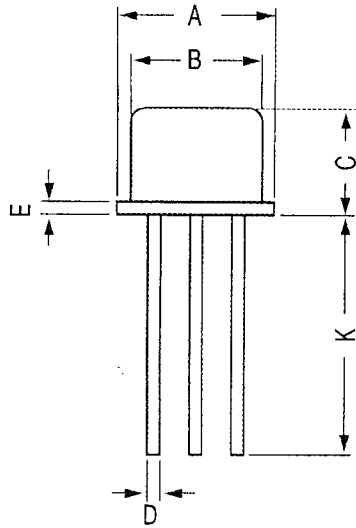
0 to 700 mA; Pulse Width=10us, Duty Cycle=2%

ELECTRICAL CHARACTERISTICS (Ta=25 deg C Unless Otherwise Specified)

DESCRIPTION	SYMBOL	TEST CONDITION	2N3053	2N3053A	UNITS
Collector -Emitter Voltage	VCEO*	IC=100uA, IB=0	>40	>60	V
	VCER*	IC=100mA, RBE=10ohms	>50	>70	V
Collector -Base Voltage	VCBO	IC=100uA, IE=0	>60	>80	V
Emitter -Base Voltage	VEBO	IE=100uA, IC=0	>5.0	>5.0	V
Collector-Cut off Current	ICEX	VCE=30V, VBE(off)=1.5V	<250	-	nA
		VCE=60V, VBE(off)=1.5V	-	<250	nA
Emitter-Cut off Current	IEBO	VBE=4V, IC=0	<250	-	nA
Base Cutt-off Current	IBL	VCE=60V, VBE(off)=1.5V	-	<250	nA
DC Current Gain	hFE*	IC=150mA, VCE=2.5V	>25	>25	
		IC=150mA, VCE=10V	50 -250	50 -250	
Collector Emitter Saturation Voltage	VCE(Sat)*	IC=150mA, IB=15mA	<1.4	<0.3	V
Base Emitter Saturation Voltage	VBE(Sat) *	IC=150mA, IB=15mA	<1.7	0.6-1.0	V
Base Emitter on Voltage	VBE(on)*	IC=150mA, VCE=2.5V	<1.7	<1.0	V
SMALL SIGNAL CHARACTERISTICS					
Output Capacitance	Cobo	VCB=10V, IE=0, f=140kHz	<15	<15	pF
Input Capacitance	Cibo	VBE=0.5V, IC=0, f=140kHz	<80	<80	pF
Current Gain-Bandwidth Product	ft	IC=50mA, VCE=10V, f=20MHz	>100	>100	MHz

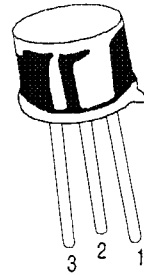
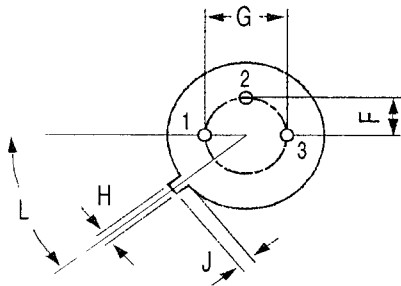
*Pulse Test:- Pulse Width =300us, Duty Cycle=2%

TO-39 Metal Can Package



All dimensions are in mm

DIM	MIN	MAX
A	8.50	9.39
B	7.74	8.50
C	6.09	6.60
D	0.40	0.53
E	—	0.88
F	2.41	2.66
G	4.82	5.33
H	0.71	0.86
J	0.73	1.02
K	12.70	—
L	42 DEG	48 DEG



PIN CONFIGURATION

1. EMITTER
2. BASE
3. COLLECTOR