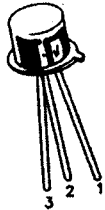
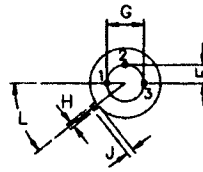
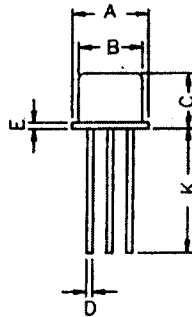


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TO-39 Metal Can Package Transistor

CDIL – 2N3053 NPN Transistor



Pin Configuration
 1. Emitter
 2. Base
 3. Collector



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	12.7	-
L	42°	48°

All Dimensions are in mm

Maximum Ratings

Collector - Base Breakdown Voltage, Emitter Open	V_{CBO}	Min.	60	V
Collector - Emitter Breakdown Voltage, Base Open	V_{CEO}	Min.	40	V
Emitter - Base Breakdown Voltage, Collector Open	V_{EBO}	Min.	5	V
Allowable Power Dissipation @ $T_c = 25^\circ\text{C}$	P_D		0.7	W
Collector Current	I_C		0.5	A

Electrical Characteristics ($T_a=25^\circ\text{C}$, Unless Otherwise Specified)

Collector Cut Off Current, Emitter Open @ Collector Base Voltage	I_{CBO} V_{CB}	Max.	-	μA V
Collector Cut Off Current, with Emitter & Base Shorted @ Collector Emitter Voltage	I_{CES} V_{CE}	Max.	-	μA V
Small Signal, Current Gain, Common Emitter @ Collector Current & Collector - Emitter Voltage	h_{FE} I_C V_{CE}	Min. Max.	50 250	 mA V
Collector - Emitter Saturation Voltage & Base - Emitter Saturation Voltage @ Collector Current	$V_{CE(SAT)}$ $V_{BE(SAT)}$ I_C	Max. Min. Max.	1.4 - 1.7	V V mA
Output Capacitance, Common Base	C_{ob}	Max.	15	pF
Transition Frequency (common emitter, gain bandwidth product) @ Collector Current	f_t I_C	Max. Typ.	100 -	MHz MHz mA
Turn-off Time ($t_s + t_f$)	$t_{(off)}$	Max.	-	ns
Common Source Noise Figure @ Frequency	NF	Max.	-	dB MHz