

High Speed Metal Can Transistor (NPN)

Features

- High Speed Switching Application
- Low Power
- RoHS Compliant



TO-18



Mechanical Data

Case:	TO-18, Metal can package
Terminals:	Solderable per MIL-STD-202, Method 208
Weight:	0.35 grams

Maximum Ratings *(T_{Ambient}=25°C unless noted otherwise)*

Symbol	Description	2N2369	2N2369A	Unit
V_{CEO}	Collector-Emitter Voltage	15		V
V_{CES}	Collector-Emitter Voltage	40		V
V_{CB0}	Collector-Base Voltage	40		V
V_{EBO}	Emitter-Base Voltage	4.5		V
I_C	Collector Current Continuous	200		mA
I_{C(peak)}	Collector Current Peak (10us pulse)	500		mA
P_D	Power Dissipation at T _A =25°C	360		mW
	Power Dissipation Derate above T _A =25°C	2.06		mW/° C
	Power Dissipation at T _C =25°C	1.2		W
	Power Dissipation at T _C =100°C	0.68		W
	Power Dissipation Derate above T _C =100°C	6.85		mW/° C
T_J, T_{STG}	Operating Junction and Storage Temperature Range	-65 to +200		° C

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2N2369/2N2369A

Electrical Characteristics ($T_{Ambient}=25^{\circ}C$ unless noted otherwise)

Symbol	Description		Min.	Max.	Unit	Conditions
*V_{CEO(sus)}	Collector-Emitter Voltage		15	-	V	I _C =10mA, I _B =0
V_{CEs}	Collector-Emitter Voltage		40	-	V	I _C =10 μ A, V _{BE} =0
V_{CB0}	Collector-Base Voltage		40	-	V	I _C =10 μ A, I _E =0
V_{EBO}	Emitter-Base Voltage		4.5	-	V	I _E =10 μ A, I _C =0
h_{FE}	D.C. Current Gain	2N2369	40	120		V _{CE} =1V, I _C =10mA
			20	-		V _{CE} =1V, I _C =10mA T _A =-55 $^{\circ}$ C
		2N2369A	20	-		V _{CE} =2V, I _C =100mA
			40	120		V _{CE} =1V, I _C =10mA
			20	-		V _{CE} =0.35V, I _C =10mA T _A =-55 $^{\circ}$ C
			40	120		V _{CE} =0.35V, I _C =10mA
		30	-	V _{CE} =0.4V, I _C =30mA		
		20	-	V _{CE} =1V, I _C =100mA		
*V_{CE(sat)}	Collector-Emitter Saturation Voltage	2N2369	-	0.25	V	I _C =10mA, I _B =1mA
		2N2369A	-	0.20	V	I _C =10mA, I _B =1mA
			-	0.25	V	I _C =30mA, I _B =3mA
			-	0.50	V	I _C =100mA, I _B =10mA
-	0.30	V	I _C =10mA, I _B =1mA, T _A =125 $^{\circ}$ C			
*V_{BE(sat)}	Base-Emitter Saturation Voltage	2N2369	0.7	0.85	V	I _C =10mA, I _B =1mA
		2N2369A	0.7	0.85	V	I _C =10mA, I _B =1mA
			-	1.15	V	I _C =30mA, I _B =3mA
			-	1.60	V	I _C =100mA, I _B =10mA
			0.59	-	V	I _C =10mA, I _B =1mA, T _A =125 $^{\circ}$ C
		-	1.02	V	I _C =10mA, I _B =1mA, T _A =-55 $^{\circ}$ C	
I_{CBO}	Collector-Cut-off Current	2N2369	-	400	nA	V _{CB} =20V, I _E =0
			-	30	μ A	V _{CB} =20V, I _E =0, T _A =150 $^{\circ}$ C
I_{CES}	Collector-Cut-off Current	2N2369A	-	400	nA	V _{CE} =20V, V _{BE} =0
I_B	Base Current	2N2369A	-	400	nA	V _{CE} =20V, V _{BE} =0
f_t	Transition Frequency		500	-	MHz	I _C =10mA, V _{CE} =10V, f=100MHz
C_{ob}	Out-Put Capacitance		-	4.0	pF	V _{CB} =5V, I _E =0, f=140KHz
t_{on}	Turn-On Time		-	12	nS	I _C =10mA, I _{B1} =3mA I _{B2} =-1.5mA V _{CC} =3V
t_{off}	Turn-Off Time	2N2369A	-	15	nS	I _C =10mA, I _{B1} =3mA I _{B2} =-1.5mA V _{CC} =3V
t_s	Storage Time		-	13	nS	I _C =100mA, I _{B1} =I _B =10mA V _{CC} =10V

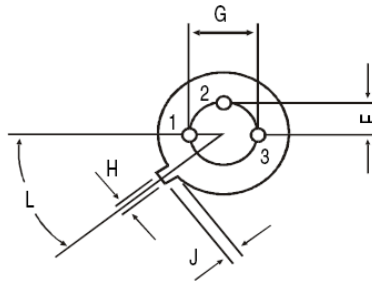
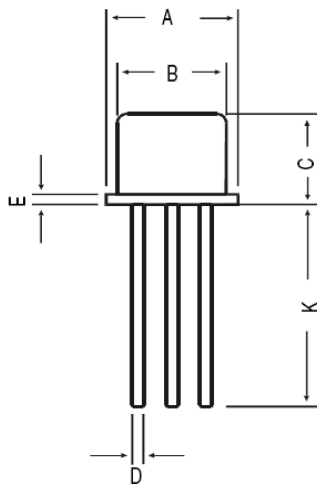
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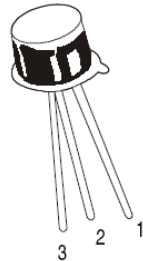
*Pulse Test: -Pulse Width=300μs, Duty Cycle=2%

Dimensions in mm

TO-18



DIM	MIN	MAX
A	5.24	5.84
B	4.52	4.97
C	4.31	5.33
D	0.40	0.53
E	—	0.76
F	—	1.27
G	—	2.97
H	0.91	1.17
J	0.71	1.21
K	12.70	—
L	45 DEG	



PIN CONFIGURATION

1. EMITTER
2. BASE
3. COLLECTOR

Packing Information:

Standard Pack	
Details	Net Weight/Qty.
1000pcs/polybag	350gm/1000pcs

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Carton Information:

Inner Carton Box	
Size	Qty.
3' x 7.5' x 7.5'	5k

Outer Carton Box		
Size	Qty.	Gross Weight
17' x 15' x 13.5'	80k	34kgs

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