

# 2N3440 Datasheet

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DiGi Electronics Part Number	2N3440-DG
Manufacturer	Solid State Inc.
Manufacturer Product Number	2N3440
Description	TRANS NPN 250V 1A TO39
Detailed Description	Bipolar (BJT) Transistor NPN 250 V 1 A 15MHz 1 W T hrough Hole TO-39

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# Purchase and inquiry

Manufacturer Product Number:	Manufacturer:
2N3440	Solid State Inc.
Series:	Product Status:
-	Active
Transistor Type:	Current - Collector (Ic) (Max):
NPN	1 A
Voltage - Collector Emitter Breakdown (Max):	Vce Saturation (Max) @ lb, lc:
250 V	500mV @ 4mA, 50mA
Current - Collector Cutoff (Max):	DC Current Gain (hFE) (Min) @ lc, Vce:
50μΑ	40 @ 20mA, 10V
Power - Max:	Frequency - Transition:
1 W	15MHz
Operating Temperature:	Mounting Type:
-65°C ~ 200°C (TJ)	Through Hole
Package / Case:	Supplier Device Package:
TO-205AD, TO-39-3 Metal Can	TO-39

## **Environmental & Export classification**

RoHS Status:	Moisture Sensitivity Level (MSL):
ROHS3 Compliant	Not Applicable
ECCN:	HTSUS:
EAR99	8541.10.0080



www.solidstateinc.com

#### NPN HIGH VOLTAGE SILICON TRANSISTORS

2N3439 2N3440 TO-39



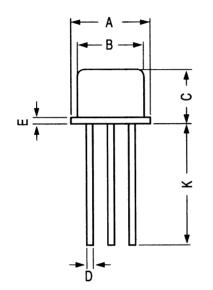
High Voltage Silicon Planar Transistors used in High Voltage & High Power Amplifier Applications.

ABSOLUTE MAXIMUM RA	TINGS(Ta=25 deg C unless	otherwise specified)

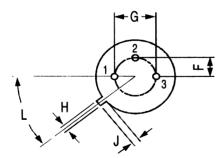
DESCRIPTION	SYMBOL	2N3439		2N3440		UNITS
Collector -Emitter Voltage	VCEO	350		250		V
Collector -Base Voltage	VCBO	450		300		V
Emitter -Base Voltage	VEBO		7.0			V
Collector Current Continuous	IC		1.0			Α
Base Current	IB		0.5			Α
Power Dissipation@ Ta=25 degC	PD		1.0			W
Derate Above 25 deg C			5.7			mW/deg C
Power Dissipation@ Tc=25 degC	PD		5.0			W
Derate Above 25 deg C			28.6			mW/deg C
Operating And Storage Junction	Tj, Tstg		-65 to +200			deg C
Temperature Range						
THERMAL RESISTANCE						
Junction to Ambient	Rth(j-a)		175			deg C/W
Junction to Case	Rth(j-c)		35			deg C/W
<b>ELECTRICAL CHARACTERISTICS (T</b>	a=25 deg C U					
DESCRIPTION	SYMBOL		TEST CONDITION	2N3439	2N3440	UNITS
Collector -Emitter Voltage	VCEO(sus)*		IC=50mA,IB=0	>350	>250	V
Collector-Cut off Current	ICBO		VCB=360V, IE=0	<20	-	uA
			VCB=250V, IE=0	-	<20	uA
	ICEO		VCE=300V, IB=0	<20	-	uA
			VCE=200V, IB=0	-	<50	uA
	ICEX		VCE=450V,VBE=1.5V	<500	-	uA
			VCE=300V,VBE=1.5V	-	<500	uA
Emitter-Cut off Current	IEBO		VEB=6V, IC=0	<20	<20	uA
DC Current Gain	hFE*		IC=2mA,VCE=10V	>30	-	
			IC=20mA,VCE=10V	40-160	40-160	
<b>Collector Emitter Saturation Voltage</b>	VCE(Sat)*		IC=50mA,IB=4mA	<0.5	<0.5	V
Base Emitter Saturation Voltage	VBE(Sat) *		IC=50mA,IB=4mA	<1.3	<1.3	V

ELECTRICAL CHARACTERISTICS (Ta=25 deg C Unless Otherwise Specified)			2N3439/3440		
SYMBOL	TEST CONDITION	2N3439	2N3440	UNITS	
			-		
hfe	IC=5mA, VCE=10V, f=1kHz	>25	>25		
Cob	VCB=10V, IE=0, f=1MHz	<10	<10	pF	
Cib	VEB=5V, IC=0, f=1MHz	<75	<75	pF	
ft	IC=10mA, VCE=10V f=5MHz	>15	>15	MHz	
Re(hie)	VCE-10V, IC=5mA f=1MHz	<300	<300	ohms	
	SYMBOL hfe Cob Cib ft	SYMBOL         TEST CONDITION           hfe         IC=5mA, VCE=10V, f=1kHz           Cob         VCB=10V, IE=0, f=1MHz           Cib         VEB=5V, IC=0, f=1MHz           ft         IC=10mA, VCE=10V           f=5MHz         VCE-10V, IC=5mA	SYMBOL         TEST CONDITION         2N3439           hfe         IC=5mA, VCE=10V, f=1kHz         >25           Cob         VCB=10V, IE=0, f=1MHz         <10	SYMBOL         TEST CONDITION         2N3439         2N3440           hfe         IC=5mA, VCE=10V, f=1kHz         >25         >25           Cob         VCB=10V, IE=0, f=1MHz         <10	

## TO-39 Metal Can Package



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





**PIN CONFIGURATION** 

- 1. EMITTER
- 2. BASE 3. COLLECTOR



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