

2N3439 2N3440

MECHANICAL DATA Dimensions in mm (inches)



HIGH VOLTAGE NPN TRANSISTORS

FEATURES

- DUAL SILICON PLANAR EPITAXIAL NPN TRANSISTOR
- HIGH VOLTAGE

APPLICATIONS:

These devices are particularly suited as drivers in high-voltage low current inverters, switching and series regulators.

TO39 PACKAGE (TO-205AD)

Pin 1 = Emitter Pin 2 = Base Pin 3 = Collector

ABOOLOI	Γ Case - 25 C unless otherwise stated)	2N3439	2N3440	
V _{CBO}	Collector – Base Voltage (I _E = 0)	450V	300V	
V _{CEO}	Collector – Emitter Voltage ($I_B = 0$)	350V	250V	
V _{EBO}	Emitter – Base Voltage ($I_{C} = 0$)	7V		
I _C	Collector Current	1A		
I _B	Base Current	0.5A		
P _{tot}	Total Power Dissipation at $T_{case} \le 25^{\circ}C$	5W		
	$T_{amb} \le 50^{\circ}C$	1\	N	
T _{stg}	Storage Temperature	–65 to	200°C	
Тј	Junction Temperature	200°C		

ABSOLUTE MAXIMUM RATINGS(T_{case} = 25°C unless otherwise stated)

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ELECTRICAL CHARACTERISTICS (T_{case} = 25°C unless otherwise stated)

	Parameter	Test Conditions	Min.	Тур.	Max.	Unit
V _{CEO(sus)*}	Collector – Emitter Sustaining Voltage	I _C = 50mA 2N3439	350			V
	$(I_B=0)$	I _C = 50mA 2N3440	250			
I _{CEO}	Collector Cut-off Current	V _{CE} = 300V 2N3439			20	
	$(I_B=0)$	V _{CE} = 200V 2N3440			50	μΛ
I _{CEX}	Collector Cut-off Current	V _{CE} = 450V 2N3439			500	
	(V _{BE} = -1.5V)	V _{CE} = 300V 2N3440			500	μ~
I _{CBO}	Collector – Base Cut-off Current	V _{CB} = 350V 2N3439			20	
	$(I_{E}=0)$	V _{CB} = 250V 2N3440			20	
I _{EBO}	Emitter Cut-off Current ($I_C = 0$)	$V_{EB} = 6V$			20	μA
V _{CE(sat)*}	Collector – Emitter Saturation Voltage	$I_{\rm C} = 50 {\rm mA}$ $I_{\rm B} = 4 {\rm mA}$			0.5	V
V _{BE(sat)*}	Base – Emitter Saturation Voltage	$I_{\rm C} = 50 {\rm mA}$ $I_{\rm B} = 4 {\rm mA}$			1.3	V
h _{FE*}	DC Current Gain	I _C = 20mA	40		160	-
		V _{CE} = 10V				
		$I_{\rm C} = 2mA$	30			
		$V_{CE} = 10V$				

* Pulse test t_p = 300 μs , $\delta \leq 2\%$

DYNAMIC CHARACTERISTICS (T_{case} = 25°C unless otherwise stated)

	Parameter	Test Conditions		Min.	Тур.	Max.	Unit	
f _T	Transition Frequency	I _C = 10mA	$V_{CE} = 10V$	f = 5MHz	15			MHz
C _{ob}	Output Capacitance	V _{CB} = 10V		f = 1MHz			10	pF
h _{fe}	Small Signal Current Gain	I _C = 5mA	$V_{CE} = 10V$	f = 1kHz	25			—

THERMAL DATA

	Parameter	Min.	Тур.	Max.	Unit
R _{θJA}	Thermal Resistance Junction to Ambient			175	°C/W
R _{θJC}	Thermal Resistance Junction to Case			35	°C/W

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