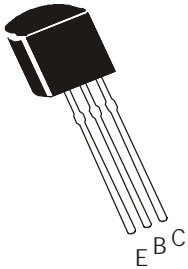


PNP SILICON PLANAR EPITAXIAL TRANSISTORS

**PN4354
PN4355
PN4356**

**TO-92
Plastic Package**



General Purpose Amplifiers

DESCRIPTION	SYMBOL	4354	4355	4356	UNITS
Collector Emitter Voltage	V_{CEO}	60	60	80	V
Collector Base Voltage	V_{CBO}	60	60	80	V
Emitter Base Voltage	V_{EBO}		5		V
Collector Current - Continuous	I_C		500		mA
Power Dissipation@Ta=25°C	P_D		625		mW
Power Dissipation@ Tc=25°C	P_D		1.0		mW
Operating And Storage Junction Temperature Range	T_j, T_{stg}		-55 to +150		°C

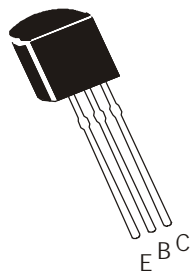
ELECTRICAL CHARACTERISTICS (Ta=25°C Unless Otherwise Specified)

DESCRIPTION	SYMBOL	TEST CONDITION	4354	4355	4356	UNITS
Collector Emitter Voltage	$V_{CEO(sus)*}$	$I_C=10mA, I_B=0$ (pulsed)	>60	>60	>80	V
Collector Base Voltage	V_{CBO}	$I_C=10\mu A, I_E=0$	>60	>60	>80	V
Emitter Base Voltage	V_{EBO}	$I_E=10\mu A, I_C=0$		>5		V
Collector-Cut off Current	I_{CBO}	$V_{CB}=50V, I_E = 0$ $V_{CB}=50V, I_E = 0,$ $T_a =75^\circ C$			<50	nA
Emitter Cut off Current	I_{EBO}	$V_{BE} =4V, I_C= 0$			<100	nA
DC Current Gain	$h_{FE} *$	$V_{CE}=10V, I_C=100\mu A$	>25	>60	>25	
		$V_{CE}=10V, I_C=1mA$	>40	>75	>40	
		$V_{CE}=10V, I_C=10mA$	50-500	100-400	50-250	
		$V_{CE}=10V, I_C=100mA$	>40	>75	>40	
		$V_{CE}=10V, I_C=500mA$	>30	>75	>30	
Common Emitter Small Signal Current Gain	$ h_{fe} $	$I_C=50mA, V_{CE}=10V$ $f=100MHz$	1.0-5.0	1.0 - 1.5	1.0 - 5.0	
Collector Emitter Sat Voltage	$V_{CE(sat)} *$	$I_C=150mA, I_B=15mA$	<0.15	<0.15	<0.15	V
		$I_C=500mA, I_B=50mA$	<0.5	<0.5	<0.5	V
		PN4355 $I_C=1A, I_B=100mA$		<1.0		V

PNP SILICON PLANAR EPITAXIAL TRANSISTORS

PN4354
PN4355
PN4356

TO-92
Plastic Package



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

DESCRIPTION	SYMBOL	TEST CONDITION	4354	4355	4356	UNITS
Base Emitter Sat Voltage	$V_{BE(sat)}$ *	$I_C=150mA, I_B=15mA$	<0.9	<0.9	<0.9	V
		$I_C=500mA, I_B=50mA$	<1.1	<1.1	<1.1	V
		$I_C=1A, I_B=100mA$		<1.2		V
	PN4355					
Base Emitter On Voltage	$V_{BE(on)}$ *	$I_C=500mA, V_{CE}=0.5V$	<1.1	<1.1	<1.1	V
		$I_C=1A, V_{CE}=1V$		<1.2		V
	PN4355					

SMALL-SIGNAL	SYMBOL	TEST CONDITION	4354	4355	4356	UNITS
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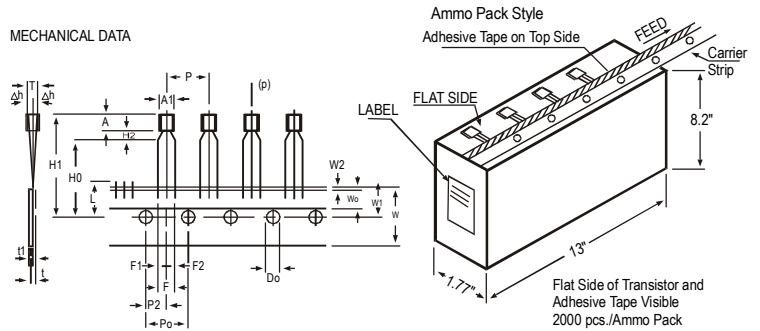
DYNAMIC CHARACTERISTICS

Collector to Base Capacitance	C_{cb}	$I_E=0, V_{CB}=10V,$ $f=1.0MHz$	<30	<30	<30	pF
Emitter to Base Capacitance	C_{eb}	$I_C=0, V_{EB}=0.5V,$ $f=1.0MHz$	<110	<110	<110	pF
Turn On Time	t_{on}	$I_C=500mA, I_{B1}=50mA,$ $V_{CC}=30V$	<100	<100	<100	pF
Turn off Time	t_{off}	$I_C=500mA, I_{B1}=I_{B2}=50mA,$ $V_{CC}=30V$	<400	<400	<400	ns
Noise Figure	NF	$V_{CE}=10V, I_C=100uA$	<3.0	<3.0	<3.0	dB
		$R_S=1K\Omega, f=1kHz,$				
		$B_W=1Hz$				

*Pulse Condition: = 300us, Duty Cycle = 1%.

TO-92 Plastic Package

TO-92 Transistors on Tape and Ammo Pack

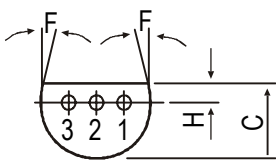
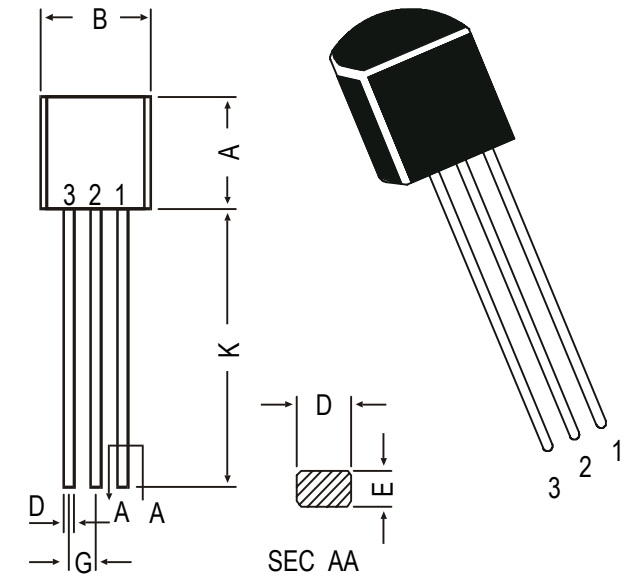


All dimensions in mm unless specified otherwise

ITEM	SYMBOL	SPECIFICATION				REMARKS
		MIN.	NOM.	MAX.	TOL.	
BODY WIDTH	A1	4.0		4.8		
BODY HEIGHT	A	4.8		5.2		
BODY THICKNESS	T	3.9		4.2		
PITCH OF COMPONENT	P		12.7		±1	
FEED HOLE PITCH	Po		12.7		±0.3	CUMULATIVE PITCH ERROR 1.0 mm/20 PITCH
FEED HOLE CENTRE TO COMPONENT CENTRE	P2		6.35		±0.4	TO BE MEASURED AT BOTTOM OF CLINCH
DISTANCE BETWEEN OUTER LEADS	F		5.08		+0.6 -0.2	
COMPONENT ALIGNMENT	Δh		0	1		AT TOP OF BODY
TAPE WIDTH	W		18		±0.5	
HOLD-DOWN TAPE WIDTH	W0		6		±0.2	
HOLE POSITION	W1		9		+0.7 -0.5	
HOLD-DOWN TAPE POSITION	W2		0.5		±0.2	
LEAD WIRE CLINCH HEIGHT	Ho		16		±0.5	
COMPONENT HEIGHT	H1			23.25		
LENGTH OF SNIPPED LEADS	L			11.0		
FEED HOLE DIAMETER	Do		4		±0.2	t1 0.3 - 0.6
TOTAL TAPE THICKNESS	t			1.2		
LEAD - TO - LEAD DISTANCE F1,	F2		2.54		+0.4 -0.1	
CLINCH HEIGHT	H2			3		
PULL - OUT FORCE	(P)		6N			

NOTES

1. MAXIMUM ALIGNMENT DEVIATION BETWEEN LEADS NOT TO BE GREATER THAN 0.2 mm.
2. MAXIMUM NON-CUMULATIVE VARIATION BETWEEN TAPE FEED HOLES SHALL NOT EXCEED 1 mm IN 20 PITCHES.
3. HOLDDOWN TAPE NOT TO EXCEED BEYOND THE EDGE(S) OF CARRIER TAPE AND THERE SHALL BE NO EXPOSURE OF ADHESIVE.
4. NO MORE THAN 3 CONSECUTIVE MISSING COMPONENTS ARE PERMITTED.
5. A TAPE TRAILER, HAVING AT LEAST THREE FEED HOLES ARE REQUIRED AFTER THE LAST COMPONENT.
6. SPLICES SHALL NOT INTERFERE WITH THE SPROCKET FEED HOLES.



- PIN CONFIGURATION
1. COLLECTOR
 2. BASE
 3. EMITTER

All dimensions in mm.

DIM	MIN.	MAX.
A	4.32	5.33
B	4.45	5.20
C	3.18	4.19
D	0.41	0.55
E	0.35	0.50
F	5 DEG	
G	1.14	1.40
H	1.14	1.53
K	12.70	—

Packing Detail

PACKAGE	STANDARD PACK		INNER CARTON BOX		OUTER CARTON BOX		
	Details	Net Weight/Qty	Size	Qty	Size	Qty	Gr Wt
TO-92 Bulk	1K/polybag	200 gm/1K pcs	3" x 7.5" x 7.5"	5.0K	17" x 15" x 13.5"	80.0K	23 kgs
TO-92 T&A	2K/ammo box	645 gm/2K pcs	12.5" x 8" x 1.8"	2.0K	17" x 15" x 13.5"	32.0K	12.5 kgs

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