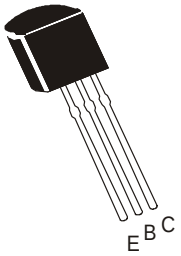
Transys Electronics LIMITED

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=10uA,I_E=0	>60	>60	>80	V
Emitter Base Voltage	V_{EBO}	I_E=10uA,I_C=0		>5		V
Collector-Cut off Current	I_{CBO}	V_{CB}=50V, I_E = 0			<50	nA
		Vc_B=50V, I_E = 0, Ta =75°C			<5	uA
Emitter Cut off Current	I_{EBO}	V_{BE} =4V,I_C= 0			<100	nA
DC Current Gain						
	h_{FE} *	V_{CE}=10V,I_C=100uA	>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	
Commom Emitter Small Signal Current Gain	$\lvert h_{fe} \rvert$	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

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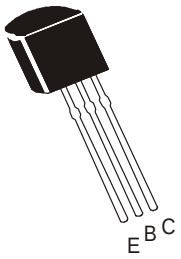

ELECTRICAL CHARACTERISTICS (Ta=25°C Unless Otherwise Specified)

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						
	$V_{BE(on)*}$	I_C=500mA,V_{CE}=0.5V	<1.1	<1.1	<1.1	V
Base Emitter On Voltage		I_C=1A,V_{CE}=1V		<1.2		V
PN4355						

SMALL-SIGNAL	SYMBOL	TEST CONDITION	4354	4355	4356	UNITS
DYNAMIC CHARACTERISTICS						
	C_{cb}	I_E=0, V_{CB}=10V,	<30	<30	<30	$_P$F
Collector to Base Capacitance		f=1.0MH_Z				
	C_{eb}	I_C=0, V_{EB}=0.5V,	<110	<110	<110	$_P$F
Emitter to Base Capacitance		f=1.0MH_Z				
	ton	I_C =500mA,I_{B1} =50mA,	<100	<100	<100	$_P$F
Turn On Time		V_{CC} =30V				
	toff	I_C =500mA,I_{B1}=I_{B2} =50mA,				
Turn off Time		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=1KΩ,f=1kH_Z,				
		B_W = 1H_Z				

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

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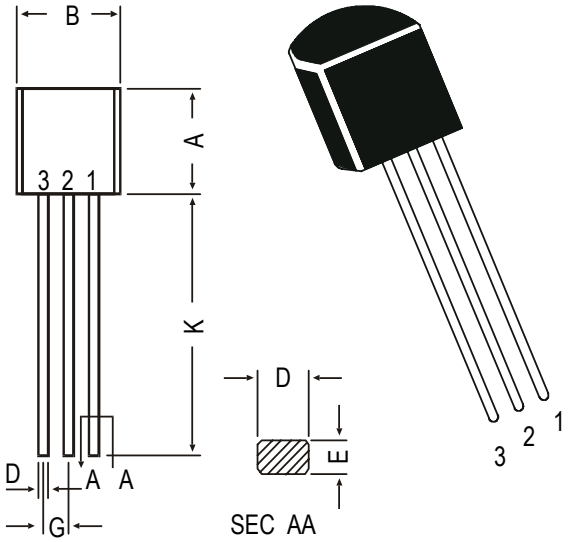
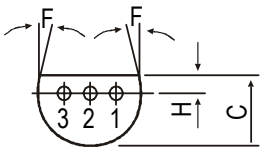


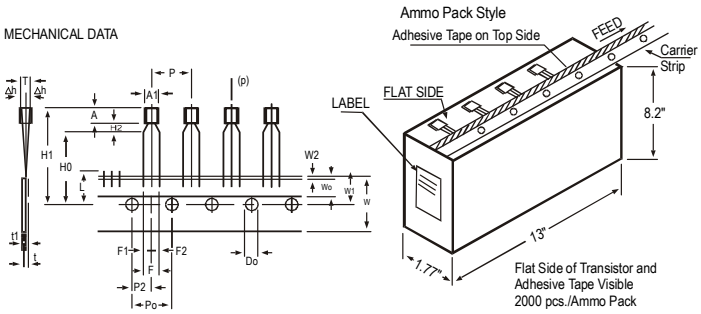


DIM	MIN.	MAX.
A	4.32	5.33
B	4.45	5.20
C	3.18	4.19
D	0.41	0.55
E	0.35	0.50
F	5 DEG	
G	1.14	1.40
H	1.14	1.53
K	12.70	—

All diminsions in mm.

PIN CONFIGURATION
1. COLLECTOR
2. BASE
3. EMITTER

TO-92 Transistors on Tape and Ammo Pack



All dimensions in mm unless specified otherwise

ITEM	SYMBOL	SPECIFICATION MIN.	NOM.	MAX.	TOL .	REMARKS
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	△h		0	1		AT TOP OF BODY
TAPE WIDTH	W		18		±0.5	
HOLD-DOWN TAPE WIDTH	Wo		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	
TOTAL TAPE THICKNESS	t			1.2		t1 0.3 - 0.6
LEAD - TO - LEAD DISTANCEF1,	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.

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