

REPLACEMENT TYPE : 2N4403
FEATURES

- Power Dissipation



TO-92

1:EMITTER 2:BASE 3:COLLECTOR

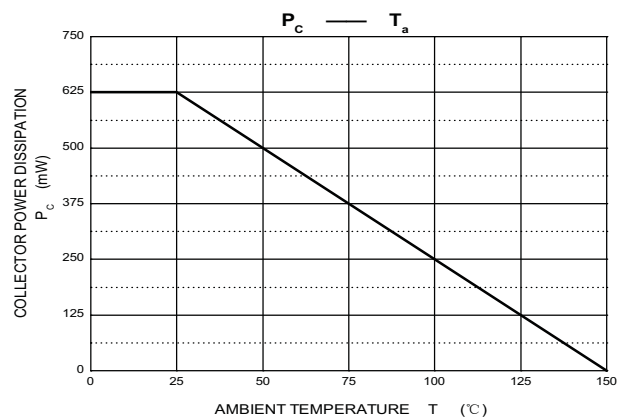
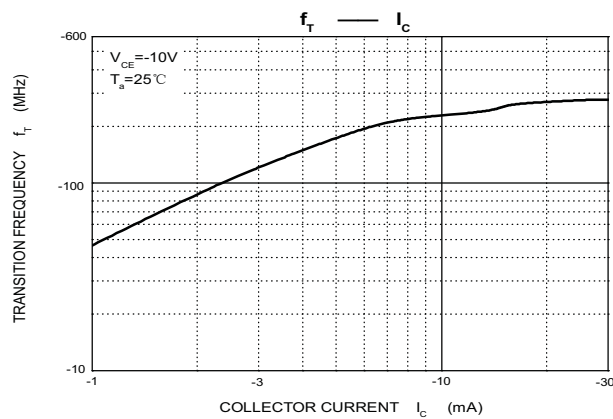
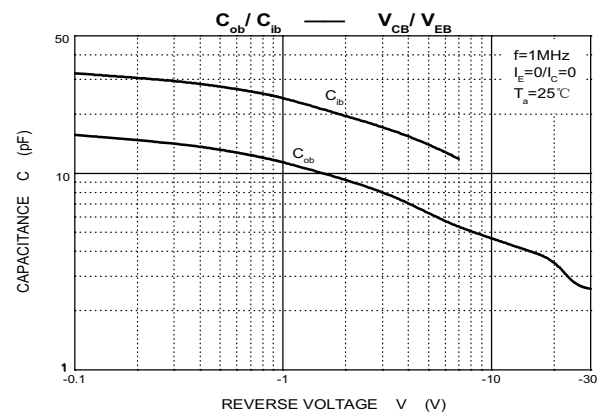
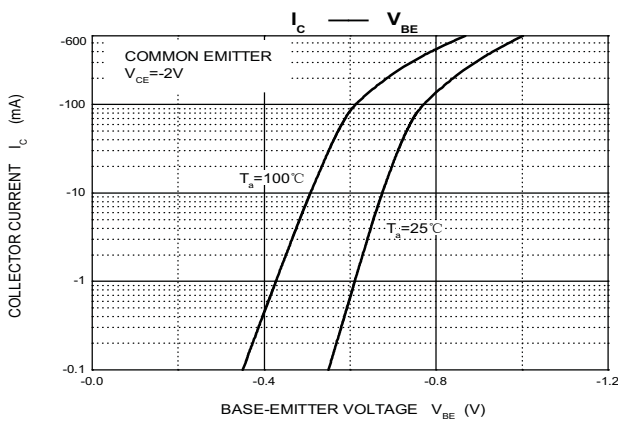
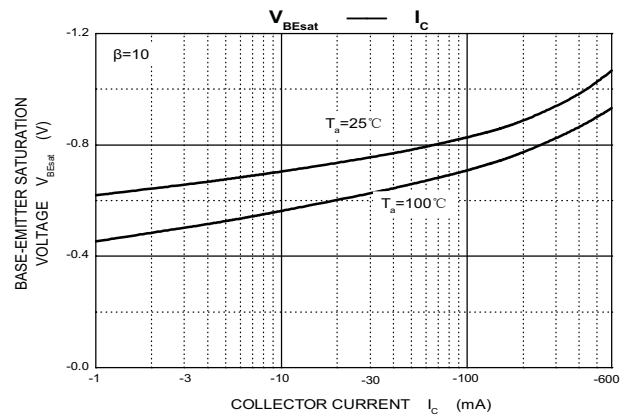
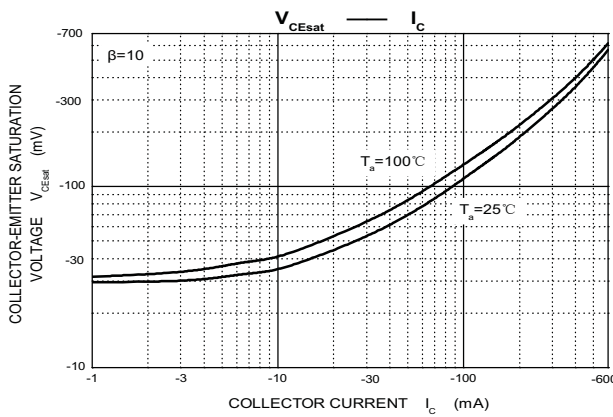
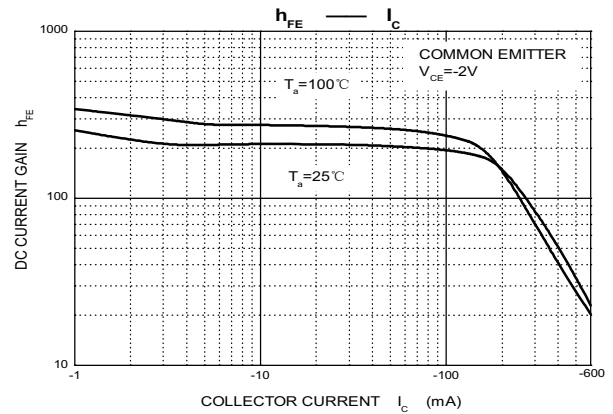
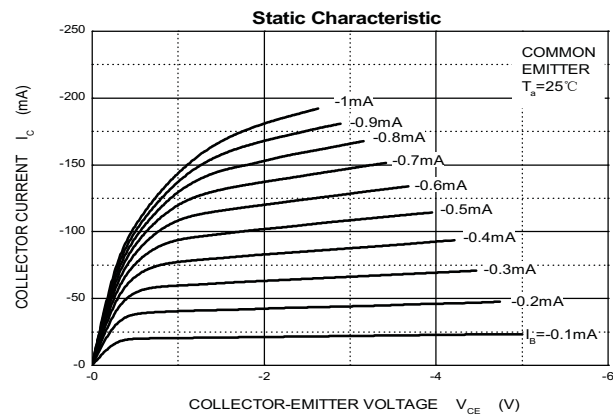
MAXIMUM RATINGS (T_A=25°C unless otherwise noted)

Parameter	Symbol	Value	Unit
Collector-Base Voltage	V _{CBO}	-40	V
Collector-Emitter Voltage	V _{CEO}	-40	V
Emitter-Base Voltage	V _{EBO}	-5	V
Collector Current-Continuous	I _C	-600	mA
Collector Power Dissipation	P _C	0.625	W
Junction Temperature	T _J	150	°C
Thermal Resistance Junction to Ambient	R _{θJA}	200	°C/W
Storage Temperature	T _{stg}	-55~+150	°C

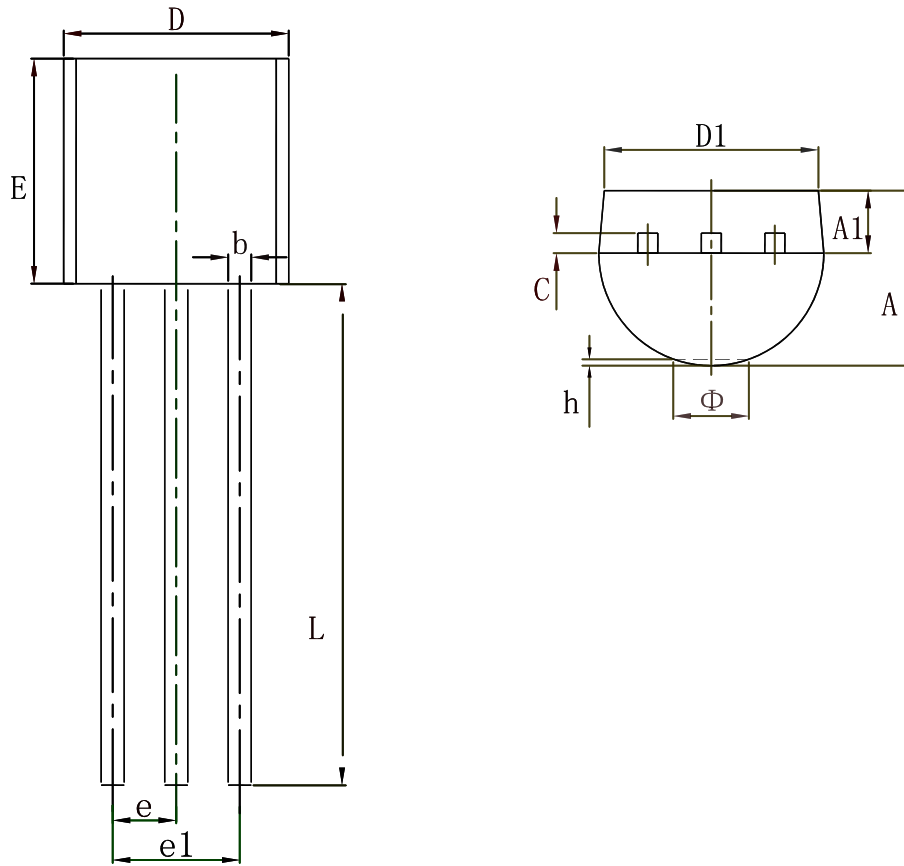
ELECTRICAL CHARACTERISTICS (T_A=25°C unless otherwise noted)

Parameter	Symbol	Test conditions	Min	Typ	Max	Unit
Collector-Base Breakdown Voltage	V _{CBO}	I _C =-100μA, I _E =0	-40			V
Collector-Emitter Breakdown Voltage	V _{CEO}	I _C =-1mA, I _B =0	-40			V
Emitter-Base Breakdown Voltage	V _{EBO}	I _E =-100μA, I _C =0	-5			V
Collector Cut-off Current	I _{CBO}	V _{CB} =-35V, I _E =0			-100	nA
Emitter Cut-off Current	I _{EBO}	V _{EB} =-5V, I _C =0			-100	nA
DC Current Gain	h _{FE(1)}	V _{CE} =-1V, I _C =-0.1mA	30			
	h _{FE(2)}	V _{CE} =-1V, I _C =-1mA	60			
	h _{FE(3)}	V _{CE} =-1V, I _C =-10mA	100			
	h _{FE(4)}	V _{CE} =-2V, I _C =-150mA	100		300	
	h _{FE(5)}	V _{CE} =-2V, I _C =-500mA	20			
Collector-Emitter Saturation Voltage	V _{CE(sat)1}	I _C =-150mA, I _B =-15mA			-0.4	V
	V _{CE(sat)2}	I _C =-500mA, I _B =-50mA			-0.75	V
Base-Emitter Saturation Voltage	V _{BE(sat)1}	I _C =-150mA, I _B =-15mA	-0.75		-0.95	V
	V _{BE(sat)2}	I _C =-500mA, I _B =-50mA			-1.3	V
Collector Output Capacitance	C _{OB}	V _{CB} =-10V, I _E =0, f=1MHz			8.5	pF
Transition Frequency	f _T	V _{CE} =-10V, I _C =-20mA, f=100MHz	200			MHz
Delay Time	t _D	V _{CC} =-30V, I _C =-150mA I _{B1} =- I _{B2} =-15mA			15	nS
Rise Time	t _R				20	nS
Storage Time	t _S				225	nS
Fall Time	t _F				30	nS

Typical Characteristics

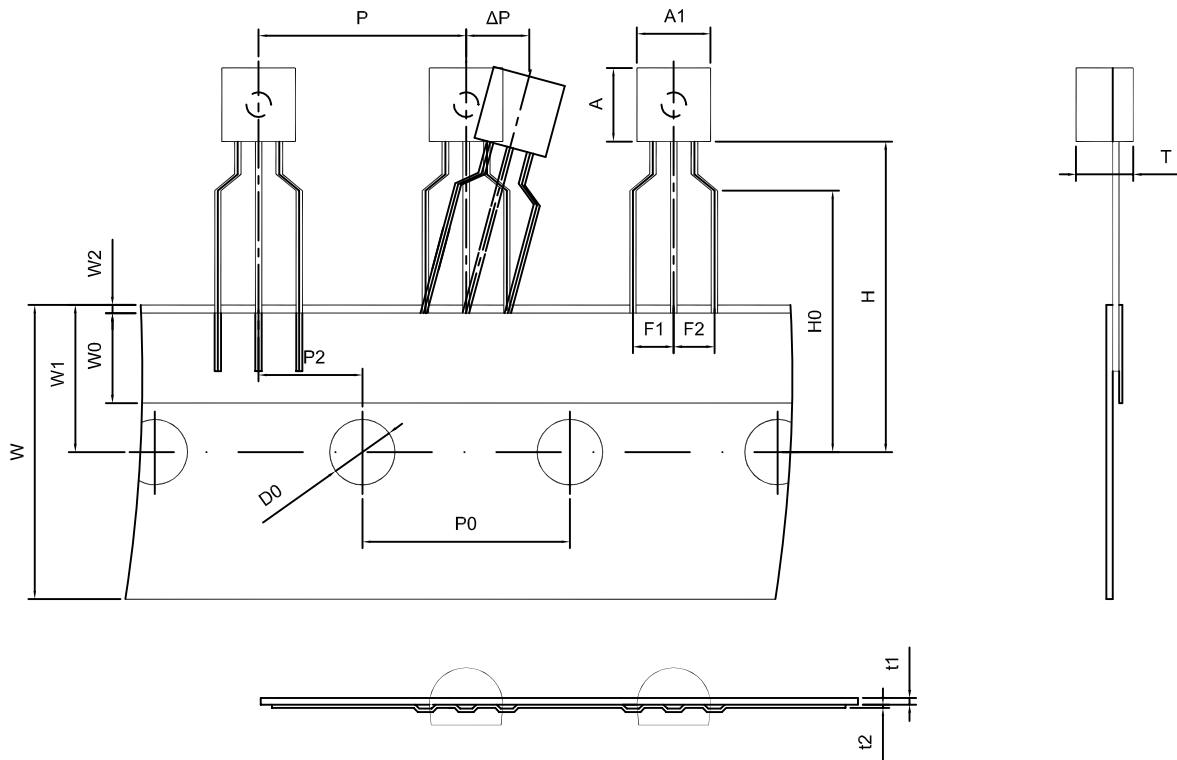


TO-92 Package Outline Dimensions



Symbol	Dimensions In Millimeters		Dimensions In Inches	
	Min.	Max.	Min.	Max.
A	3.300	3.700	0.130	0.146
A1	1.100	1.400	0.043	0.055
b	0.380	0.550	0.015	0.022
c	0.360	0.510	0.014	0.020
D	4.300	4.700	0.169	0.185
D1	3.430		0.135	
E	4.300	4.700	0.169	0.185
e	1.270 TYP.		0.050 TYP.	
e1	2.440	2.640	0.096	0.104
L	14.100	14.500	0.555	0.571
Φ		1.600		0.063
h	0.000	0.380	0.000	0.015

TO-92 Package Taping Dimension



Dimensions are in millimeter								
A1	A	T	P	P0	P2	F1	F2	W
4.5±0.2	4.5±0.2	3.5±0.2	12.7±0.3	12.7±0.2	6.35±0.3	2.5±0.3	2.5±0.3	18.0+1.0/-0.5
W0	W1	W2	H	H0	D0	t1	t2	ΔP
6.0±0.5	9.0±0.5	1.0 MAX.	19.0±1.0	16.0±0.5	4.0±0.5	0.4±0.05	0.2±0.05	0 ± 1.0

