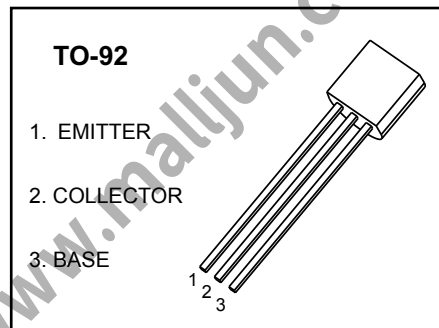


TO-92 Plastic-Encapsulate Transistors

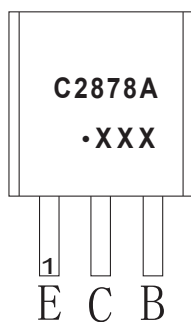
2SC2878A TRANSISTOR (NPN)

FEATURES

- High Emitter-Base Voltage
- Low On Resistance



MARKING

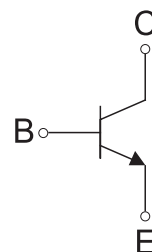


C2878A=Device code

Solid dot=Green molding compound device,
if none, the normal device

XXX=Code

Equivalent Circuit



ORDERING INFORMATION

Part Number	Package	Packing Method	Pack Quantity
2SC2878A	TO-92	Bulk	1000pcs/Bag
2SC2878A-TA	TO-92	Tape	2000pcs/Box

MAXIMUM RATINGS ($T_A=25^{\circ}\text{C}$ unless otherwise noted)

Symbol	Parameter	Value	Unit
V_{CBO}	Collector-Base Voltage	50	V
V_{CEO}	Collector-Emitter Voltage	20	V
V_{EBO}	Emitter-Base Voltage	15	V
I_C	Collector Current -Continuous	0.3	A
P_C	Collector Power Dissipation	0.4	W
T_j	Junction Temperature	150	$^{\circ}\text{C}$
T_{stg}	Storage Temperature	-55~ +150	$^{\circ}\text{C}$

ELECTRICAL CHARACTERISTICS

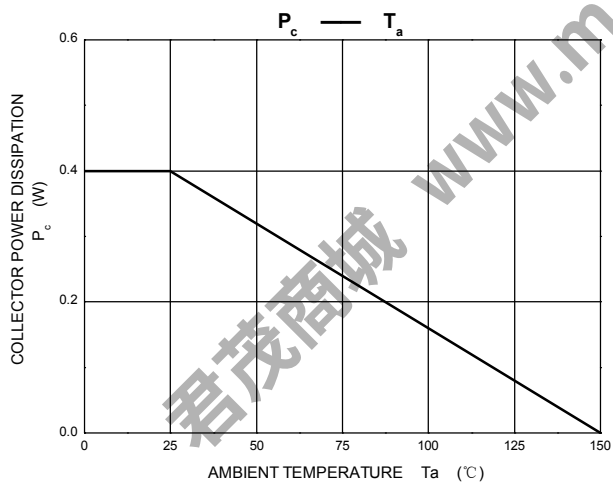
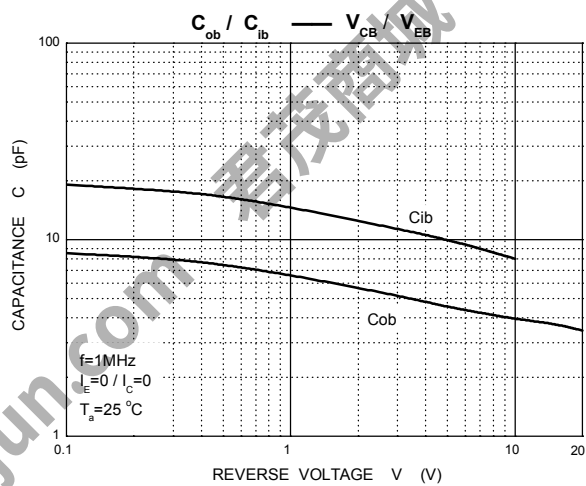
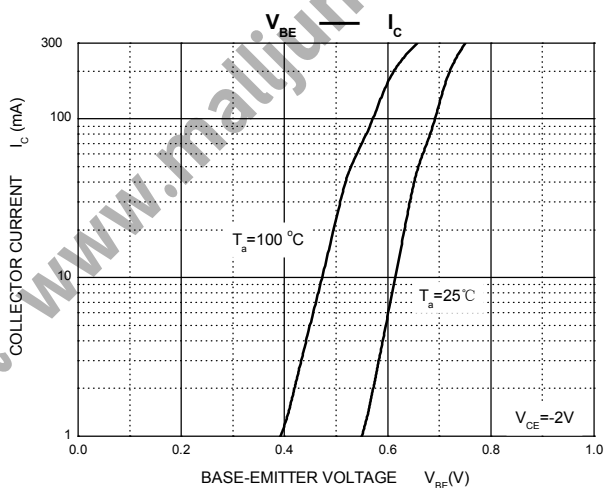
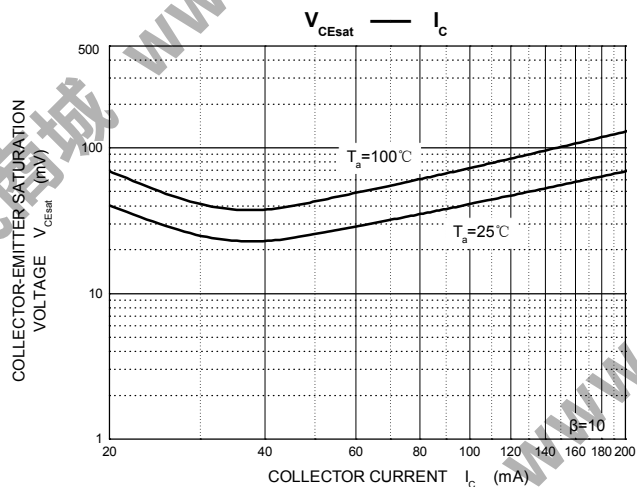
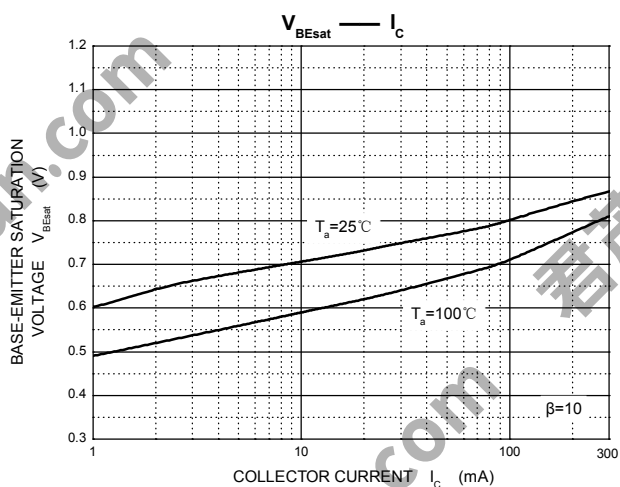
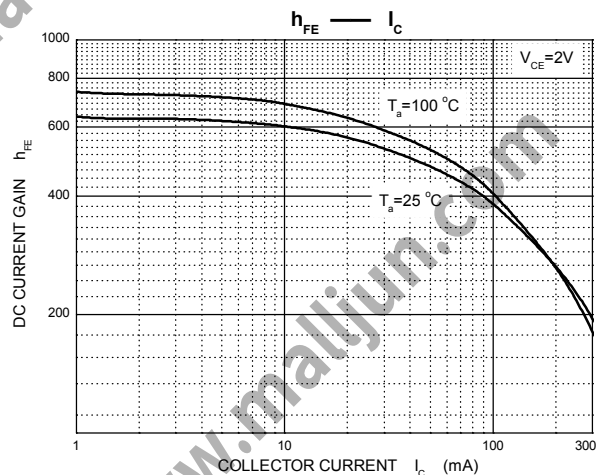
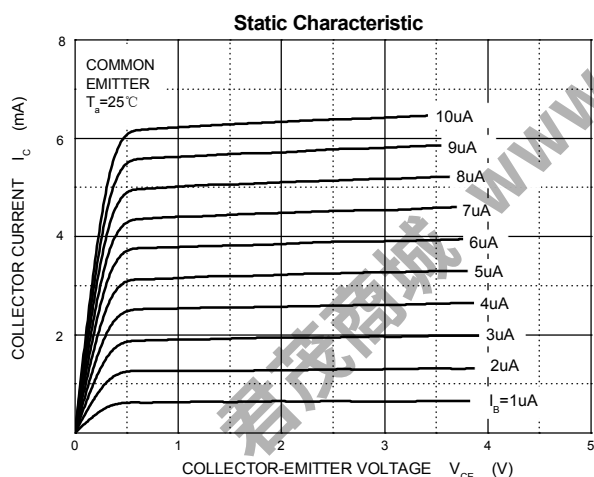
$T_a=25^{\circ}\text{C}$ unless otherwise specified

Parameter	Symbol	Test conditions	Min	Typ	Max	Unit
Collector-base breakdown voltage	$V_{(BR)CBO}$	$I_C=100\mu\text{A}, I_E=0$	50			V
Collector-emitter breakdown voltage	$V_{(BR)CEO}$	$I_C=1\text{mA}, I_B=0$	20			V
Emitter-base breakdown voltage	$V_{(BR)EBO}$	$I_E=100\mu\text{A}, I_C=0$	15			V
Collector cut-off current	I_{CBO}	$V_{CB}=50\text{V}, I_E=0$			0.1	μA
Emitter cut-off current	I_{EBO}	$V_{EB}=15\text{V}, I_C=0$			0.1	μA
DC current gain	h_{FE}	$V_{CE}=2\text{V}, I_C=4\text{mA}$	200		1200	
Collector-emitter saturation voltage	$V_{CE(sat)}$	$I_C=30\text{mA}, I_B=3\text{mA}$			0.3	V
Base-emitter voltage	$V_{BE(on)}$	$V_{CE}=2\text{V}, I_C=4\text{mA}$			0.71	V
Transition frequency	f_T	$V_{CE}=6\text{V}, I_C=4\text{mA}$		30		MHz
Collector output capacitance	C_{ob}	$V_{CB}=10\text{V}, I_E=0, f=1\text{MHz}$			7	pF
Turn-on time	t_{on}	$V_{CC}=12\text{V}, I_C=12\text{mA}, I_B=1.2\text{mA}$			160	ns
Storage time	t_s				500	ns
Fall time	t_f				130	ns

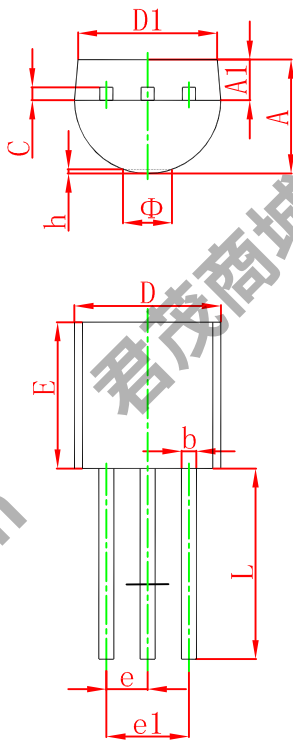
CLASSIFICATION of h_{FE}

Rank	A	B
Range	200-700	350-1200

Typical Characteristics

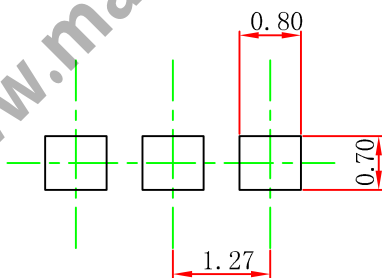


TO-92 Package Outline Dimensions



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 Suggested Pad Layout



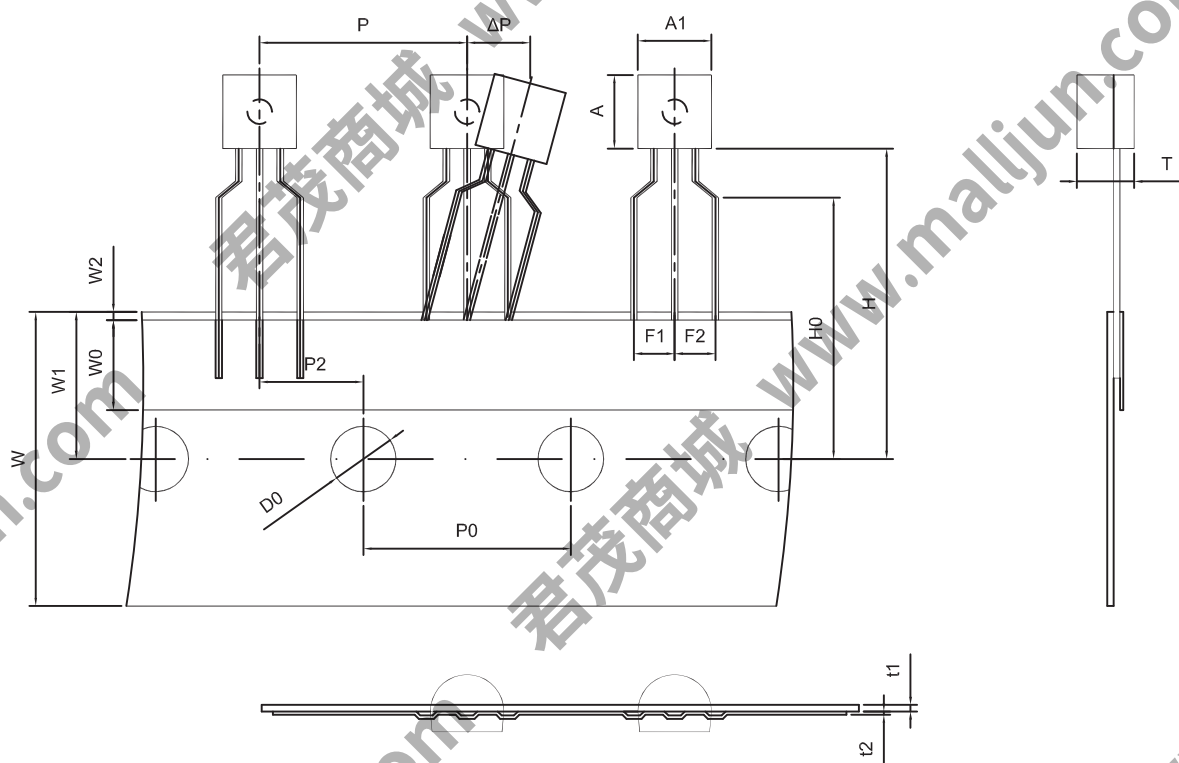
Note:

1. Controlling dimension: in millimeters.
2. General tolerance: $\pm 0.05\text{mm}$.
3. The pad layout is for reference purposes only.

NOTICE

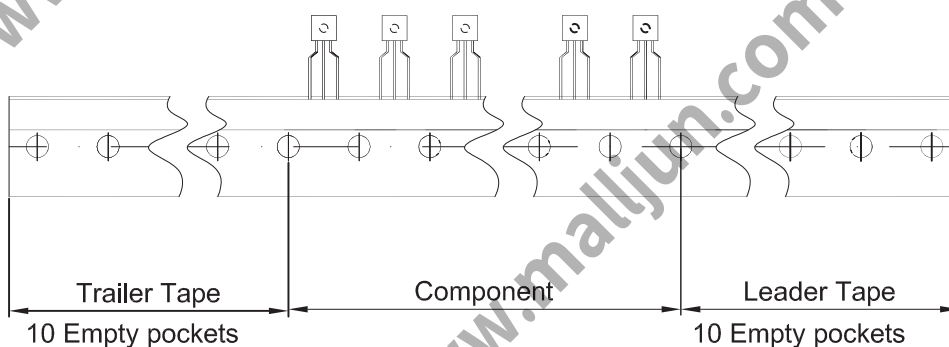
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TO-92 PACKAGE TAPEING DIMENSION



Dimiensions are in millimeter

A1	A	T	P	P0	P2	F1	F2	W
4.5	4.5	3.5	12.7	12.7	6.35	2.5	2.5	18.0
W0	W1	W2	H	H0	D0	t1	t2	ΔP
6.0	9.0	1.0 MAX.	19.0	16.0	4.0	0.4	0.2	0



Package	Box	Box Size(mm)	Carton	Carton Size(mm)
TO-92	2000 pcs	333×162×43	20,000 pcs	350×340×250