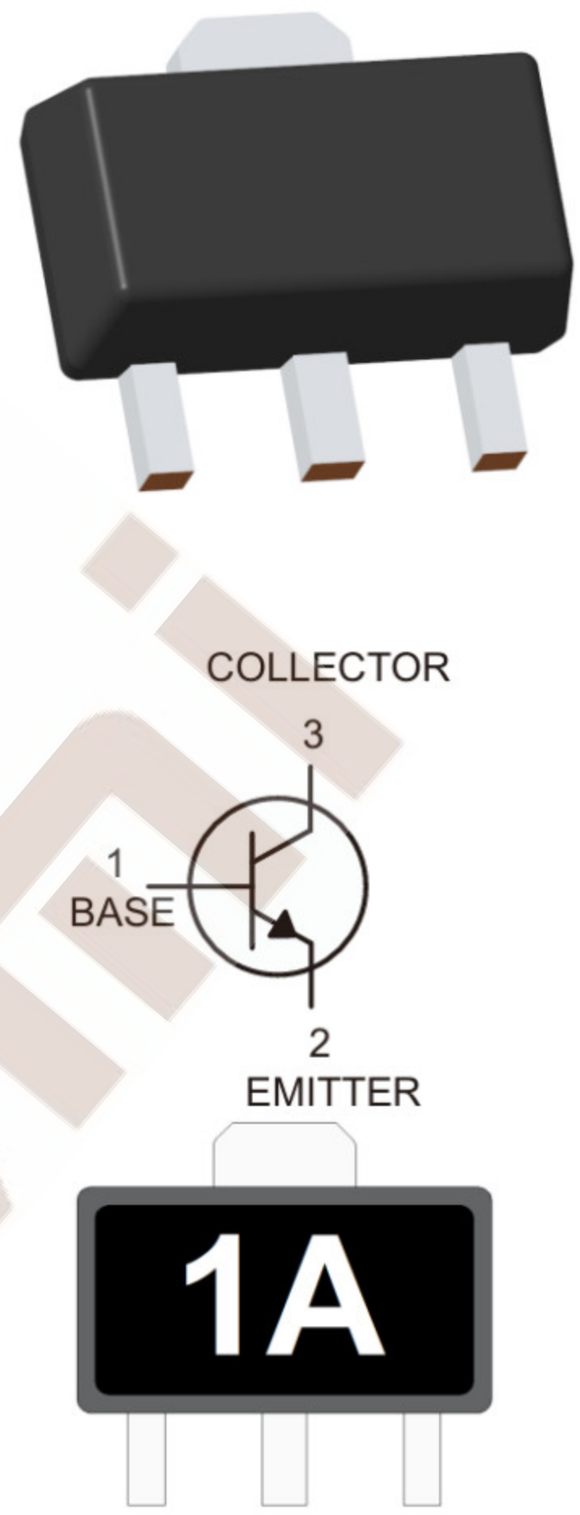
PXT3904

NPN General Purpose Amplifier

General Characteristics

V_{CEO}	I_C	VCE(sat)	f_T	T_{jmax}
40V	0.2A	1.0V	300MHZ	150℃



Features

- SOT89 Package
- Epoxy meets UL-94 V-0 flammability rating and halogen free
- Moisture Sensitivity Level 3
- High temperature soldering guaranteed 260℃/10seconds at terminals

Package Marking and Ordering Information

Product ID	Package	Marking	Qty(PCS)
PXT3904	SOT89	1A	1000

Absolute Maximum Ratings (Ta=25℃ unless otherwise noted)

Parameter	Symbols	PXT3904	Units
Collector-Base Voltage	VCBO	60	V
Collector-Emitter Voltage	VCEO	40	V
Emitter -Base Voltage	VEBO	6	V
Collector Current-Continuous	IC	0.2	A
Collector Power Dissipation	PC	500	mW
Thermal resistance From junction to ambient	RθJA	250	℃/W
Junction temperature	T_j	-55~150	℃
Storage temperature range	T_{stg}	-55~150	℃

Note: 1. Device mounted on an FR4 Printed-Circuit Board (PCB), single-side copper, tin-plated and standard footprint.

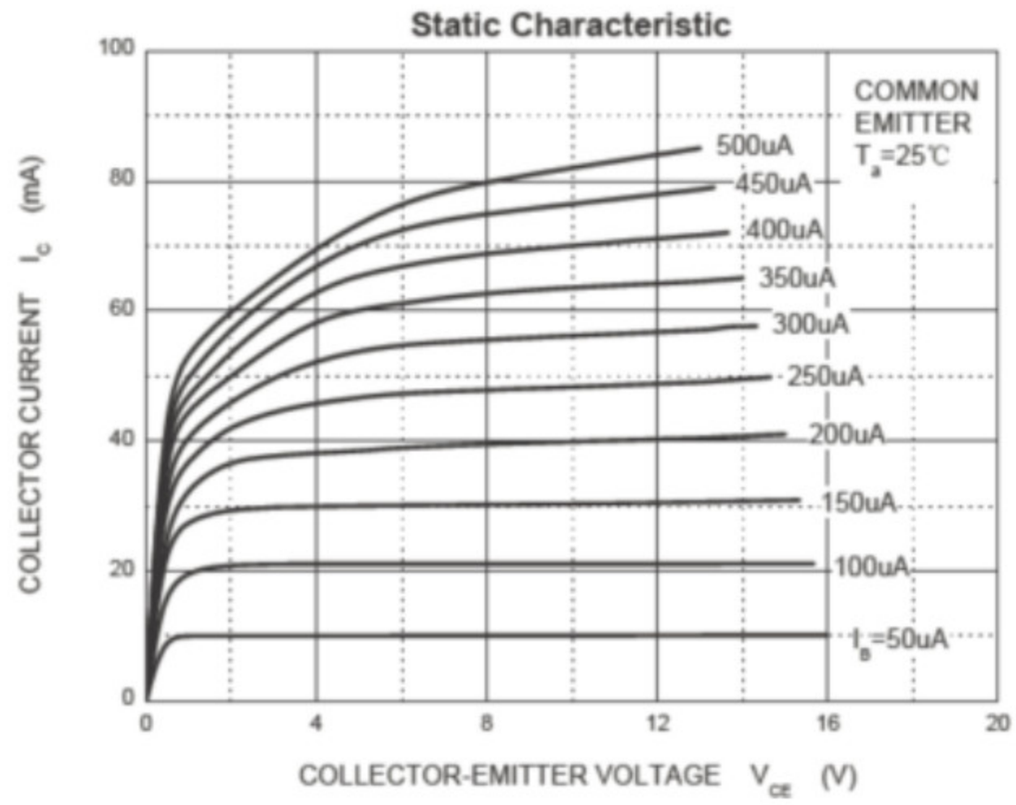
Electrical Characteristics (TJ=25℃ , unless otherwise noted)

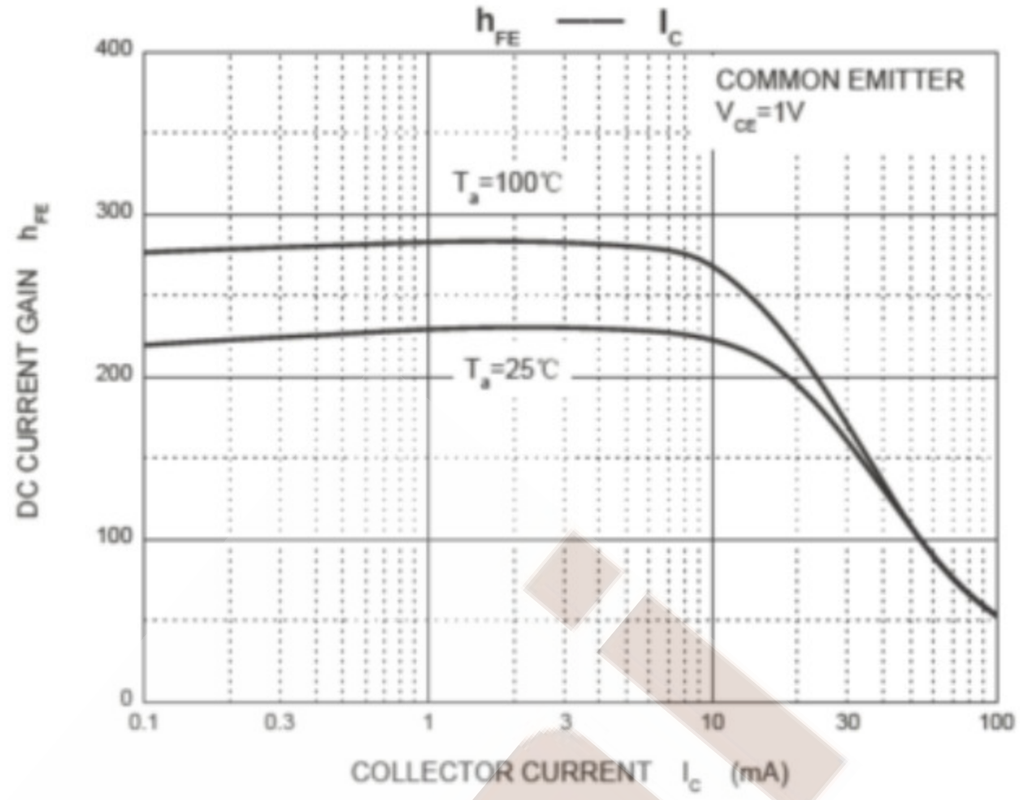
Parameter	Symbols	Test Conditions	Min	Type	Max	Units
Collector-base breakdown voltage	V(BR)CBO	IC=10uA, IE=0	60			V
Collector-emitter breakdown voltage	V(BR)CEO	IC=10mA, IB=0	40			
Emitter-base breakdown voltage	V(BR)EBO	IE=10uA, IC=0	6			
Collector cut-off current	ICEX	VCE=30V, VEB=3V			50	nA
Collector cut-off current	ICBO	VCB=60V, IE=0			100	
Emitter cut-off current	IEBO	VEB=5V, IC=0			100	
DC current gain	hFE(1)	VCE=10V, IC=10mA	100		300	
	hFE(2)	VCE=10V, IC=100mA	30			
Collector-emitter saturation voltage	VCE(sat)	IC=50mA, IB=5mA			0.3	V
Base -emitter saturation voltage	VBE(sat)	IC=50mA, IB=5mA			0.95	V
Transition frequency	fT	VCE=20V, IC=10mA,f=100MHz	300			MHz

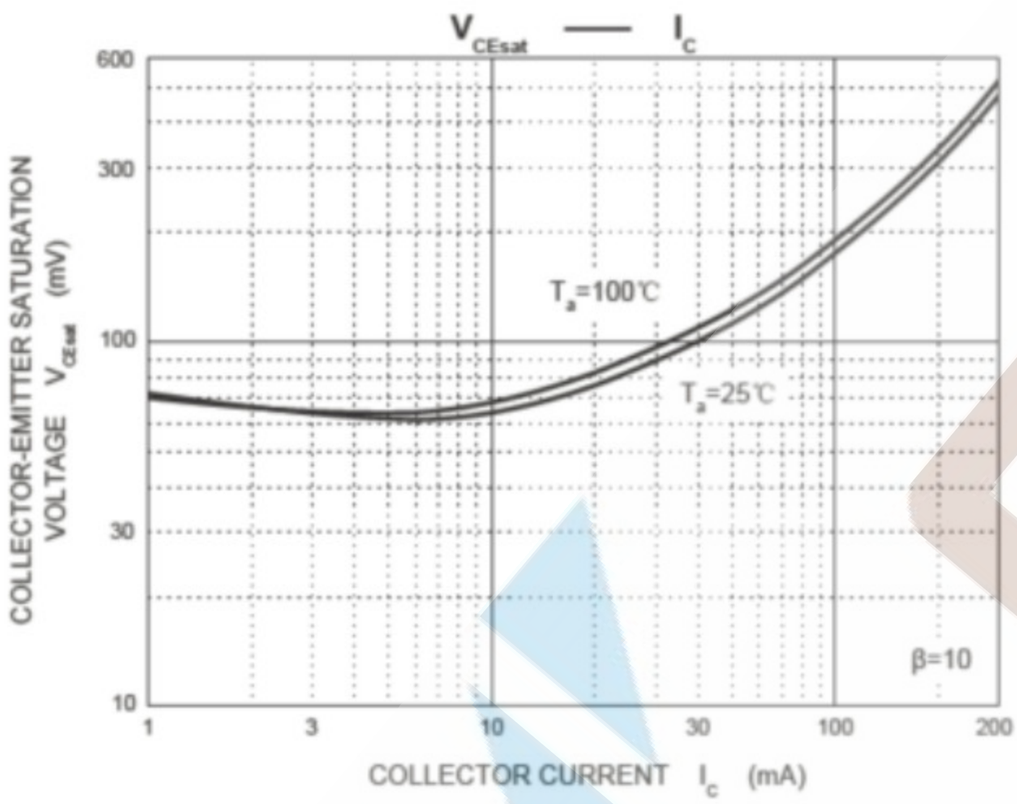
CLASSIFICATION OF hFE(1)

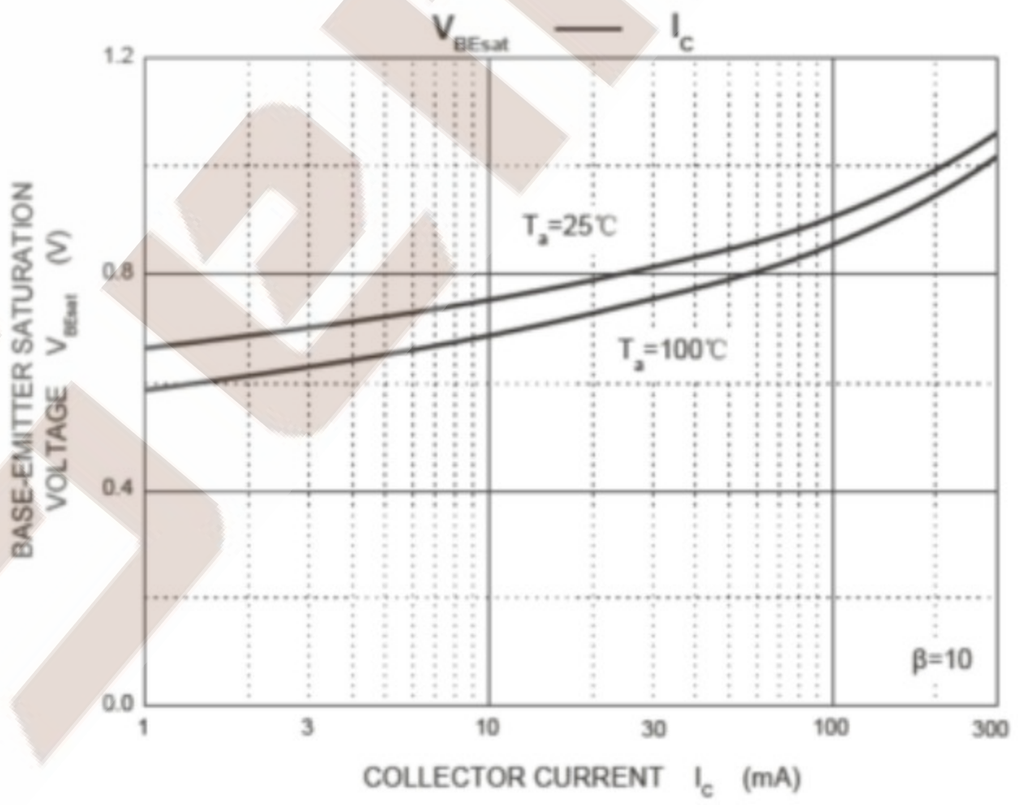
RANK	L	H
RANGE	100-200	200-300

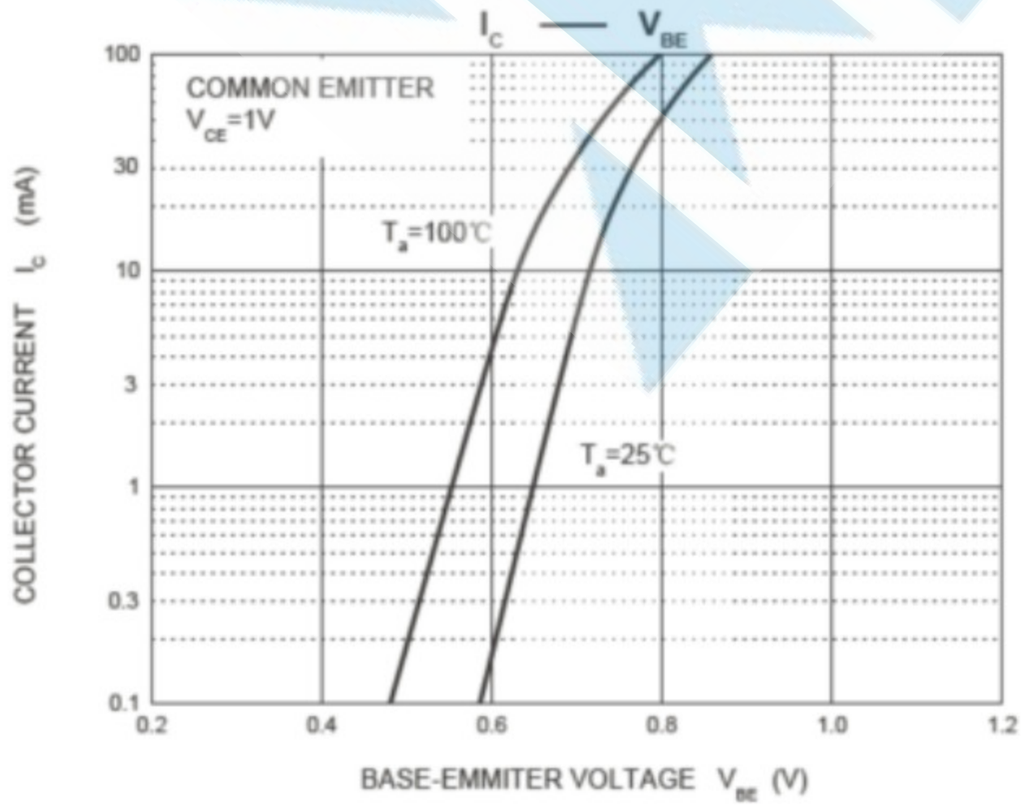
Ratings And Characteristic Curves

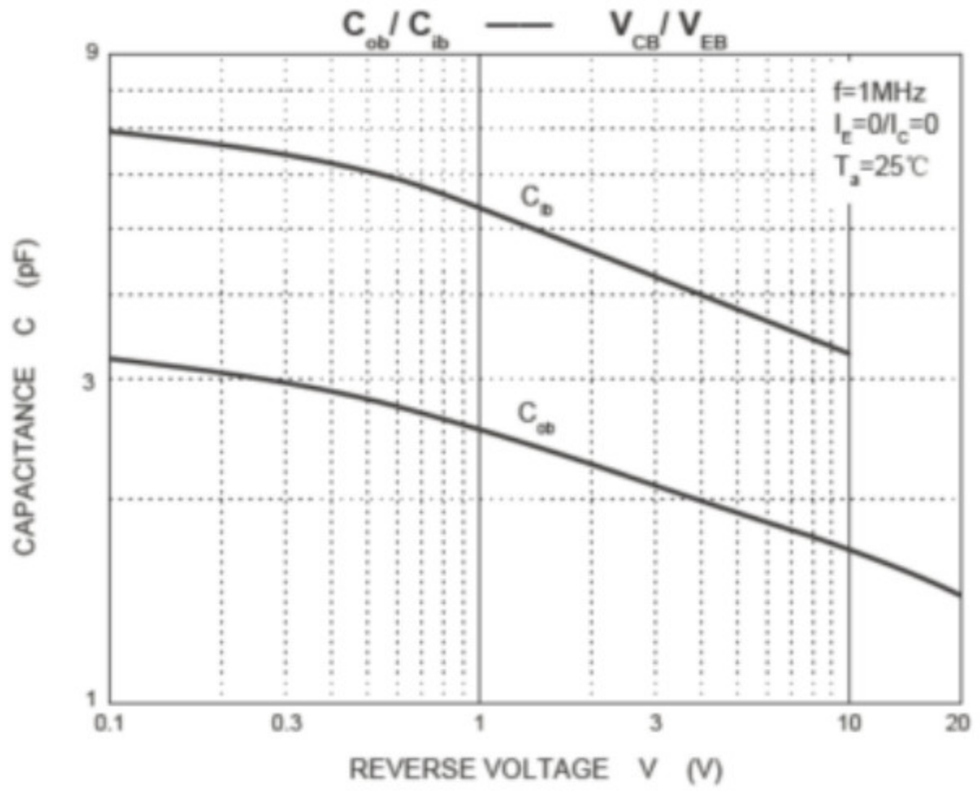






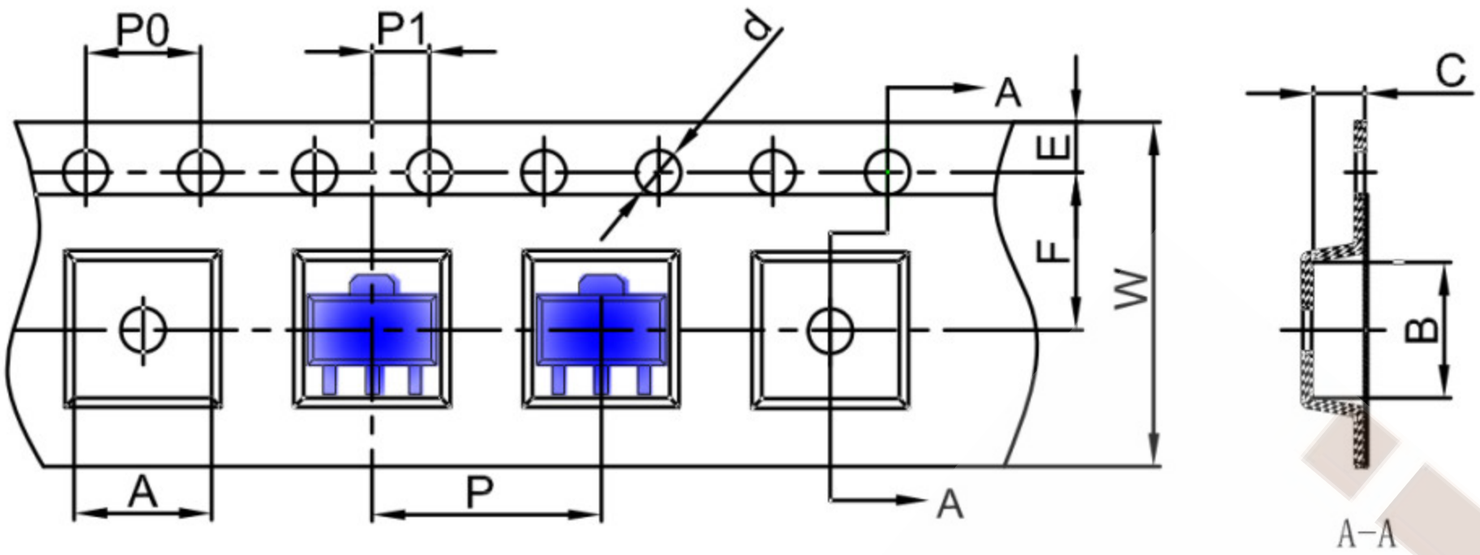




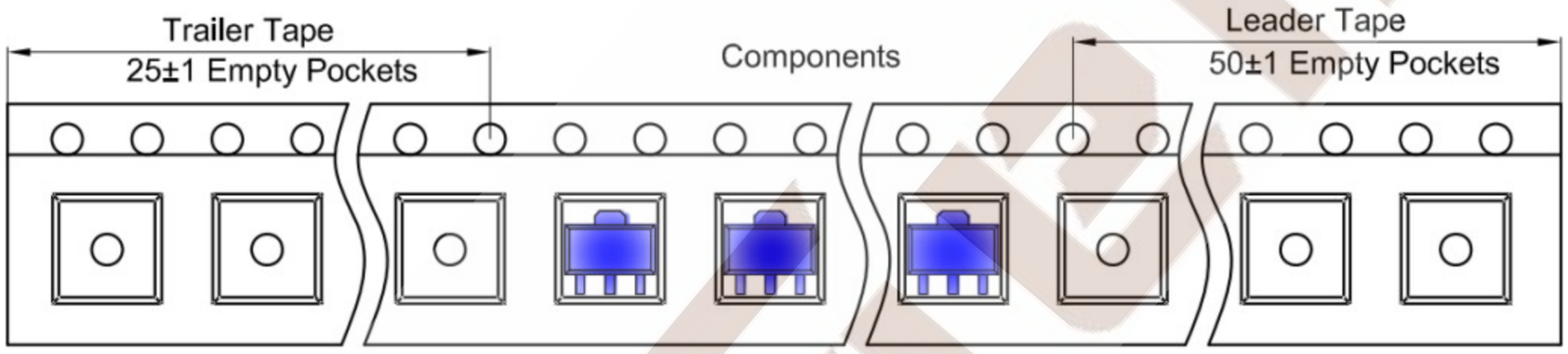


Package Information

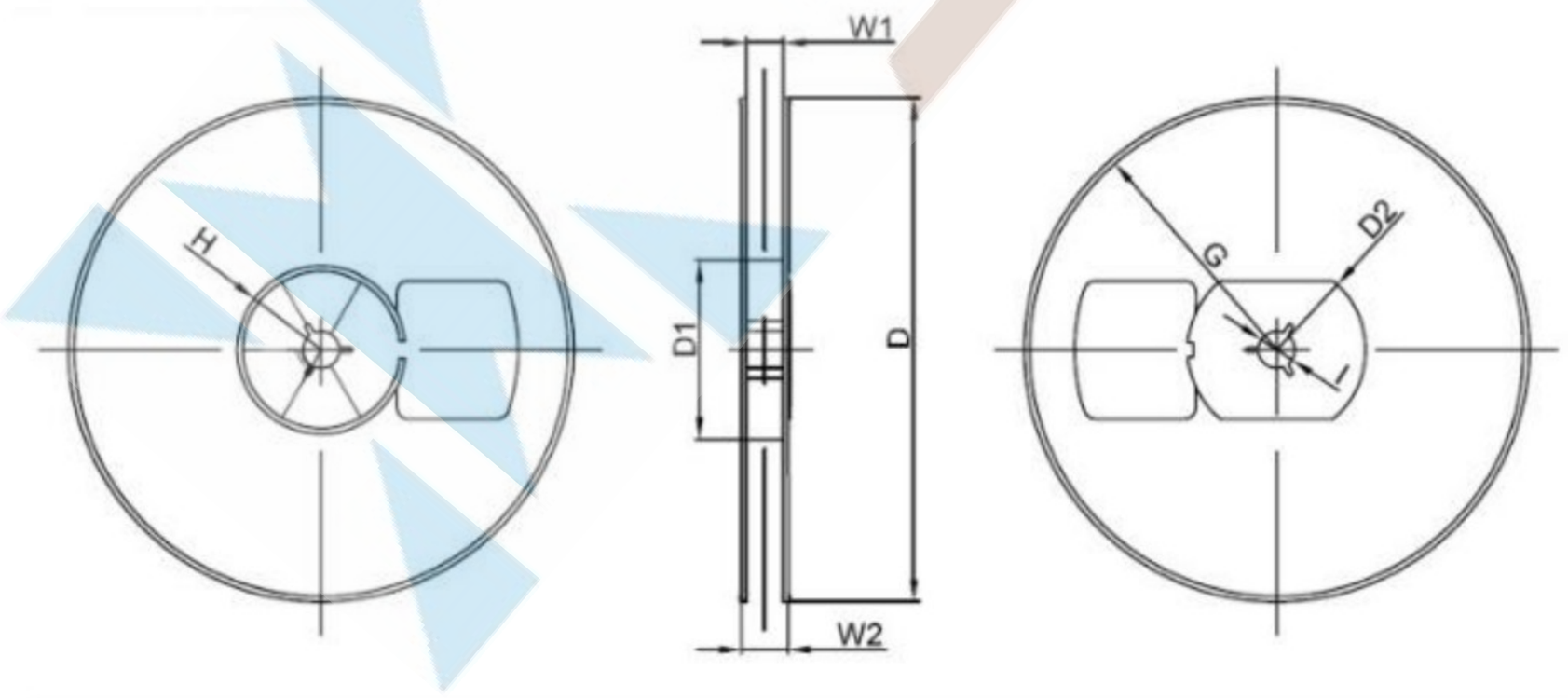
Carrier Dimension(mm)



Dimensions are in millimeter										
Pkg type	A	B	C	d	E	F	P0	P	P1	W
SOT-89-3L	4.85	4.45	1.85	Ø1.50	1.75	5.50	4.00	8.00	2.00	12.00
(Tolerance)	+/-0.1	+/-0.1	+/-0.1	+/-0.1	+/-0.1	+/-0.1	+/-0.1	+/-0.1	+/-0.1	+0.3/-0.1



Reel Dimension(mm)



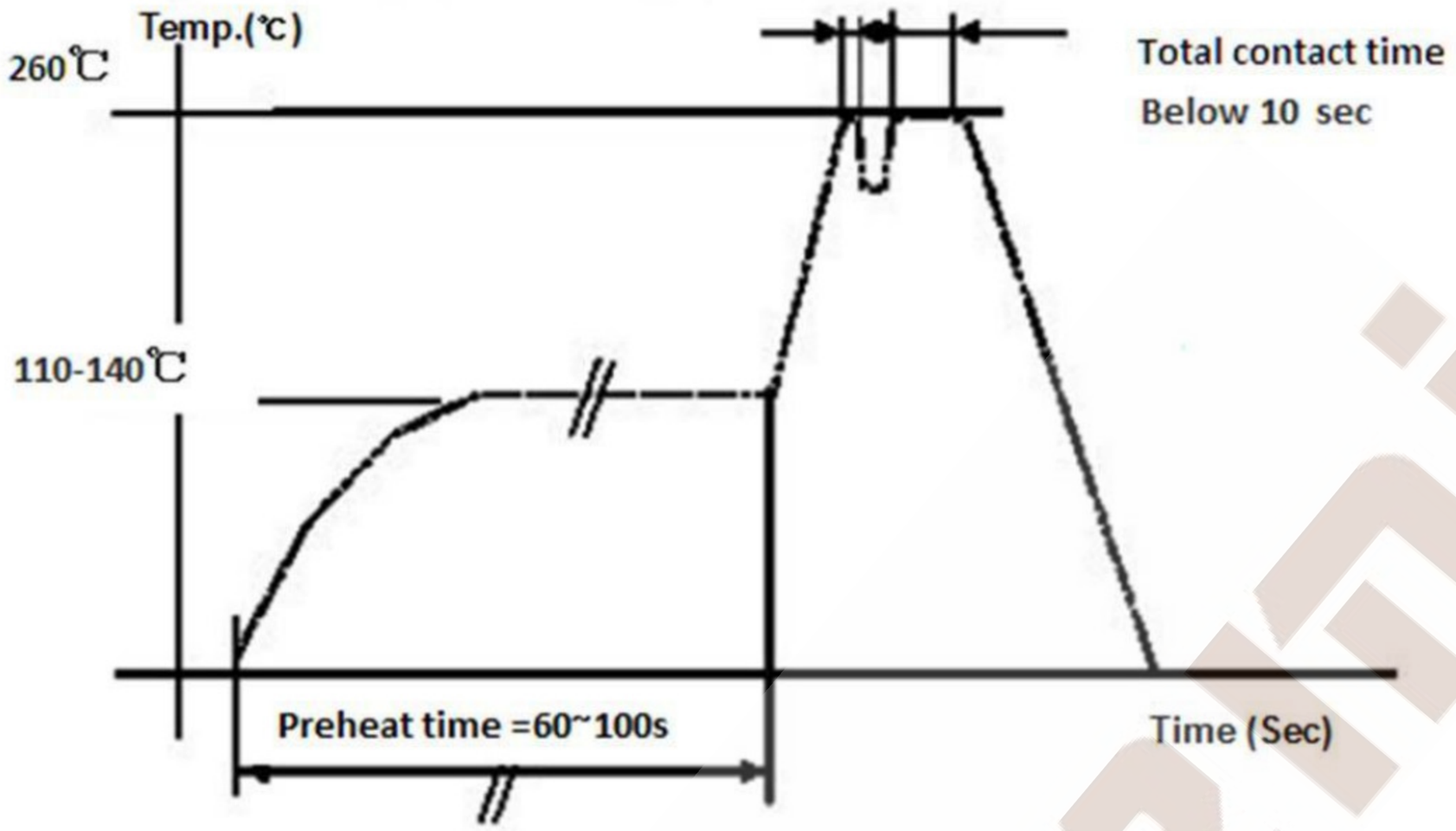
Dimensions are in millimeter								
Reel Option	D	D1	D2	G	H	I	W1	W2
7"Dia	Ø180.00	60.00	R32.00	R86.50	R30.00	Ø13.00	13.20	16.50
Tolerance	+/-2	+/-1	+/-1	+/-1	+/-1	+/-1	+/-1	+/-1

Package Specifications

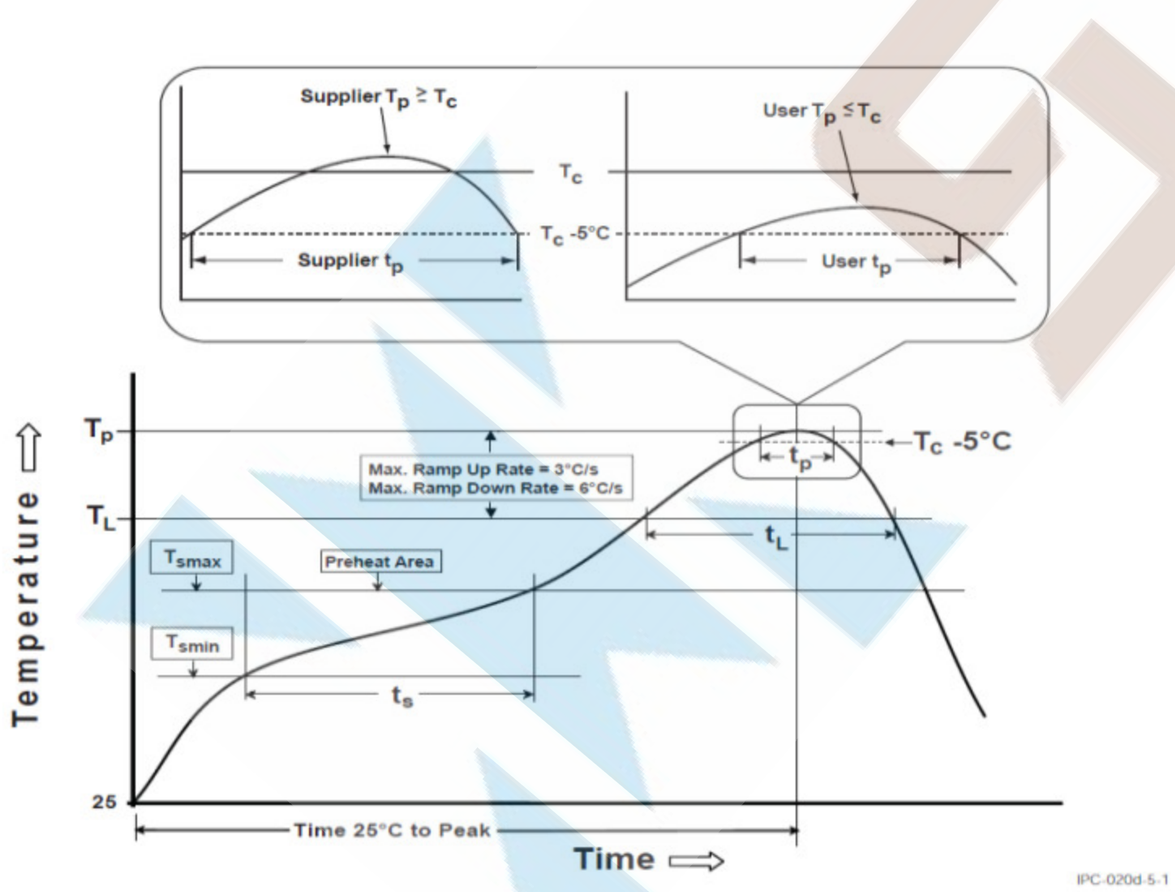
Package	Reel Size	Reel DIA. (mm)	Q'TY/Reel (Kpcs)	Box Size (mm)	QTY/Box (Kpcs)	Carton Size (mm)	Q'TY/Carton (Kpcs)
SOT89	7’	178	1	210*208*203	10	440*400*230	40

Recommended Soldering Profile for Rectifier Diodes (Pb Free)

a) Wave Soldering Profile



b) Reflow Soldering Profile (Pb Free Application), refer to IPC/JEDEC J-STD-020

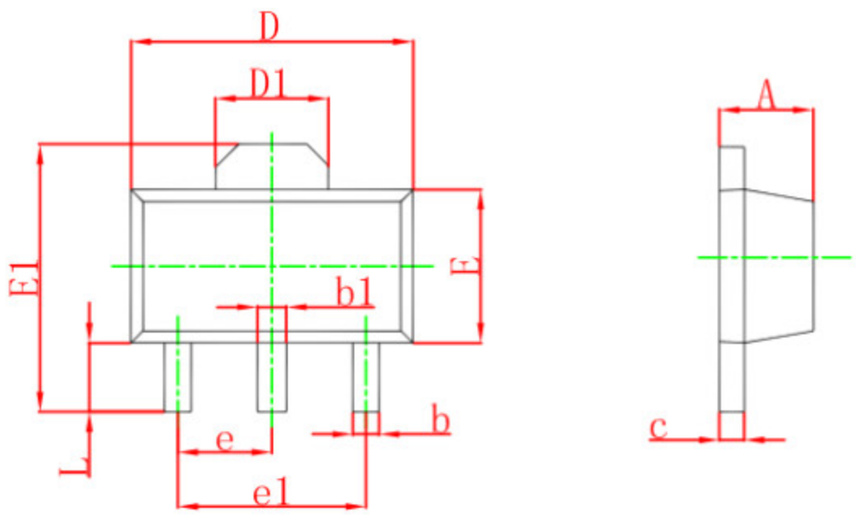


Preheat/Soak Temperature Min (Tsmin) Temperature Max (Tsmax) Time (ts) from (Tsmin to Tsmax)	50 °C 200 °C 60-120 seconds
Melting Point of Solder (Sn Ag Cu)	217℃
Ramp-up Rate to 217℃(Melting Point of Solder)	3℃/sec
Time at Temp.>217℃ (Melting Point of Solder)	60~150 Sec
Peak Temperature	255±5℃
Time within 5℃below Peak Temp.	20~40 Sec
Cooling Rate	6℃/sec (max)
Time from 25℃ to Peak Temp.	8min (max)

c) Manual Soldering

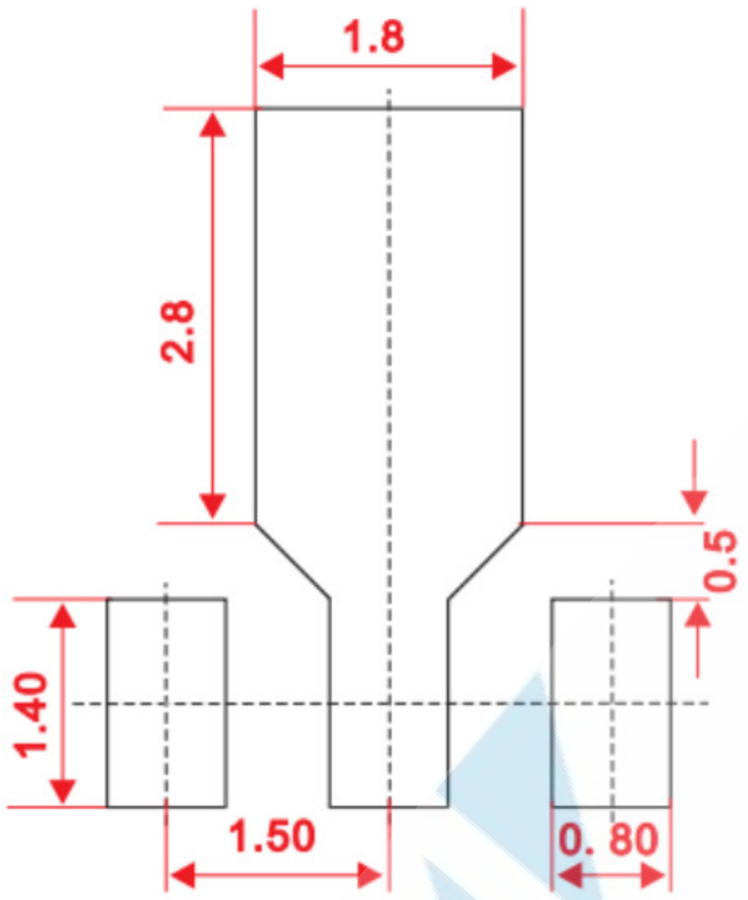
When using an electric soldering iron for manual soldering, it is recommended that the temperature does not exceed 300 ℃ and the soldering time is less than 10 seconds.

Package Mechanical Data



Symbol	Dimensions In Millimeters		Dimensions In Inches	
	Min	Max	Min	Max
A	1.400	1.600	0.055	0.063
b	0.320	0.520	0.013	0.020
b1	0.400	0.580	0.016	0.023
c	0.350	0.440	0.014	0.017
D	4.400	4.600	0.173	0.181
D1	1.550 REF.		0.061 REF.	
E	2.300	2.600	0.091	0.102
E1	3.940	4.250	0.155	0.167
e	1.500 TYP.		0.060 TYP.	
e1	3.000 TYP.		0.118 TYP.	
L	0.900	1.200	0.035	0.047

Suggested Pad Layout



Note:
1.Controlling dimension:in millimeters.
2.General tolerance:± 0.05mm.
3.The pad layout is for reference purposes only.

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