JIANGSU CHANGJIANG ELECTRONICS TECHNOLOGY CO., LTD

WBFBP-03E Plastic-Encapsulate Transistors

TP847LED03 TRANSISTOR (NPN)

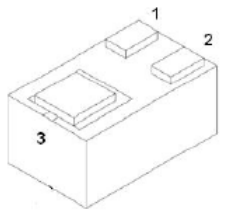
FEATURE

- Low Current
- Low Voltage
- Ultra Small SMD Plastic Package
- Complementary to TP857LED03
- For General-purpose Switching and Amplification

MARKING: D5



WBFBP-03E



1. BASE
2. EMITTER
3. COLLECTOR

MAXIMUM RATINGS (T_a=25℃ unless otherwise noted)

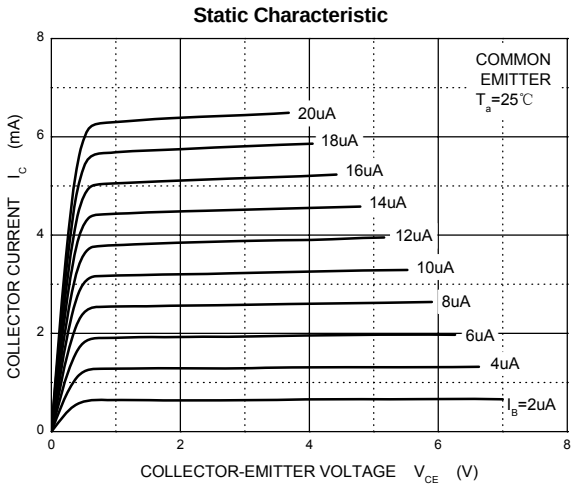
Symbol	Parameter	Value	Unit
V_{CBO}	Collector-Base Voltage	50	V
V_{CEO}	Collector-Emitter Voltage	45	V
V_{EBO}	Emitter-Base Voltage	6	V
I_C	Collector Current	100	mA
P_C	Collector Power Dissipation	100	mW
$R_{\Theta JA}$	Thermal Resistance from Junction to Ambient	1250	℃/W
T_j	Junction Temperature	150	℃
T_{stg}	Storage Temperature	-55～+150	℃

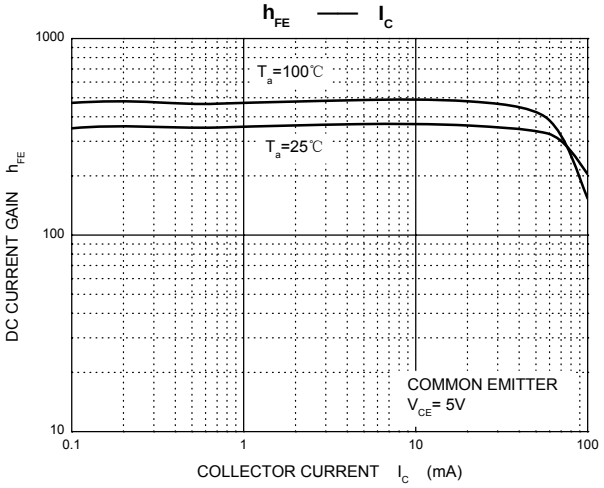
ELECTRICAL CHARACTERISTICS (T_a=25℃ unless otherwise specified)

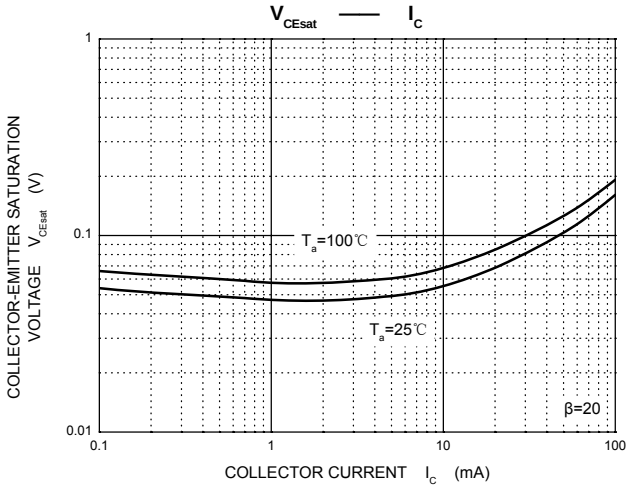
Parameter	Symbol	Test condition	Min	Typ	Max	Unit
Collector-base breakdown voltage	$V_{(BR)CBO}$	I_C=10μA, I_E=0	50			V
Collector-emitter breakdown voltage	$V_{(BR)CEO}$	I_C=10mA, I_B=0	45			V
Emitter-base breakdown voltage	$V_{(BR)EBO}$	I_E=10μA, I_C=0	6			V
Collector cut-off current	I_{CBO}	V_{CB}=30V, I_E=0			15	nA
Emitter cut-off current	I_{EBO}	V_{EB}=5V, I_C=0			15	nA
DC current gain	h_{FE}*	V_{CE}=5V, I_C=2mA	220		475	
Collector-emitter saturation voltage	$V_{CE(sat)1}$*	I_C=10mA, I_B=0.5mA			0.2	V
	$V_{CE(sat)2}$*	I_C=100mA, I_B=5mA			0.4	V
Base-emitter saturation voltage	$V_{BE(sat)1}$*	I_C=10mA, I_B=0.5mA		0.7		V
	$V_{BE(sat)2}$*	I_C=100mA, I_B=5mA		0.9		V
Base-emitter voltage	V_{BE1}*	V_{CE}=5V, I_C=2mA			0.7	V
	V_{BE2}*	V_{CE}=5V, I_C=10mA			0.77	V
Transition frequency	f_T	V_{CE}=5V,I_C=10mA,f=100MHz	100			MHz
Collector output capacitance	C_{ob}	V_{CB}=10V, I_E=0, f=1MHz		2.5		pF
Noise figure	NF	V_{CE}=5V, I_E=0.2mA, f=1kHz, R_S=1kΩ,B=200Hz		10		dB

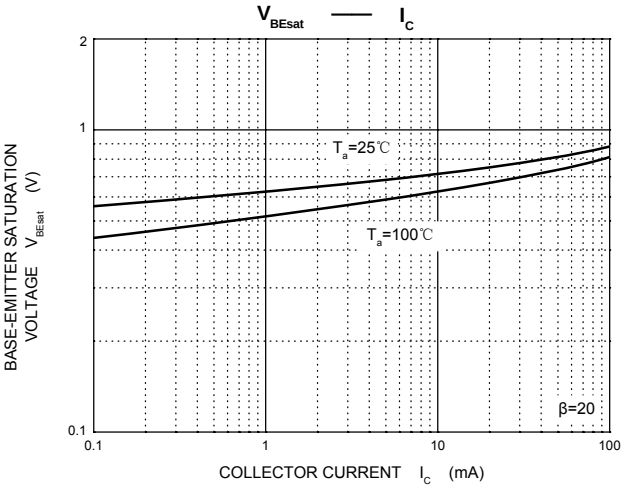
*Pulse test: pulse width ≤300μs, duty cycle≤ 2.0%.

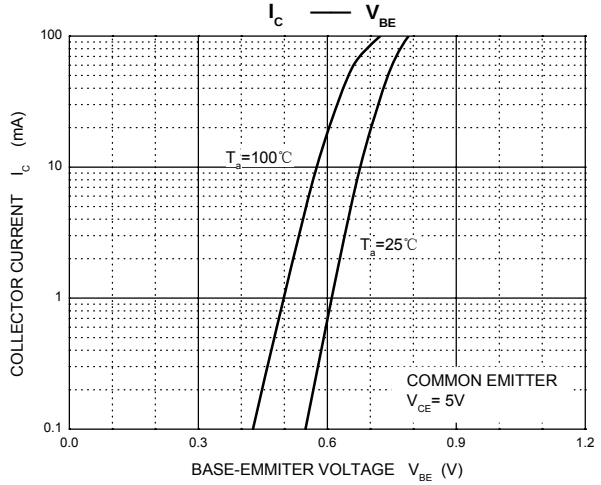
Typical Characteristics

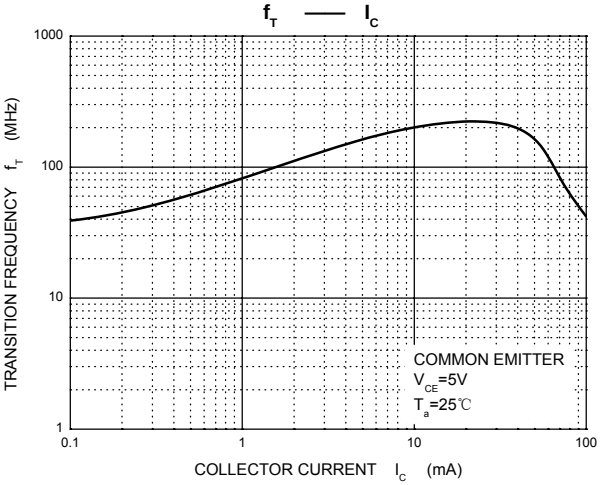


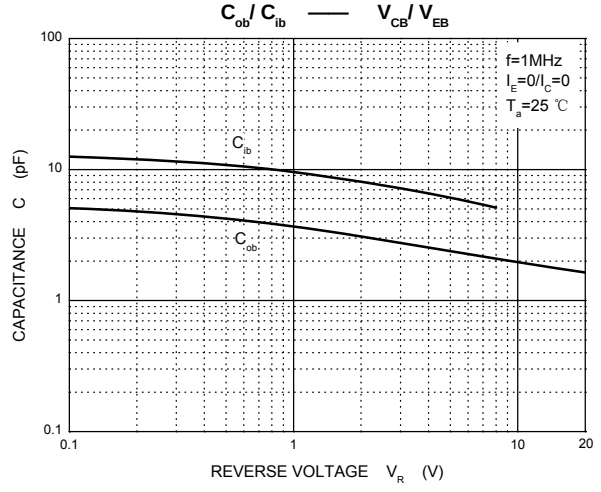


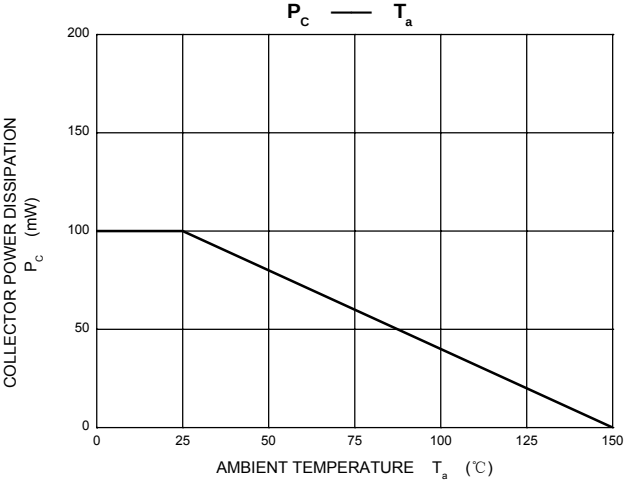




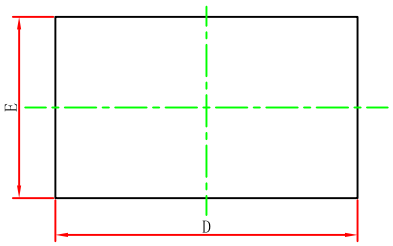




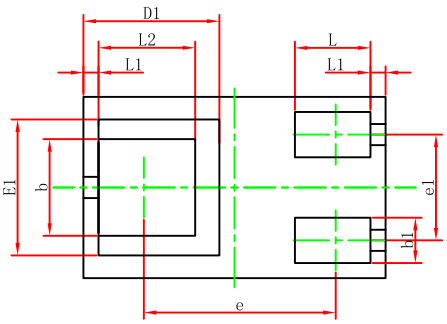




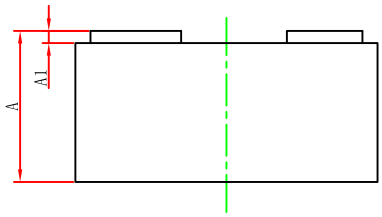
WBFBP-03E Package Outline Dimensions



TOP VIEW



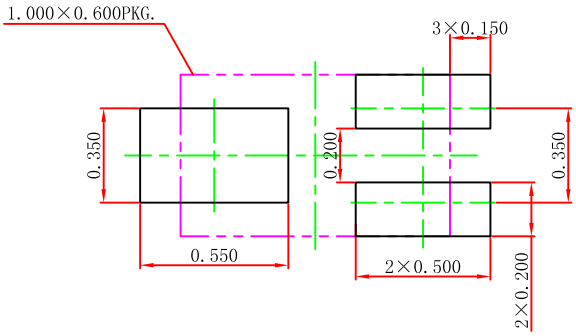
BOTTOM VIEW



SIDE VIEW

Symbol	Dimensions In Millimeters		Dimensions In Inches	
	Min.	Max.	Min.	Max.
A	0.450	0.550	0.018	0.022
A1	0.010	0.100	0.000	0.004
D	0.950	1.050	0.037	0.041
E	0.550	0.650	0.022	0.026
D1	0.450REF.		0.018REF.	
E1	0.450REF.		0.018REF.	
b	0.270	0.370	0.011	0.015
b1	0.100	0.200	0.004	0.008
e	0.635REF.		0.025REF.	
e1	0.300	0.400	0.012	0.016
L	0.200	0.300	0.008	0.012
L1	0.050REF.		0.002REF.	
L2	0.270	0.370	0.011	0.015

WBFBP-03E Suggested Pad Layout

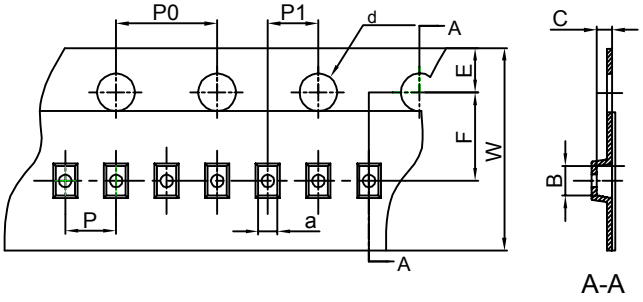


Note:
1.Controlling dimension:in millimeters.
2.General tolerance:± 0.050mm.
3.The pad layout is for reference purposes only.

NOTICE

JCET reserve the right to make modifications,enhancements, improvements, corrections or other changes without further notice to any product herein.JCET does not assume any liability arising out of the application or use of any product described herein.

WBFBP-03E(1.0×0.6×0.5) Embossed Carrier Tape

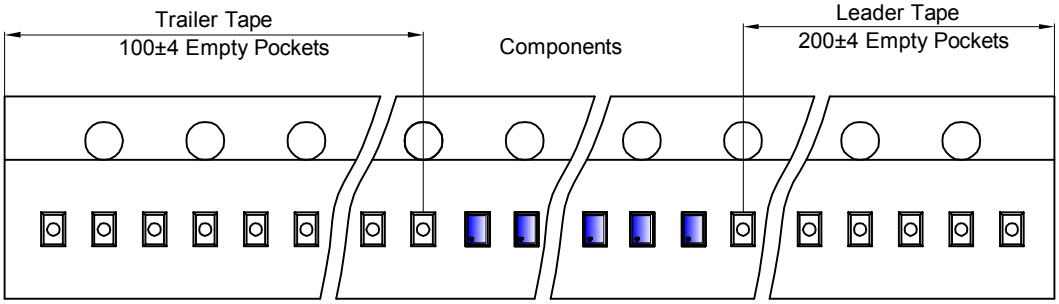


Packaging Description:

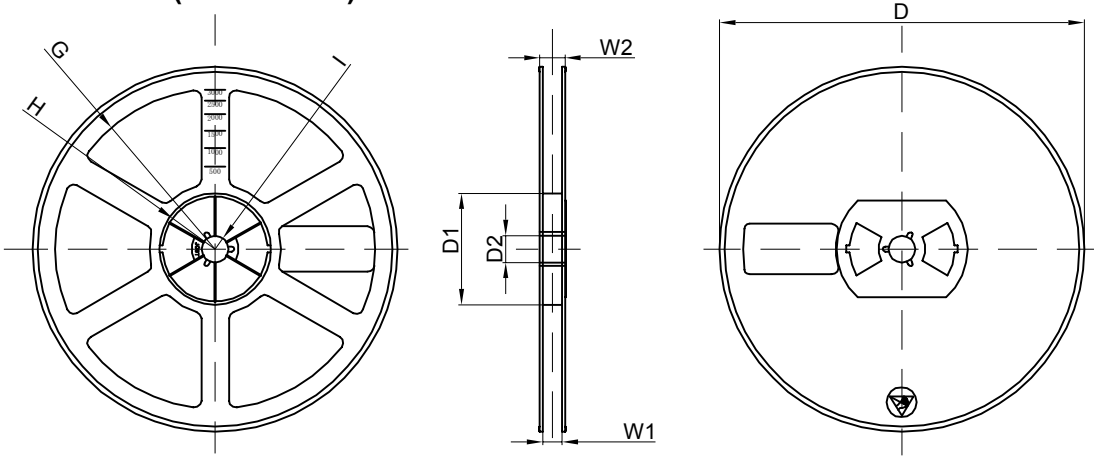
WBFBP-03E(1.0×0.6×0.5) parts are shipped in tape. The carrier tape is made from a dissipative (carbon filled) polycarbonate resin. The cover tape is a multilayer film (Heat Activated Adhesive in nature) primarily composed of polyester film, adhesive layer, sealant, and anti-static sprayed agent. These reeled parts in standard option are shipped with 10,000 units per 7" or 17.8cm diameter reel. The reels are clear in color and is made of polystyrene plastic (anti-static coated).

Dimensions are in millimeter										
Pkg type	a	B	C	d	E	F	P0	P	P1	W
WBFBP-03E (1.0×0.6×0.5)	0.66	1.15	0.66	Ø1.50	1.75	3.50	4.00	2.00	2.00	8.00

WBFBP-03E(1.0×0.6×0.5) Tape Leader and Trailer



WBFBP-03E(1.0×0.6×0.5) Reel



Dimensions are in millimeter								
Reel Option	D	D1	D2	G	H	I	W1	W2
7"Dia	Ø178.00	54.40	13.00	R78.00	R25.60	R6.50	9.50	12.30

REEL	Reel Size	Box	Box Size(mm)	Carton	Carton Size(mm)	G.W.(kg)
10000 pcs	7 inch	150,000 pcs	203×203×195	600,000 pcs	438×438×220	