

PRIMARY CHARACTERISTICS

V_{DS}	20V
I_D	0.75A
$R_{DS(on),max}$	500mΩ
$T_{J,Max}$	150°C

FEATURES

- Ideal for high frequency switching
And DC/DC converters
- Excellent gate charge $\times R_{DS(ON)}$ product
- High power and current handing capability
- Very low on-resistance $R_{DS(ON)}$
- ESD Protected

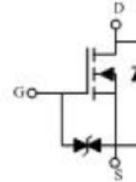
DFN1006-3L

PACKAGE

Marking : 34



Bottom View


Top View
Internal Schematic


MECHANICAL DATA

- Case : Molded plastic,DFN1006-3L
- Polarity : Shown above
- Terminals :Plated terminals,
solderable per MIL-STD-750,Method
2026
- Epoxy : UL94-V0 rated flame
retardant

Maximum Ratings, at $T_J=25^\circ\text{C}$, unless otherwise specified

Parameter		Symbol	Rating	Units
Drain-Source Voltage		V_{DS}	20	V
Gate-Source Voltage		V_{GS}	± 12	V
Continuous Drain Current	$T_C=25^\circ\text{C}$	I_D	0.75	A
Pulsed Drain Current	$T_C=25^\circ\text{C}$	$I_{D,pulse}$	1.8	A
Total Power Dissipation	$T_C=25^\circ\text{C}$	P_{tot}	100	mW
Operating Junction Temperature Range		T_J	-55 to 150	$^\circ\text{C}$

Thermal Resistance

Symbol	Parameter	Typ	Max	Units
$R_{\theta JA}$	Thermal Resistance from Junction to Ambient	-	1250	$^\circ\text{C/W}$

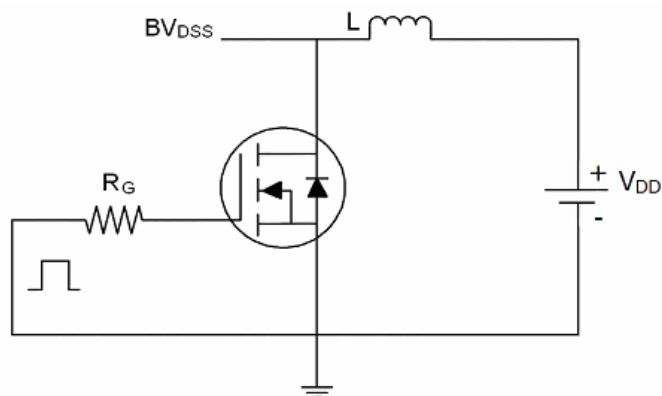


Electrical Characteristics (TJ=25℃ unless otherwise noted)						
Symbol	Parameter	Test Conditions	Min	Typ	Max	Units
OFF CHARACTERISTICS (Note 2)						
BV _{DSS}	Drain-Source Breakdown Voltage	I _D =250μA, V _{GS} =0V	20			V
I _{DSS}	Drain to Source Leakage Current	V _{DS} = 100V, V _{GS} =0V			1	μA
I _{GSS}	Gate-Body Leakage Current	V _{GS} = 10V			20	μA
V _{GS(th)}	Gate Threshold Voltage	V _{DS} = V _{GS} , I _D =250μA	0.35	0.75	1.1	V
R _{DS(ON)}	Static Drain-Source On-Resistance	V _{GS} =4.5V, I _D =150mA	-	250	500	mΩ
		V _{GS} =2.5V, I _D =150mA	-	300	700	mΩ
		V _{GS} =1.8V, I _D =150mA	-	370	900	mΩ
g _{FS}	Forward Transconductance	V _{DS} =10V, I _D =150mA	0.15			S
DYNAMIC PARAMETERS						
C _{iss}	Input Capacitance	V _{GS} =0V, V _{DS} =16V, f=1MHz		79	120	pF
C _{oss}	Output Capacitance			13	20	pF
C _{rss}	Reverse Transfer Capacitance			9	15	pF
SWITCHING PARAMETERS						
t _{d(on)}	Turn-On Delay Time	V _{GS} =4.5V, V _{DD} =10V, R _{GEN} =10Ω,		6.7		ns
t _{d(off)}	Turn-Off Delay Time			4.8		ns
t _{d(r)}	Turn-On Rise Time			17.3		ns
t _{d(f)}	Turn-Off Fall Time			7.4		ns
SOURCE-DRAIN DIODE CHARACTERISTICS						
V _{DS}	Diode Forward Voltage	I _S =0.15A, V _{GS} =0V,			1.2	V

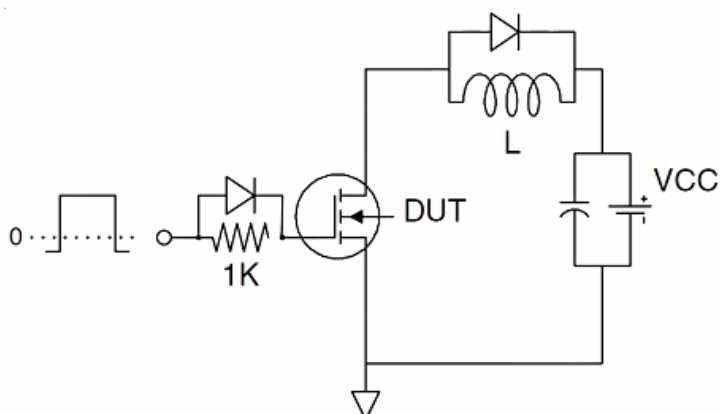


Test Circuits and Waveform

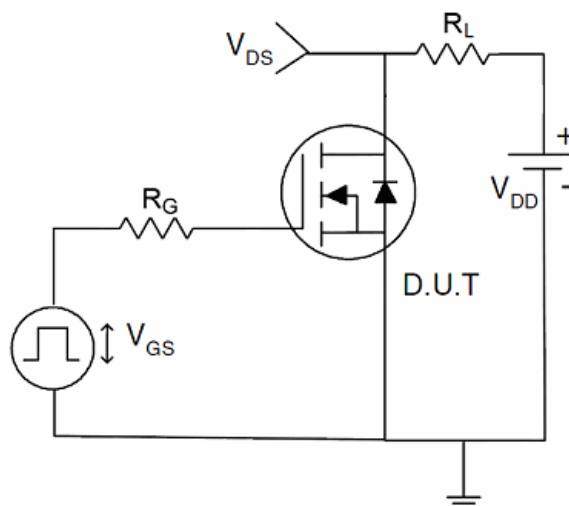
1) E_{AS} test Circuits



2) Gate charge test Circuit:

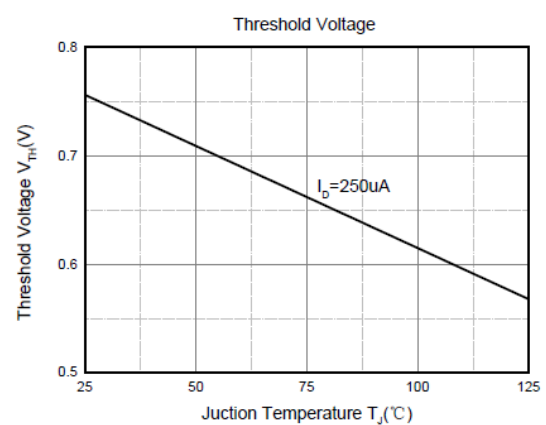
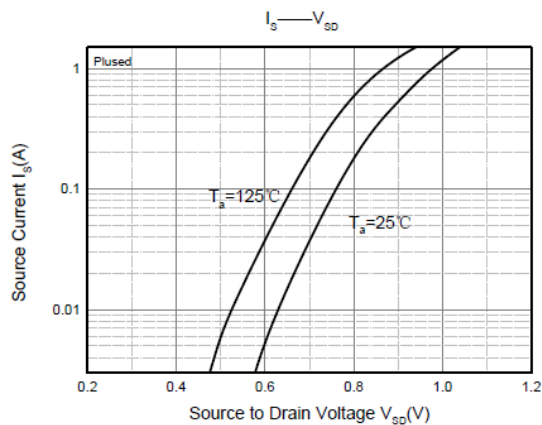
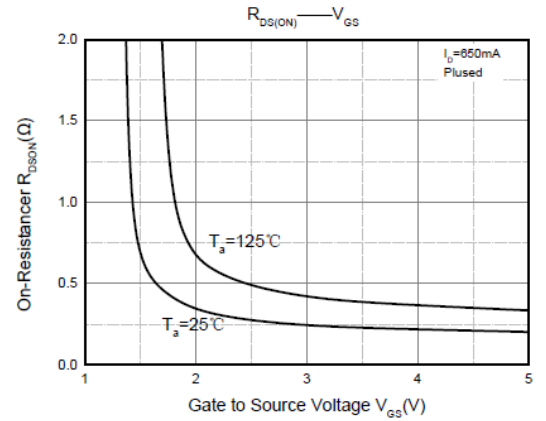
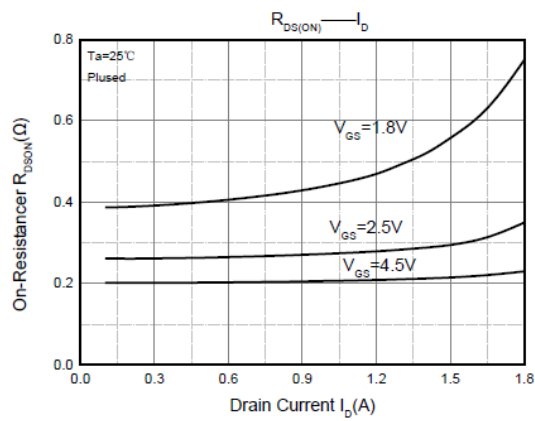
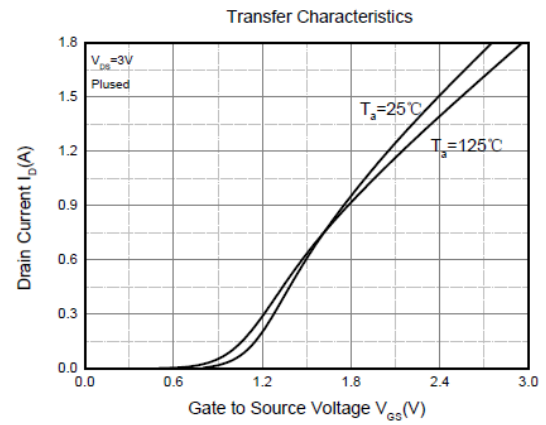
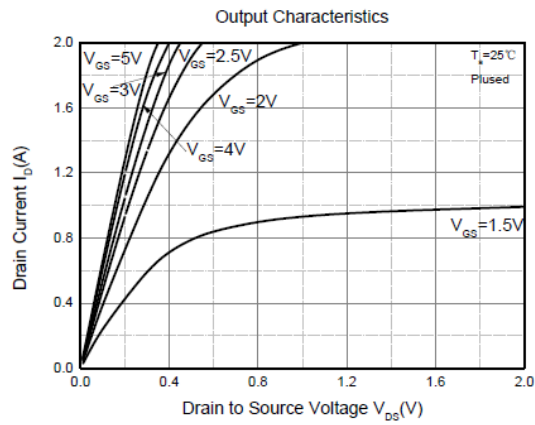


3) Switch Time Test Circuit:





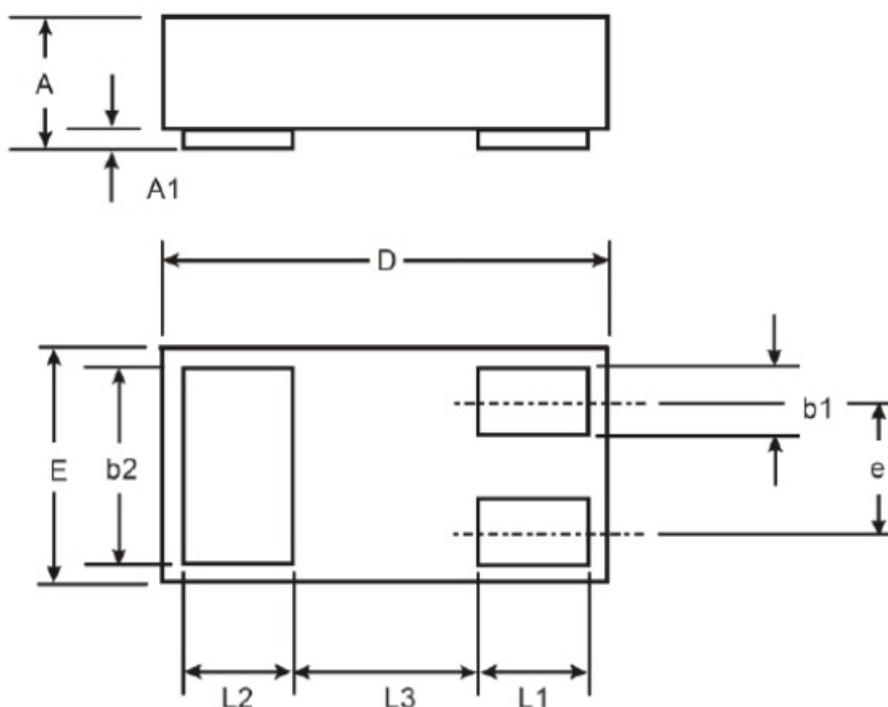
Typical Characteristics





Outline Drawing

DFN1006-3L



Dim	Min	Max	Typ
A	0.47	0.53	0.50
A1	0	0.05	0.03
b1	0.10	0.20	0.15
b2	0.45	0.55	0.50
D	0.95	1.075	1.00
E	0.55	0.675	0.60
e	—	—	0.35
L1	0.20	0.30	0.25
L2	0.20	0.30	0.25
L3	—	—	0.40

Dimensions in inches and (millimeters)

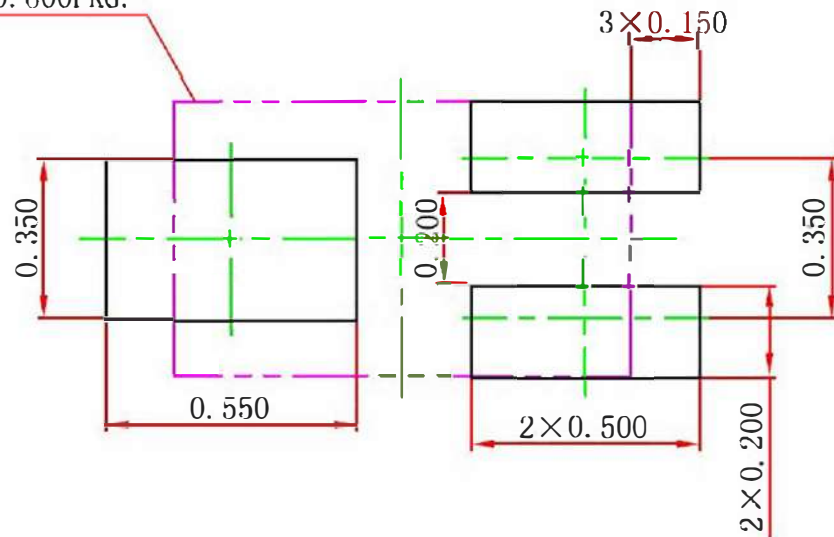
Rev.A



Suggested Soldering Pad Layout

DFN1006-3L
(WBFBP-03E)

1.000 × 0.600 PKG.

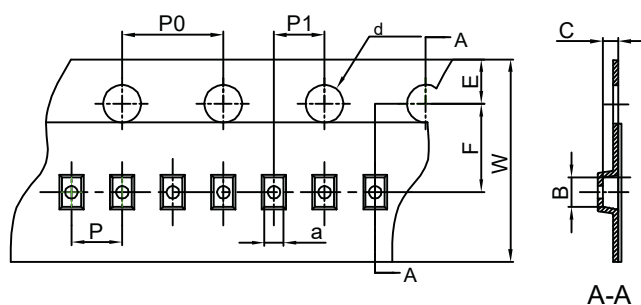


Dimensions in inches and (millimeters)

RevA

WILLAS 9771001SY008 bπ/KI-yyŒt tfl-ăúŒ0π9y0I-Ljădzfl-ŰŒ a h{C9¢

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

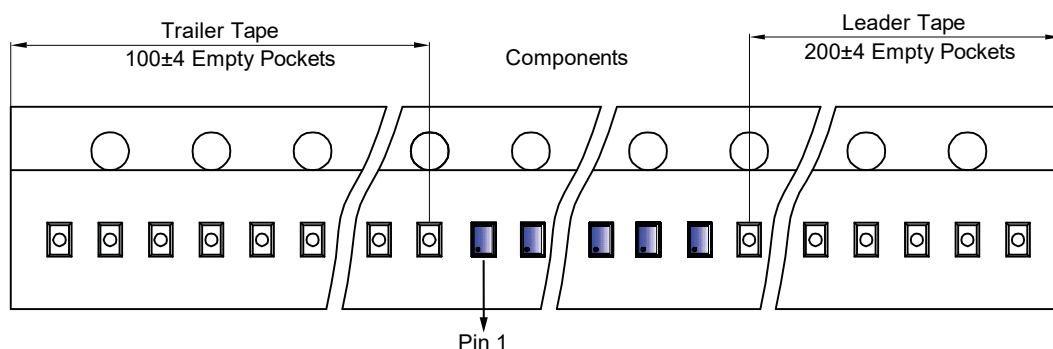


Packaging Description:

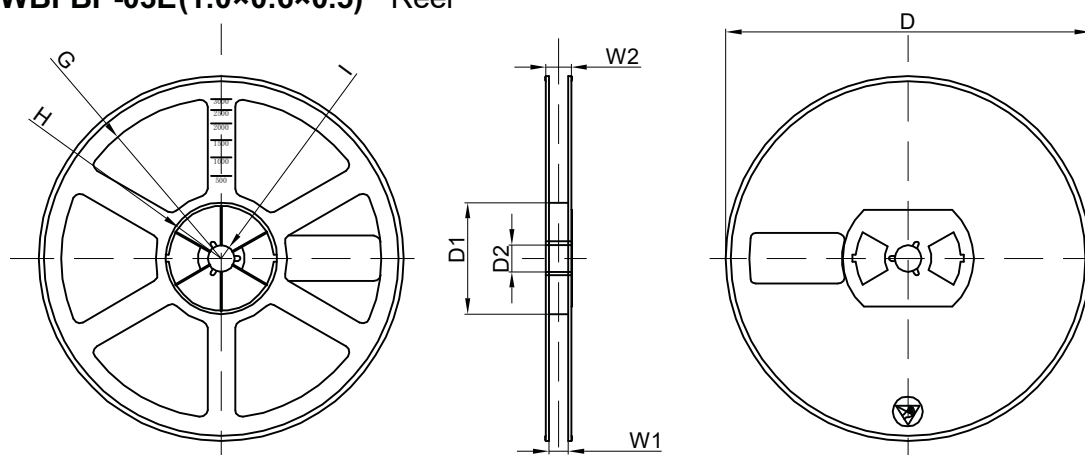
WBFBP-03E(1.0×0.6×0.5) parts are shipped in tape. The carrier tape is made from a dissipative (carbon filled) polycarbonate resin. The cover tape is a multilayer film (Heat Activated Adhesive in nature) primarily composed of polyester film, adhesive layer, sealant, and anti-static sprayed agent. These 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	100,000 pcs	203×203×195	400,000 pcs	438×438×220	

Ordering Information:

Device PN	Packing
SE3134KD -T ⁽¹⁾ G ⁽²⁾ -WS ⁽³⁾	Tape&Reel: 10 Kpcs/Reel

Note: (1) Packing code, Tape & Reel Packing

(2) RoHS product for packing code suffix "G" ; Halogen free product for packing code suffix "H"

(3) Willas brand abbreviation, Label Type does not display

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