

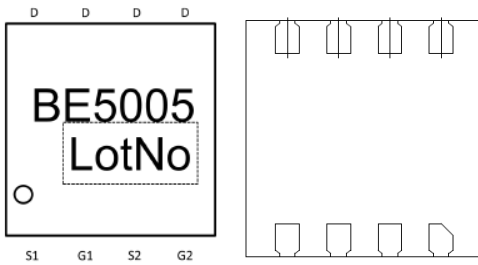
**Product Summary**

$V_{(BR)DSS}$	$R_{DS(on)TYP}$	$I_D$
20V	9.3 mΩ 4.5V	10A
	9.7mΩ@4.0V	
	10.0mΩ@3.8V	
	10.7mΩ@3.1V	
	12.5mΩ@2.5V	

**DESCRIPTION**

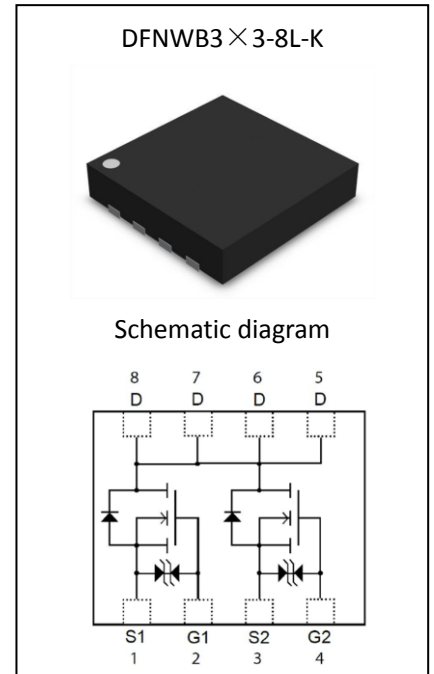
The GPBE5005 uses advanced trench technology to provide excellent  $R_{DS(ON)}$  and low gate charge. It is ESD protected. This device is suitable for use as a uni-directional or bi-directional load switch, facilitated by its common-drain configuration.

**MARKING:**



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**ABSOLUTE MAXIMUM RATINGS ( $T_a=25^{\circ}C$  unless otherwise noted)**

Parameter	Symbol	Value	Unit
Drain-Source Voltage	$V_{DS}$	20	V
Gate-Source Voltage	$V_{GS}$	$\pm 12$	V
Continuous Drain Current	$I_D$	10	A
Pulsed Drain Current	$I_{DM}^+$	60	A
Power Dissipation	$P_D$	1.5	W
Thermal Resistance from Junction to Ambient	$R_{\theta JA}$	83.3	$^{\circ}C/W$
Junction Temperature	$T_J$	150	$^{\circ}C$
Storage Temperature	$T_{STG}$	-55~ +150	$^{\circ}C$
Lead Temperature for Soldering Purposes(1/8" from case for 10 s)	$T_L$	260	$^{\circ}C$

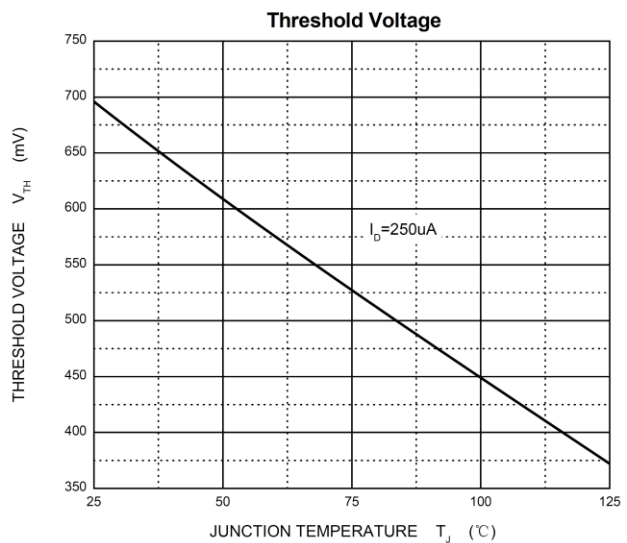
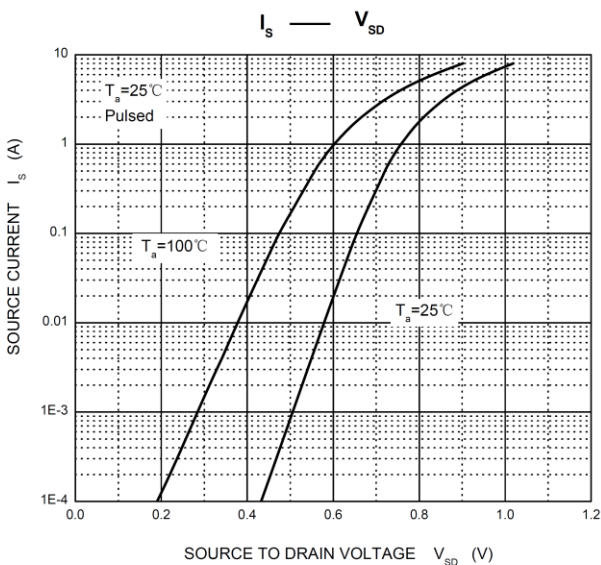
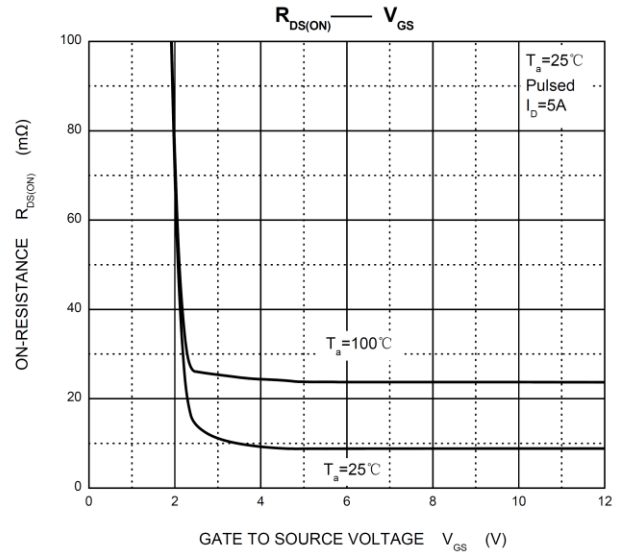
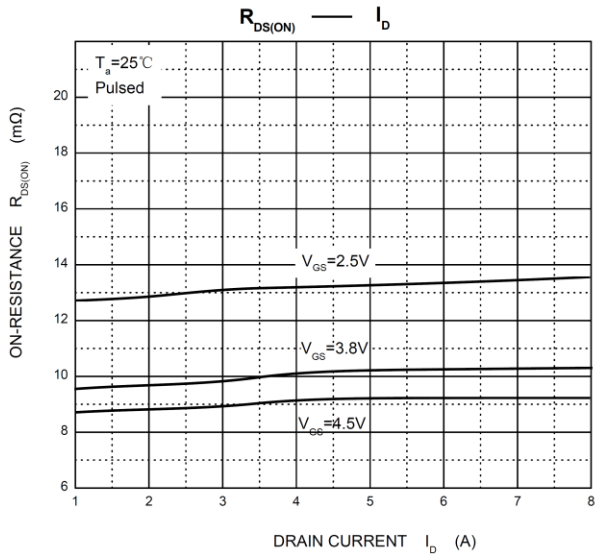
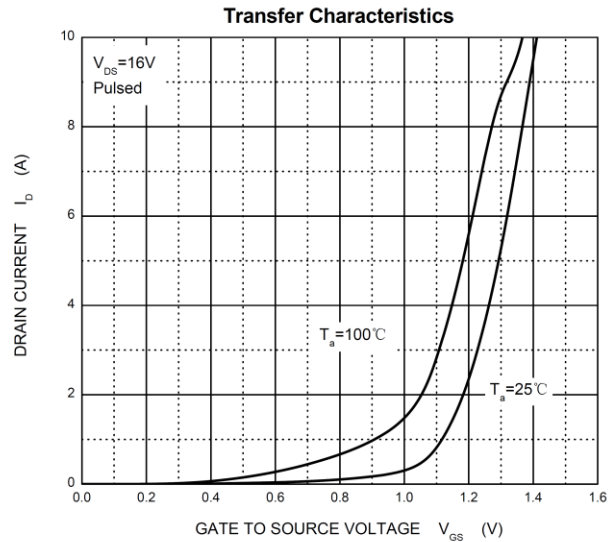
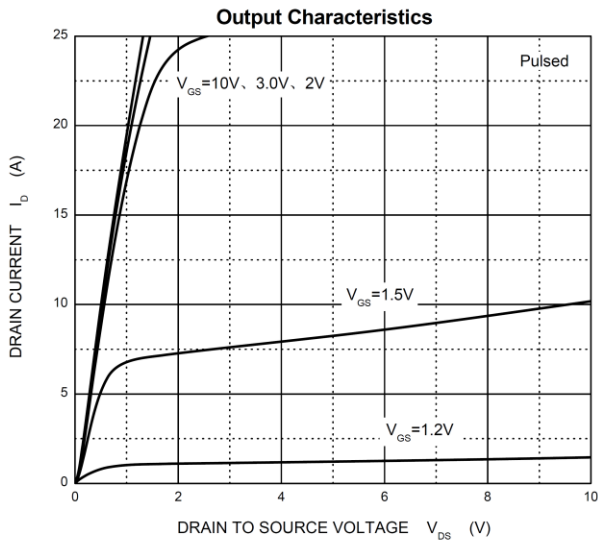
**MOSFET ELECTRICAL CHARACTERISTICS(T<sub>a</sub>=25°C unless otherwise noted)**

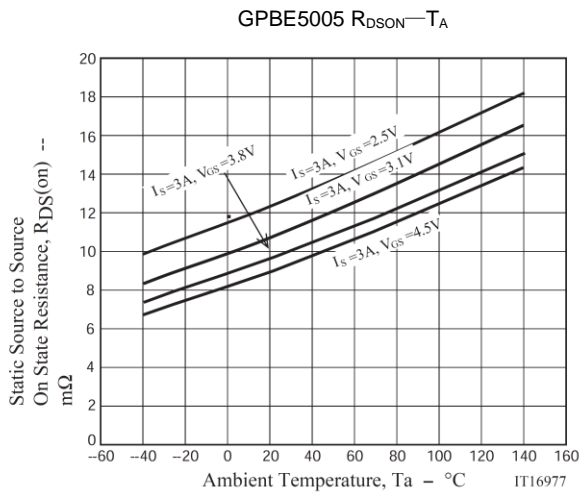
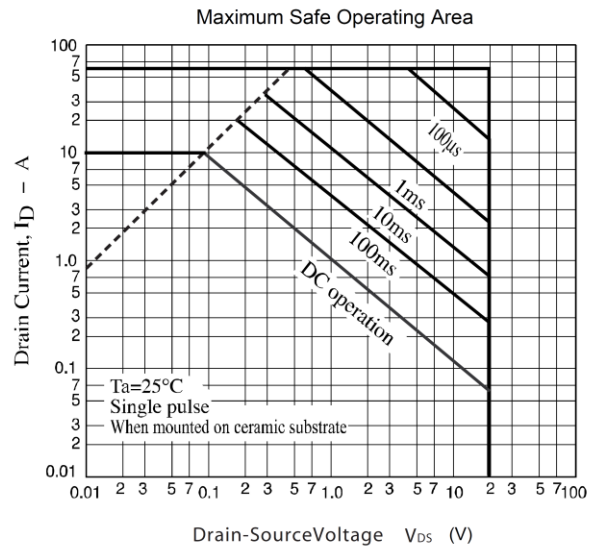
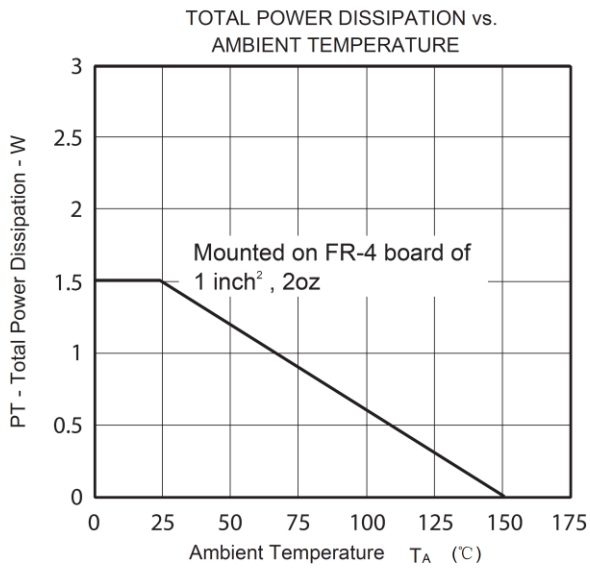
Parameter	Symbol	Test Condition	Min	Type	Max	Unit
<b>STATIC CHARACTERISTICS</b>						
Drain-source breakdown voltage	V <sub>(BR)DSS</sub>	V <sub>GS</sub> = 0V, I <sub>D</sub> =250μA	20			V
Zero gate voltage drain current	I <sub>DSS</sub>	V <sub>DS</sub> =16V, V <sub>GS</sub> = 0V			1	μA
Gate-body leakage current	I <sub>GSS</sub>	V <sub>GS</sub> =±4.5V, V <sub>DS</sub> = 0V			±1	μA
		V <sub>GS</sub> =±8V, V <sub>DS</sub> = 0V			±10	μA
Gate threshold voltage <sup>(1)</sup>	V <sub>GS(th)</sub>	V <sub>DS</sub> =V <sub>GS</sub> , I <sub>D</sub> =250μA	0.4	0.7	1.0	V
Drain-source on-resistance <sup>(1)</sup>	R <sub>DS(on)</sub>	V <sub>GS</sub> =4.5V, I <sub>D</sub> =5A	8	9.3	11.5	mΩ
		V <sub>GS</sub> =4.0V, I <sub>D</sub> =5A	8.2	9.7	12.5	
		V <sub>GS</sub> =3.8V, I <sub>D</sub> =5A	8.5	10	13	
		V <sub>GS</sub> =3.1V, I <sub>D</sub> =5A	9	10.7	14	
		V <sub>GS</sub> =2.5V, I <sub>D</sub> =5A	9.5	12.5	17	
Forward tranconductance <sup>(1)</sup>	g <sub>FS</sub>	V <sub>DS</sub> =5V, I <sub>D</sub> =7A	9	36		S
<b>DYNAMIC CHARACTERISTICS<sup>(2)</sup></b>						
Input Capacitance	C <sub>iss</sub>	V <sub>DS</sub> =10V, V <sub>GS</sub> =0V, f=1MHz		1700		pF
Output Capacitance	C <sub>oss</sub>			230		
Reverse Transfer Capacitance	C <sub>rss</sub>			200		
<b>SWITCHING CHARACTERISTICS<sup>(2)</sup></b>						
Turn-on delay time	t <sub>d(on)</sub>	V <sub>GS</sub> =5V, V <sub>DS</sub> =10V, R <sub>GEN</sub> =3Ω, R <sub>GEN</sub> =1.35Ω		2.5		ns
Turn-on rise time	t <sub>r</sub>			7.2		
Turn-off delay time	t <sub>d(off)</sub>			49		
Turn-off fall time	t <sub>f</sub>			108		
Total gate charge	Q <sub>g</sub>	V <sub>DS</sub> =10V, V <sub>GS</sub> =4.5V, I <sub>D</sub> =7A		17		nC
Gate-source charge	Q <sub>gs</sub>			1.5		
Gate-drain charge	Q <sub>gd</sub>			4.7		
<b>SOURCE-DRAIN DIODE CHARACTERISTICS</b>						
Body Diode Voltage <sup>(1)</sup>	V <sub>SD</sub>	I <sub>S</sub> =1A, V <sub>GS</sub> = 0V			1	V
Continuous Source-Drain Diode Current	I <sub>S</sub>	T <sub>C</sub> =25°C			8	A

**Notes :**

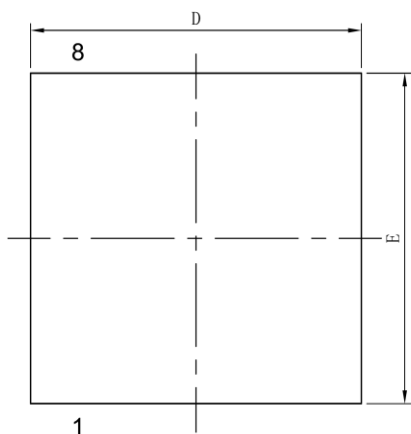
1. Pulse Test : Pulse width≤300μs, duty cycle≤0.5%.
2. Guaranteed by design, not subject to production testing.

**Typical Electrical and Thermal Characteristics**

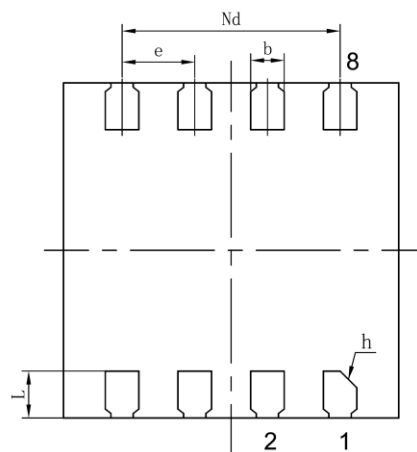




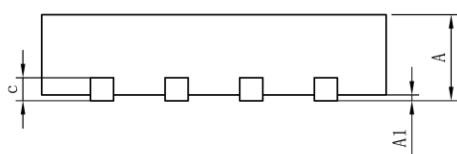
## DFNWB3X3-8L-K Package Outline Dimensions(Unit:mm)



TOP VIEW



BOTTOM VIEW



SIDE VIEW

SYMBOL	MILLIMETER		
	MIN	NOM	MAX
A	0.70	0.75	0.80
A1	0.00	0.02	0.05
b	0.25	0.30	0.35
c	0.19	0.20	0.21
D	2.90	3.00	3.10
Nd	1.90	1.95	2.00
E	2.90	3.00	3.10
e	0.65BSC		
L	0.37	0.42	0.47
h	0.10	0.15	0.20
载体尺寸 (mil)	102X84		

单击下面可查看定价，库存，交付和生命周期等信息

[>>GP\(格瑞宝\)](#)