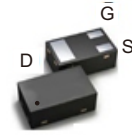


ABSS84ESL-HF

P-Channel

RoHS Device

Halogen Free



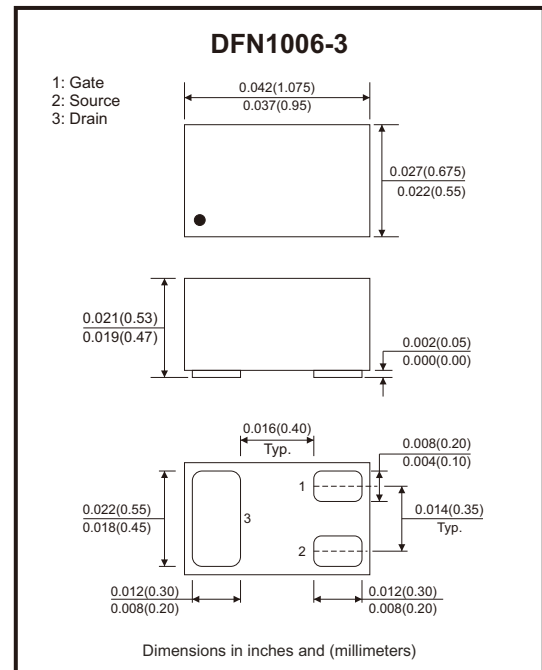
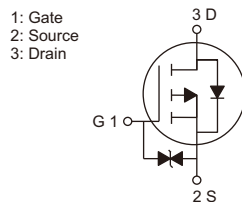
Features

- Low on-resistance.
- High-speed switching.
- Drive circuits can be simple.
- ESD protection gate up to 2kV (HBM).
- AEC-Q101 Qualified.

Mechanical data

- Case: DFN1006-3, molded plastic.
- Terminals: Matte tin-plated leads, solderability per MIL-STD-202, method 208.
- Mounting position: Any.

Circuit Diagram



Maximum Ratings (at TA=25°C unless otherwise noted)

Parameter	Symbol	Value	Unit
Drain-source voltage	V_{DS}	-60	V
Gate-source voltage	V_{GS}	±20	V
Continuous drain current	I_D	-130	mA
Pulsed drain current (Note 4)	I_{DM}	-520	mA
Power dissipation (Note 1)	P_D	0.15	W
Thermal resistance junction to air (Note 1)	$R_{\theta JA}$	834	°C/W
Thermal resistance junction to lead (Note 1)	$R_{\theta JL}$	500	
Thermal resistance junction to case (Note 1)	$R_{\theta JC}$	421	
Operating junction temperature range	T_J	-55 to +150	°C
Storage temperature range	T_{STG}	-55 to +150	°C

Electrical Characteristics (at $T_A=25^{\circ}\text{C}$ unless otherwise noted)

Parameter	Symbol	Conditions	Min	Typ	Max	Unit
Static Characteristics						
Drain-source breakdown voltage	BV _{DSS}	V _{GS} = 0V, I _D = -250μA	-60			V
Zero gate voltage drain current	I _{DSS}	V _{DS} = -50V, V _{GS} = 0V			-1	μA
Gate-body leakage current	I _{GSS}	V _{GS} = ±20V, V _{DS} = 0V			±10	μA
On Characteristics (Note 2)						
Static drain-source on-resistance	R _{DS(on)}	V _{GS} = -5V, I _D = -0.1A		2.4	8	Ω
	R _{DS(on)}	V _{GS} = -10V, I _D = -0.13A		2.0	6	Ω
Gate threshold voltage	V _{GS(th)}	V _{DS} = V _{GS} , I _D = -250μA	-1	-1.5	-2	V
Dynamic Characteristics (Note 3)						
Input capacitance	C _{iss}	V _{GS} = 0V, V _{DS} = -20V, f = 1MHz		53		pF
Output capacitance	C _{oss}			11		
Reverse transfer capacitance	C _{rss}			5		
Gate resistance	R _G	f = 1MHz, V _{GS} = 0V		721		Ω
Switching Characteristics						
Turn-on delay time	t _{d(on)}	V _{DS} = -15V, R _L = -50Ω, I _D = -2.5A		2.5		ns
Turn-on rise time	t _r			1		
Turn-off delay time	t _{d(off)}			16		
Turn-off fall time	t _f			8		
Total gate charge	Q _g	V _{DS} = -25V, V _{GS} = -4.5V, I _D = -0.2A		2.5		nC
Gate to source charge	Q _{gs}			0.83		
Gate to drain (miller) charge	Q _{gd}			0.82		
Source-Drain Diode Characteristics						
Diode forward voltage (Note 2)	V _{SD}	I _{SD} = -0.26A, V _{GS} = 0V		-0.9	-1.4	V
Continuous source current	I _S	T _C = 25°C			-0.13	A
Pulsed source current	I _{SM}	T _C = 25°C			-0.52	A

Notes: 1. Surface mounted on FR4 board, and standard footprint, $t \leq 10$ sec.

2. Pulse test: pulse width $\leq 300\mu s$, duty cycle $\leq 2\%$.

3. Guaranteed by design, not subject to production.

4. Pulse width limited by maximum junction temperature.

Typical Rating and Characteristic Curves (ABSS84ESL-HF)

Fig.1 - Output Characteristics

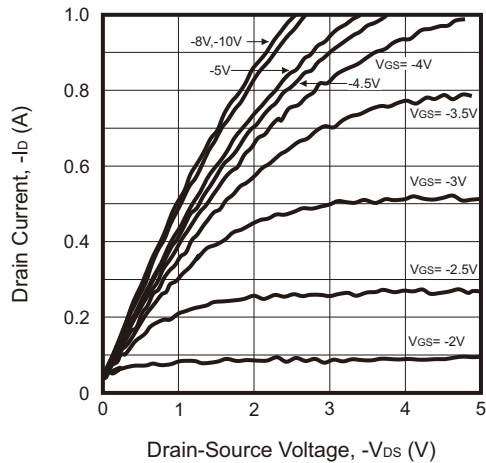


Fig.2 - On-Resistance vs. Drain Current and Gate Voltage

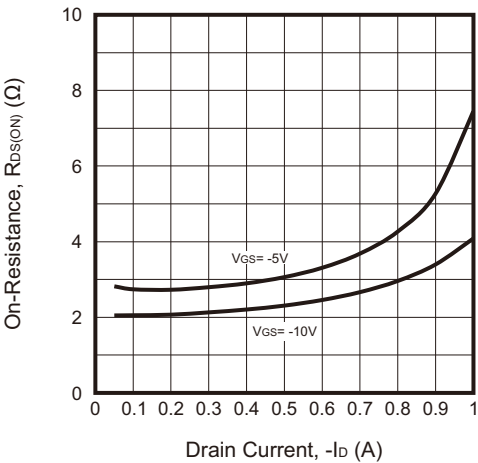


Fig.3 - On-Resistance vs. Gate-Source Voltage

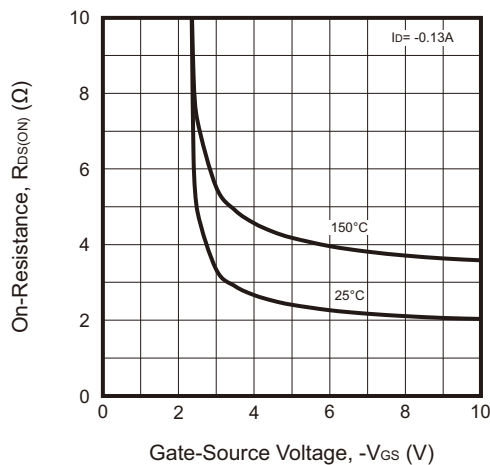


Fig.4 - Body-Diode Characteristics

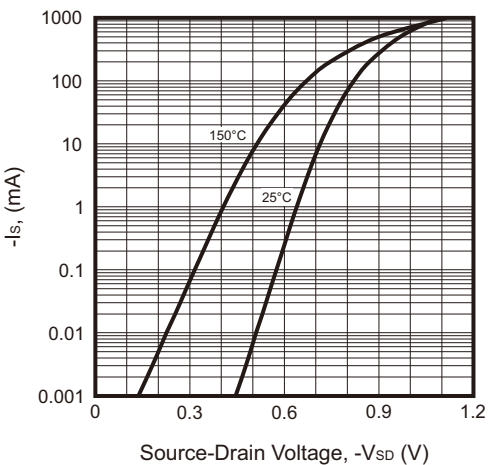


Fig.5 - On-Resistance vs. Junction Temperature

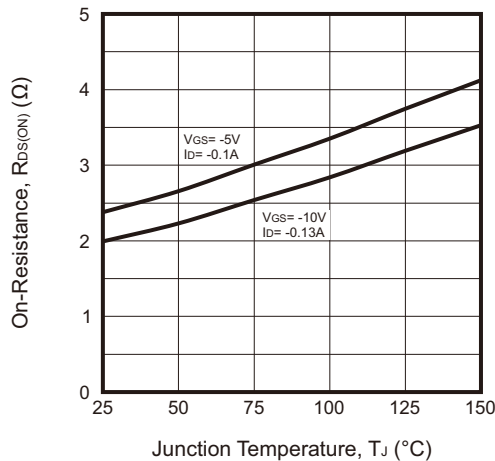
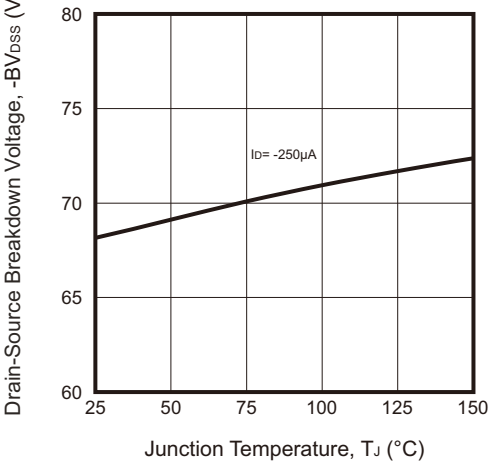


Fig.6 - Drain Source Voltage vs. Junction Temperature



Typical Rating and Characteristic Curves (ABSS84ESL-HF)

Fig.7 - Capacitance Characteristics

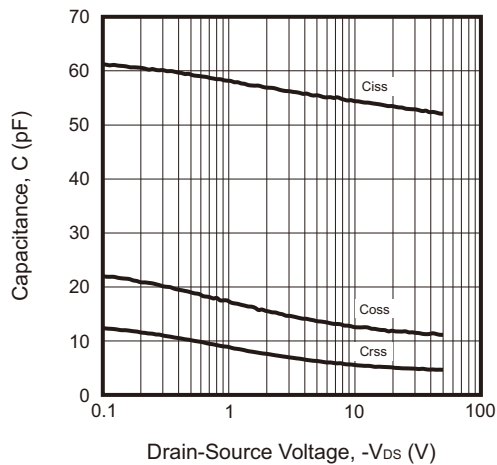


Fig.8 - Gate Voltage vs. Junction Temperature

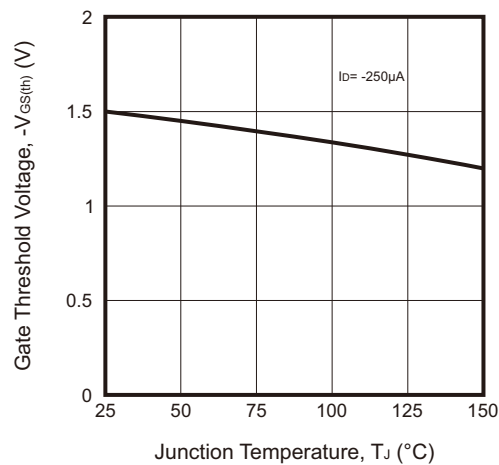


Fig.9 - Transfer Characteristics

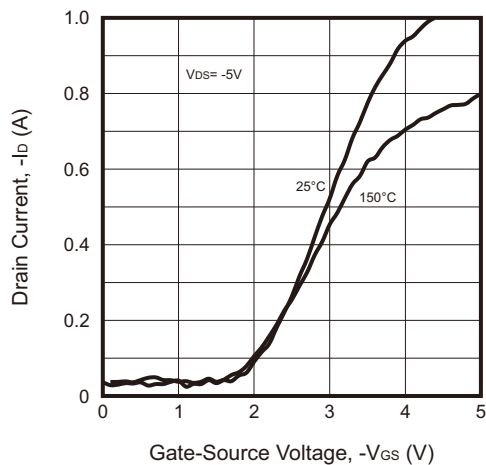
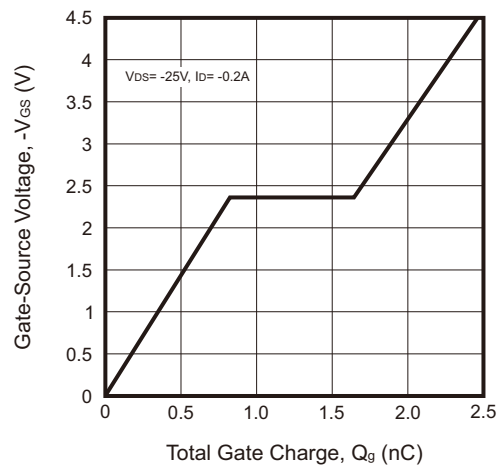
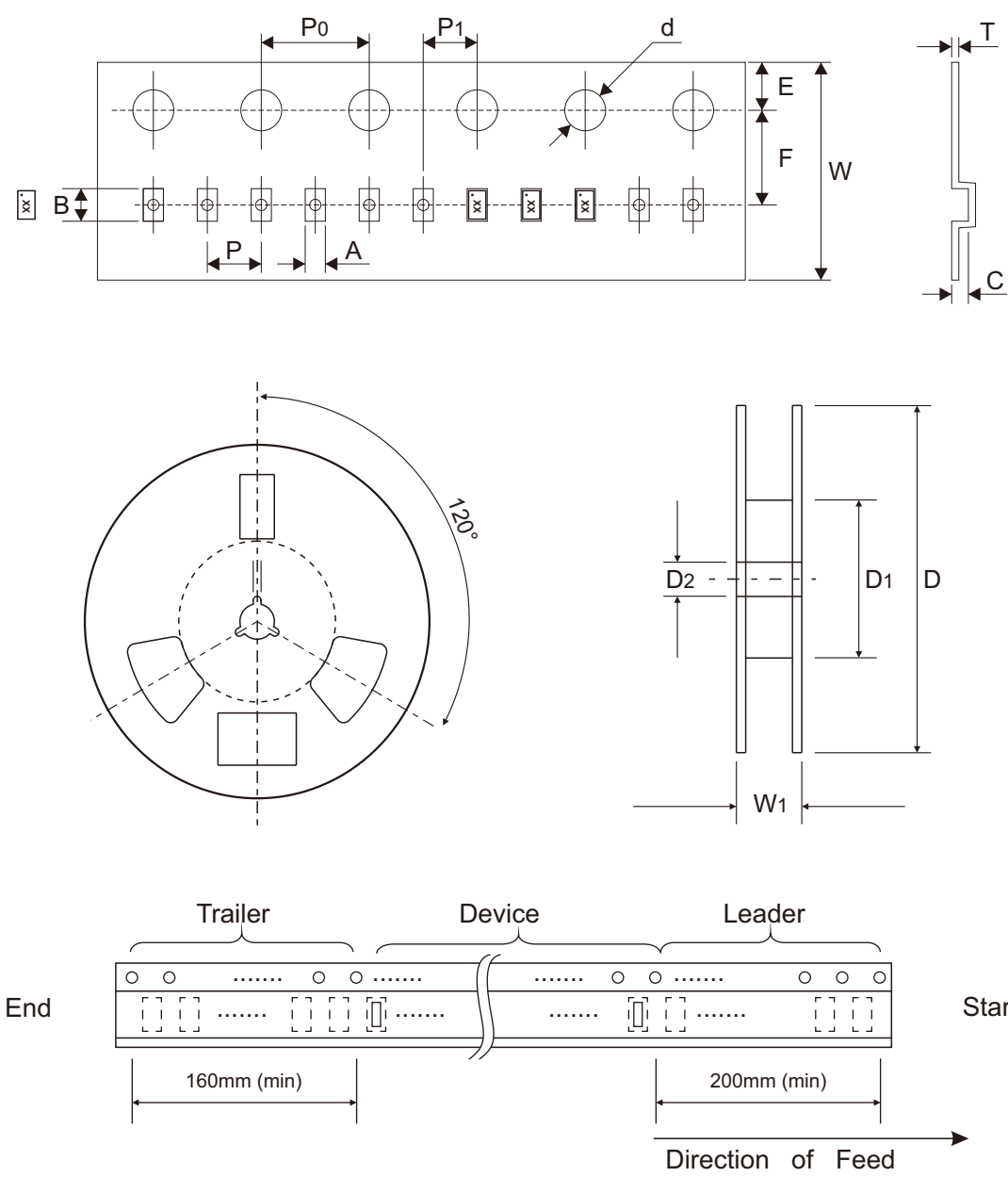


Fig.10 - Gate-Charge Characteristics



Reel Taping Specification



DFN1006-3	SYMBOL	A	B	C	d	D	D1	D2
	(mm)	0.66 ± 0.10	1.15 ± 0.02	0.66 ± 0.10	1.50 ± 0.10	178.00 ± 1.00	54.00 ± 0.50	13.00 ± 0.50
	(inch)	0.026 ± 0.004	0.045 ± 0.001	0.026 ± 0.004	0.059 ± 0.004	7.008 ± 0.039	2.126 ± 0.020	0.512 ± 0.020

DFN1006-3	SYMBOL	E	F	P	P0	P1	T	W	W1
	(mm)	1.75 ± 0.05	3.50 ± 0.05	2.00 ± 0.05	4.00 ± 0.10	2.00 ± 0.05	0.20 ± 0.02	$8.00 + 0.30 - 0.10$	12.50 ± 1.00
	(inch)	0.069 ± 0.002	0.138 ± 0.002	0.079 ± 0.002	0.157 ± 0.004	0.079 ± 0.002	0.008 ± 0.001	$0.315 + 0.012 - 0.004$	0.492 ± 0.039

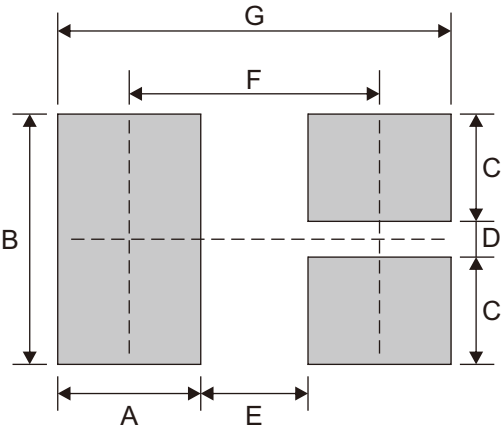
Marking Code

Part Number	Marking Code
ABSS84ESL-HF	ES



Suggested P.C.B. PAD Layout

SIZE	DFN1006-3	
	(mm)	(inch)
A	0.40	0.016
B	0.70	0.028
C	0.30	0.012
D	0.10	0.004
E	0.30	0.012
F	0.70	0.028
G	1.10	0.043



Standard Packaging

Case Type	REEL PACK	
	REEL (pcs)	Reel Size (inch)
DFN1006-3	10,000	7