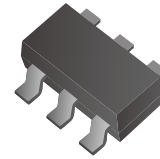


CEH2315-HF

P-Channel
RoHS Device
Halogen Free



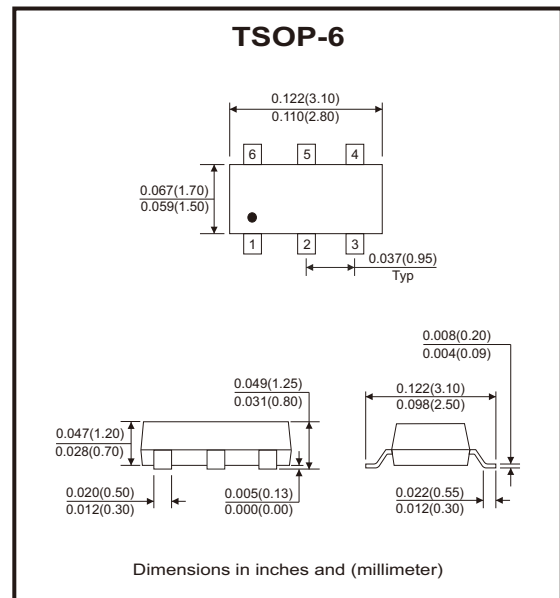
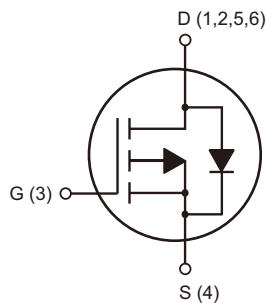
Features

- High density cell design for extremely low $R_{DS(ON)}$.
- Rugged and reliable.

Mechanical data

- Case : TSOP-6, molded plastic.
- Mounting position: Any.

Circuit Diagram



Maximum Ratings (at $T_a=25^{\circ}\text{C}$ unless otherwise noted)

Parameter	Symbol	Value	Unit
Drain-source voltage	V_{DS}	-30	V
Gate-source voltage	V_{GS}	± 20	V
Drain current-continuous	I_D	-5	A
Drain current-pulsed (Note 1)	I_{DM}	-20	A
Maximum power dissipation	P_D	2	W
Thermal resistance, Junction to ambient (Note 2)	$R_{\theta JA}$	62.5	$^{\circ}\text{C/W}$
Operating and storage temperature range	T_J, T_{STG}	-55 to +150	$^{\circ}\text{C}$

Notes: 1. Repetitive rating: pulse width limited by maximum junction temperature.
 2. Surface mounted on FR4 board, $t < 5$ sec.

Electrical Characteristics (at Ta=25°C unless otherwise noted)

Parameter	Symbol	Conditions	Min	Typ	Max	Unit
Off characteristics						
Drain-source breakdown voltage	BV _{DSS}	V _{GS} = 0V, I _D = -250μA	-30			V
Zero gate voltage drain current	I _{DSS}	V _{DS} = -30V, V _{GS} = 0V			-1	μA
Gate body leakage current, forward	I _{GSSF}	V _{GS} = 20V, V _{DS} = 0V			100	nA
Gate body leakage current, reverse	I _{GSSR}	V _{GS} = -20V, V _{DS} = 0V			-100	nA
On characteristics (Note 1)						
Gate threshold voltage	V _{GS(th)}	V _{GS} = V _{DS} , I _D = -250μA	-1		-3	V
Static drain-source on-resistance	R _{DS(on)}	V _{GS} = -10V, I _D = -3.8A		40	50	mΩ
		V _{GS} = -4.5V, I _D = -3A		60	85	
Dynamic characteristics (Note 2)						
Input capacitance	C _{iss}	V _{DS} = -15V, V _{GS} = 0V, f = 1MHz		650		pF
Output capacitance	C _{oss}			130		
Reverse transfer capacitance	C _{rss}			75		
Switching characteristics (Note 2)						
Turn-on delay time	t _{d(on)}	V _{DD} = -15V, I _D = -1A, V _{GS} = -10V, R _{GEN} = 6Ω		10		nS
Turn-on rise time	t _r			4		
Turn-off delay time	t _{d(off)}			36		
Turn-off fall time	t _f			6		
Total gate charge	Q _g	V _{DS} = -15V, I _D = -3.6A, V _{GS} = -10V		11.2		nC
Gate-source charge	Q _{gs}			1.7		
Gate-drain charge	Q _{gd}			2.0		
Drain-source diode characteristics and maximum ratings						
Drain-source diode forward current (Note 3)	I _S				-1.6	A
Drain-source diode forward voltage (Note 1)	V _{SD}	V _{GS} = 0V, I _S = -1.6A			-1.2	V

Notes: 1. Pulse width ≤ 300μs, duty cycle ≤ 2%.

2. Guaranteed by design, not subject to production testing.

3. Surface mounted on FR4 board, t < 5 sec.

Rating and Characteristic Curves (CEH2315-HF)

Fig.1 - Output Characteristics

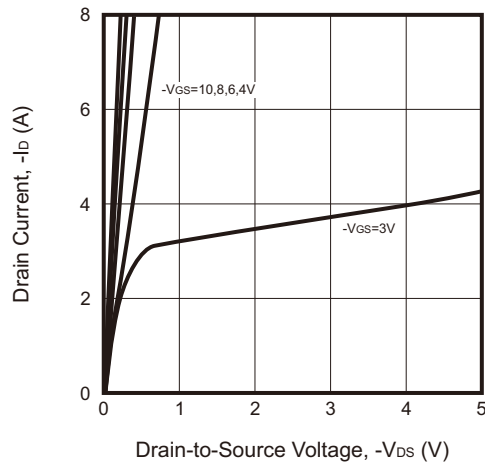


Fig.2 - Transfer Characteristics

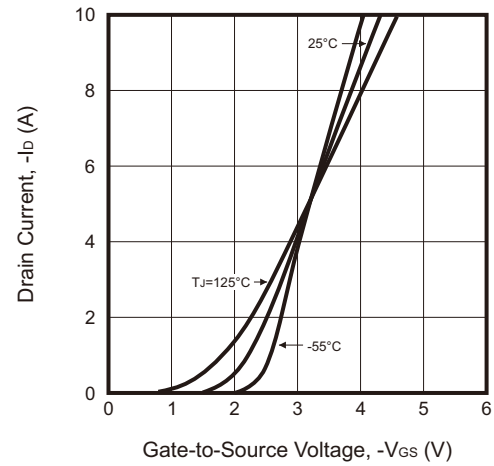


Fig.3 - Capacitance

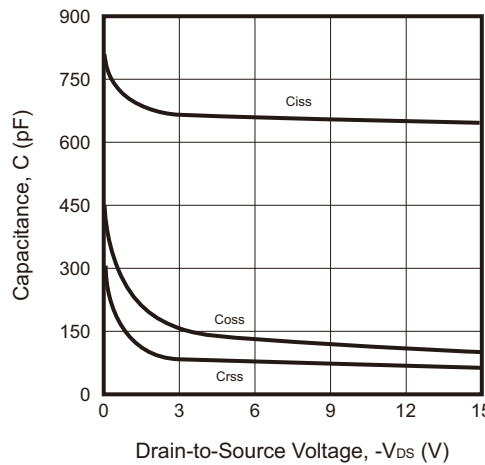


Fig.4 - On-Resistance Variation With Temperature

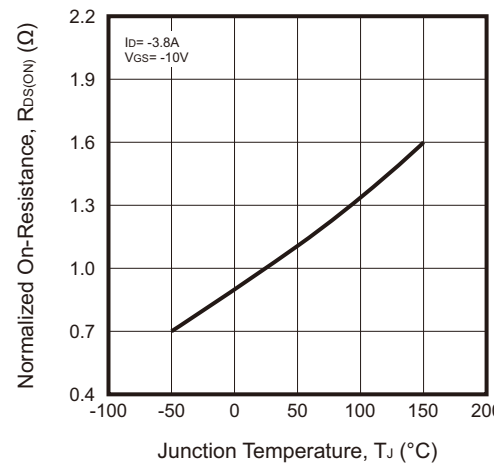


Fig.5 - Gate Threshold Variation With Temperature

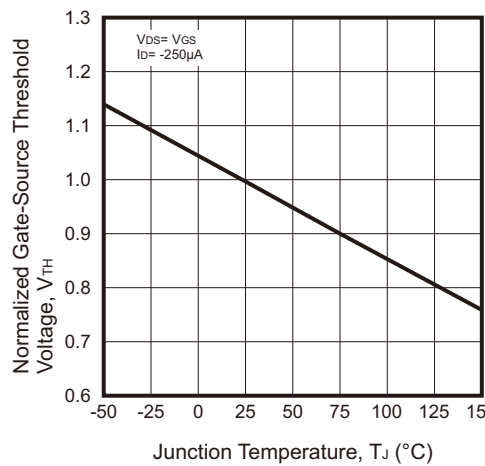
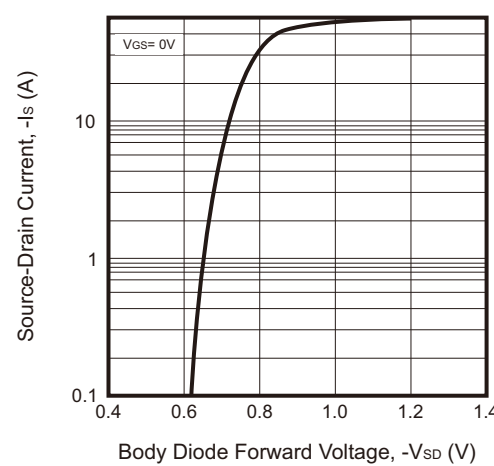


Fig.6 - Body Diode Forward Voltage Variation With Source Current



Rating and Characteristic Curves (CEH2315-HF)

Fig.7 - Gate Charge

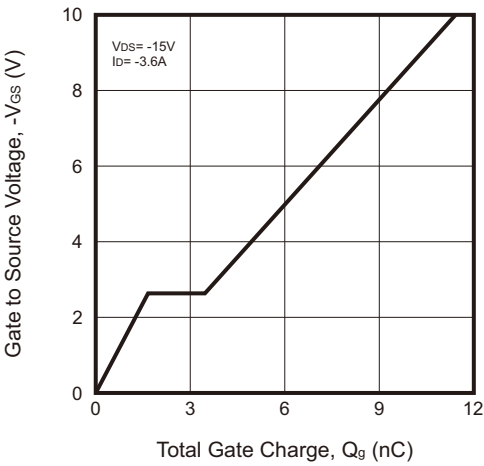


Fig.8 - Max. Safe Operating Area

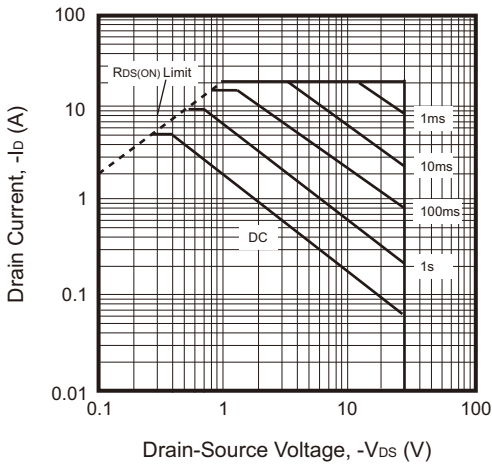
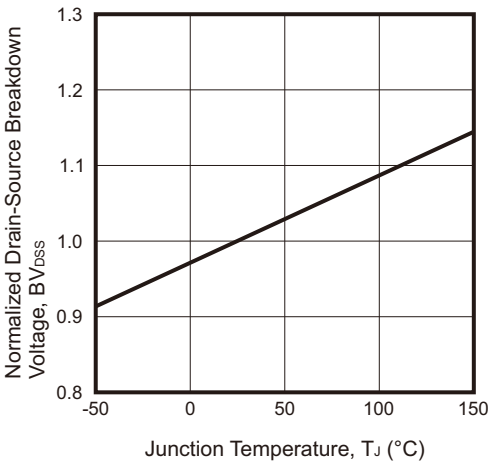
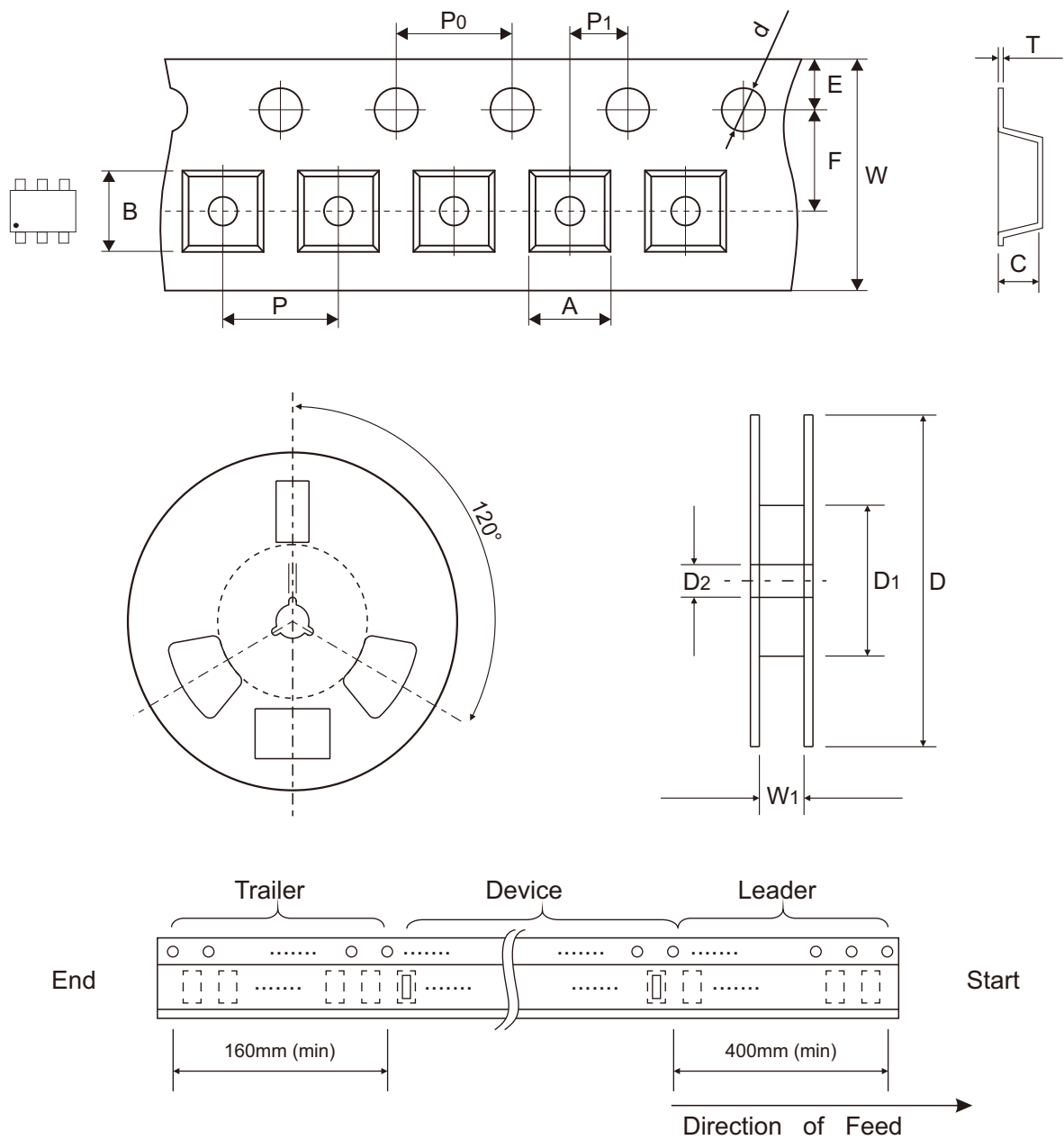


Fig.9 - Breakdown Voltage Variation vs Temperature



Reel Taping Specification

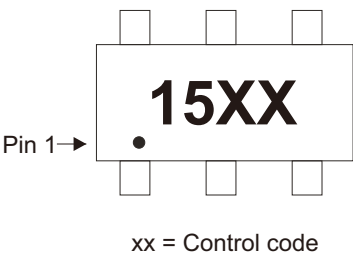


TSOP-6	SYMBOL	A	B	C	d	D	D1	D2
	(mm)	3.20 ± 0.10	3.05 ± 0.10	1.20 ± 0.10	1.50 + 0.10 - 0.00	178 ± 1.00	54.00 ± 0.50	13.50 ± 0.20
	(inch)	0.126 ± 0.004	0.120 ± 0.004	0.047 ± 0.004	0.059 + 0.004 - 0.000	7.008 ± 0.039	2.126 ± 0.020	0.531 ± 0.008

TSOP-6	SYMBOL	E	F	P	P0	P1	T	W	W1
	(mm)	1.75 ± 0.10	3.50 ± 0.05	4.00 ± 0.10	4.00 ± 0.10	2.00 ± 0.05	0.25 ± 0.05	8.00 ± 0.15	9.50 ± 1.00
	(inch)	0.069 ± 0.004	0.138 ± 0.002	0.157 ± 0.004	0.157 ± 0.004	0.079 ± 0.002	0.010 ± 0.002	0.315 ± 0.006	0.374 ± 0.039

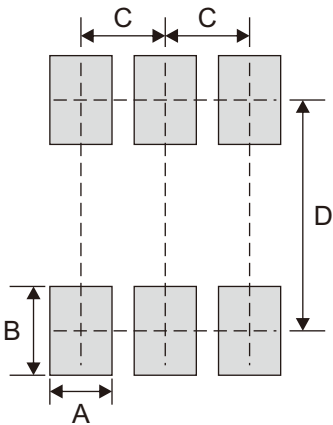
Marking Code

Part Number	Marking Code
CEH2315-HF	15



Suggested P.C.B. PAD Layout

SIZE	TSOP-6	
	(mm)	(inch)
A	0.70 Min	0.028 Min
B	1.00 Min	0.039 Min
C	0.95	0.037
D	2.60	0.102



Standard Packaging

Case Type	REEL PACK	
	REEL (pcs)	Reel Size (inch)
TSOP-6	3,000	7

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