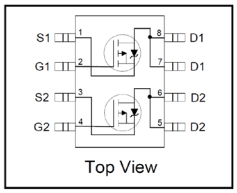
英飞凌HEXFET®功率MOSFET

- 第五代技术
- 超低导通电阻
- 双p沟道MOSFET
- 贴片
- 提供带盘包装
- 动态 dv/dt 额定值
- 快速开关
- 无铅



V_{DSS}	-55V
$R_{DS(on)}$ max.	0.105Ω
I_D	-3.4A

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SO-8
IRF7342PbF

G	D	S
Gate	Drain	Source

描述

英飞凌国际整流器公司（International Rectifier）推出的第五代 HEXFET 采用先进的工艺技术，实现了单位硅面积极低的导通电阻。这一优点与 HEXFET 功率 MOSFET 众所周知的快速开关速度和坚固耐用的器件设计相结合，为设计人员提供了一种可用于各种应用的极为高效和可靠的器件。

SO-8 通过定制引线框架进行了改进，从而提升了散热性能并具备多芯片集成能力，使其成为各类功率应用的理想选择。通过这些改进，可以在一个应用中使用多个设备，同时大幅节省电路板空间。该封装适用于气相、红外或波峰焊接工艺。在典型的PCB安装应用中，功率耗散可能超过0.8W。

Base part number	Package Type	Standard Pack		Orderable Part Number
		Form	Quantity	
IRF7342PbF	SO-8	Tape and Reel	4000	IRF7342PbF

Absolute Maximum Ratings			
Symbol	**Parameter**	**Max.**	**Units**
V_{DS}	Drain-Source Voltage	-55	V
I_D @ T_A = 25°C	Continuous Drain Current, V_{GS} @ -10V	-3.4	A
I_D @ T_A = 70°C	Continuous Drain Current, V_{GS} @ -10V	-2.7	
I_{DM}	Pulsed Drain Current ①	-27	
P_D @T_A = 25°C	Maximum Power Dissipation	2.0	W
P_D @T_A = 70°C	Maximum Power Dissipation	1.3	
	Linear De rating Factor	0.016	mW°/C
V_{GS}	Gate-to-Source Voltage	± 20	V
V_{GSM}	Gate-to-Source Voltage Single Pulse tp < 10µs	30	
E_{AS}	Single Pulse Avalanche Energy (Thermally Limited) ②	114	mJ
dv/dt	Peak Diode Recovery dv/dt ③	5.0	V/ns
T_J T_{STG}	Operating Junction and Storage Temperature Range	-55 to + 150	°C

热阻

Symbol	Parameter	Typ.	Max.	Units
$R_{\theta JA}$	Junction-to-Ambient ⑤	---	62.5	°C/W

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电气特性 @T_J = 25°C（除非另有说明）

	Parameter	Min.	Typ.	Max.	Units	Conditions
$V_{(BR)DSS}$	Drain-to-Source Breakdown Voltage	-55	---	---	V	V_{GS} = 0V, I_D = -250μA
$\Delta V_{(BR)DSS}/\Delta T_J$	Breakdown Voltage Temp. Coefficient	---	-0.054	---	V/°C	Reference to 25°C, I_D = -1mA
$R_{DS(on)}$	Static Drain-to-Source On-Resistance	---	0.095	0.105	Ω	V_{GS} = -10V, I_D = -3.4A ④
		---	0.150	0.170		V_{GS} = -4.5V, I_D = -2.7A ④
$V_{GS(th)}$	Gate Threshold Voltage	-1.0	---	---	V	V_{DS} = V_{GS}, I_D = -250μA
gfs	Forward Trans conductance	3.3	---	---	S	V_{DS} = -10V, I_D = -3.1A
I_{DSS}	Drain-to-Source Leakage Current	---	---	-2.0	μA	V_{DS} = -55V, V_{GS} = 0V
		---	---	-25		V_{DS} = -55V,V_{GS} = 0V,T_J =55°C
I_{GSS}	Gate-to-Source Forward Leakage	---	---	-100	nA	V_{GS} = -20V
	Gate-to-Source Reverse Leakage	---	---	100		V_{GS} = 20V
Q_g	Total Gate Charge	---	26	38	nC	I_D = -3.1A V_{DS}
Q_{gs}	Gate-to-Source Charge	---	3.0	4.5		= -44V
Q_{gd}	Gate-to-Drain ('Miller') Charge	---	8.4	13		V_{GS} = -10V, See Fig.10 ④
$t_{d(on)}$	Turn-On Delay Time	---	14	22	ns	V_{DD} = -28V I_D
t_r	Rise Time	---	10	15		= -1.0A R_G =
$t_{d(off)}$	Turn-Off Delay Time	---	43	64		6.0Ω
t_f	Fall Time	---	22	32		R_D = 16Ω ④
C_{iss}	Input Capacitance	---	690	---	pF	V_{GS} = 0V V_{DS} =
C_{oss}	Output Capacitance	---	210	---		-25V
C_{rss}	Reverse Transfer Capacitance	---	86	---		f = 1.0MHz, See Fig.9

二极管特性

	Parameter	Min.	Typ.	Max.	Units	Conditions
I_S	Continuous Source Current (Body Diode)	---	---	-2.0	A	MOSFET symbol showing the integral reverse p-n junction diode. 
I_{SM}	Pulsed Source Current (Body Diode) ①	---	---	-27		
V_{SD}	Diode Forward Voltage	---	---	-1.2	V	T_J = 25°C,I_S = -2.0A,V_{GS} = 0V ④
t_{rr}	Reverse Recovery Time	---	54	80	ns	T_J = 25°C ,I_F = -2.0A,
Q_{rr}	Reverse Recovery Charge	---	85	130	nC	di/dt = 100A/μs ④

注:

① 重复额定值；脉冲宽度受最高结温限制。（见图11）

② Starting T_J = 25°C, L = 20mH, R_G = 25Ω, I_{AS} = -3.4A. (见图 8)

③ I_{SD} ≤ -3.4A, di/dt ≤ 150A/μs, V_{DD} ≤ $V_{(BR)DSS}$, T_J ≤ 150°C.

④ 脉冲宽度 ≤ 300μs; 占空比 ≤ 2%。

⑤ 安装在 1" 的方形铜板上时，t ≤10 秒。

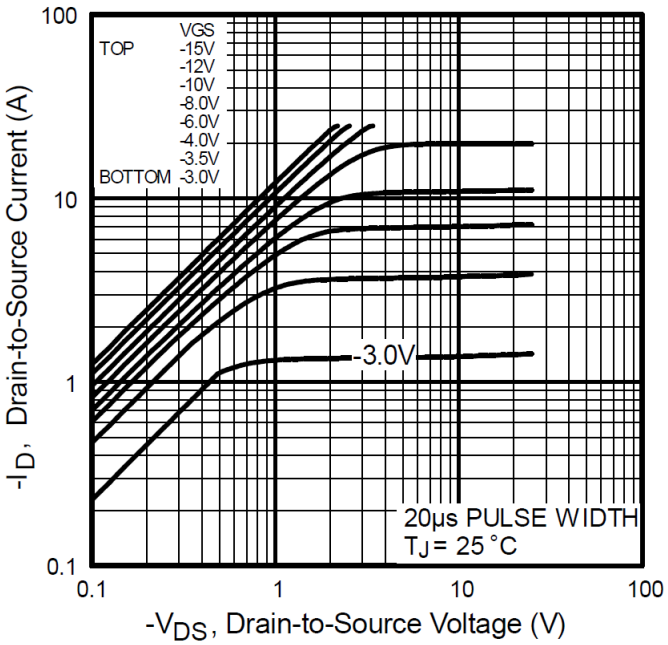


Fig. 1 Typical Output Characteristics

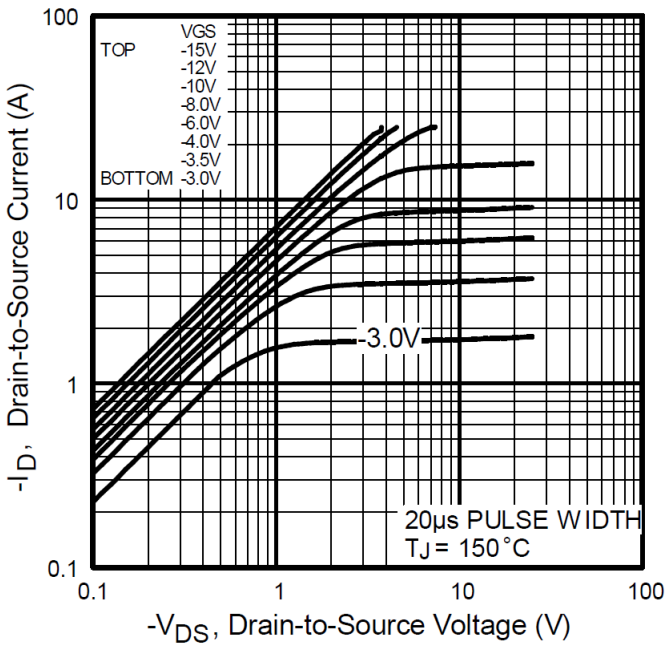


Fig. 2 Typical Output Characteristics

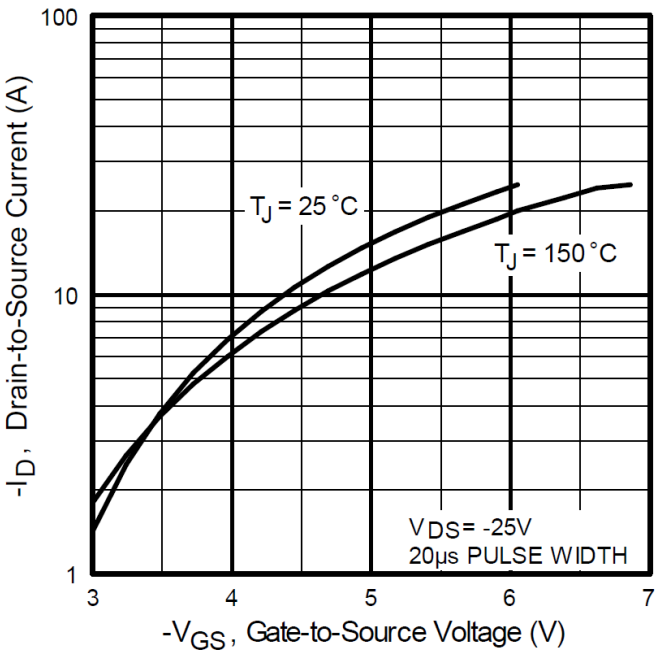


Fig. 3 Typical Transfer Characteristics

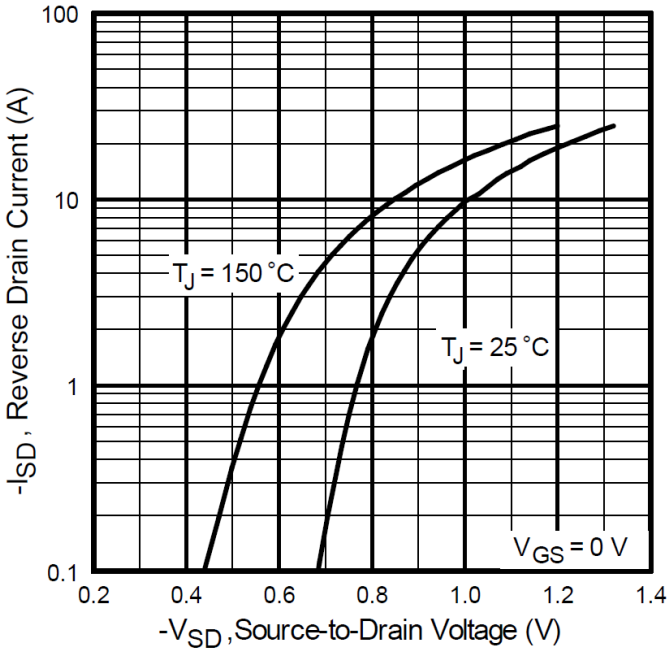


Fig. 4 Typical Source-Drain Diode Forward Voltage

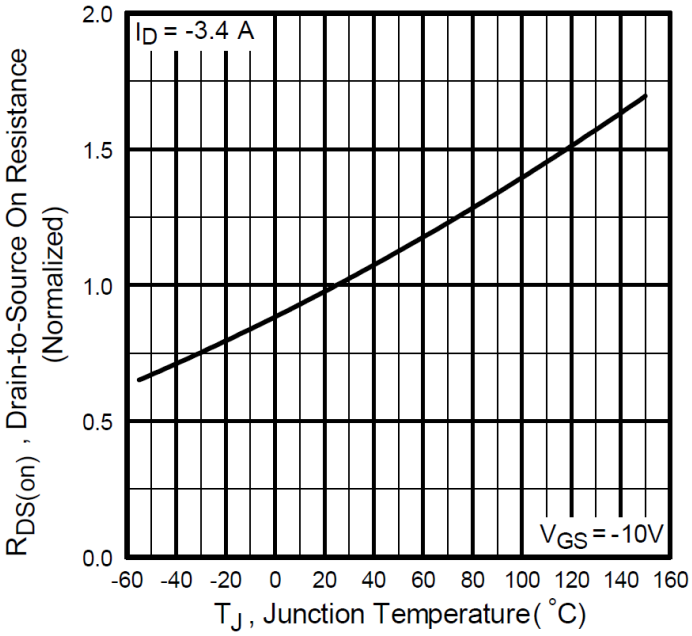


Fig 5. Normalized On-Resistance Vs. Temperature

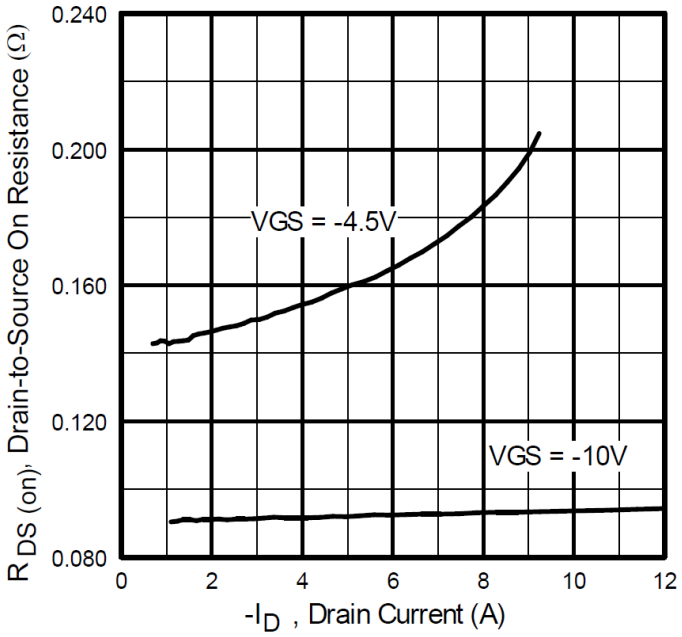


Fig 6. Typical On-Resistance Vs. Drain Current

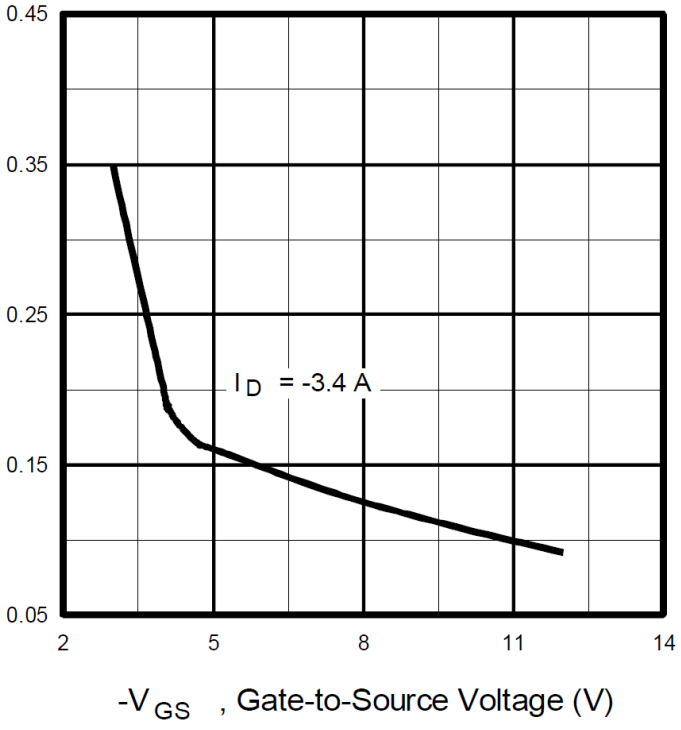


Fig. 7 Typical On-Resistance Vs. Gate Voltage

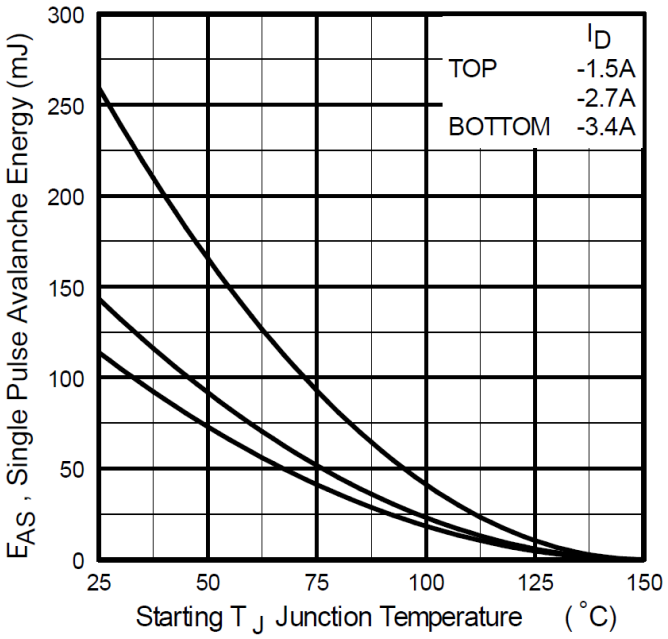


Fig 8. Maximum Avalanche Energy

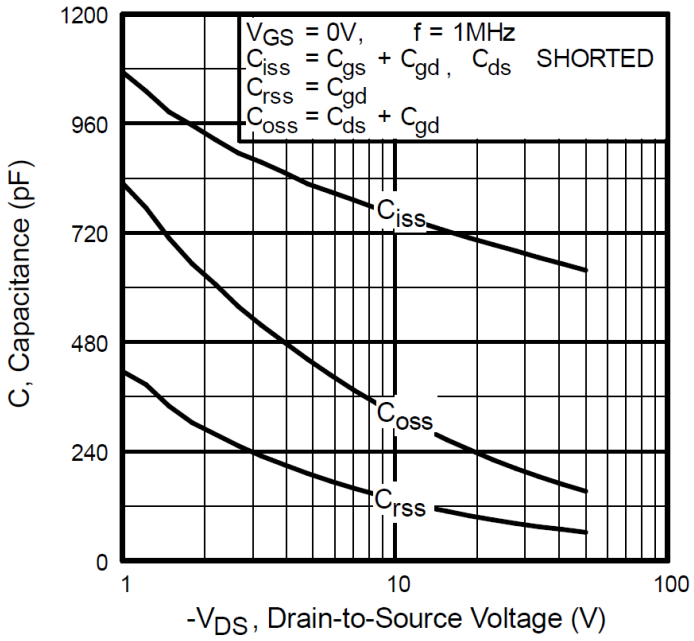


Fig 9. Typical Capacitance Vs. Drain-to-Source Voltage

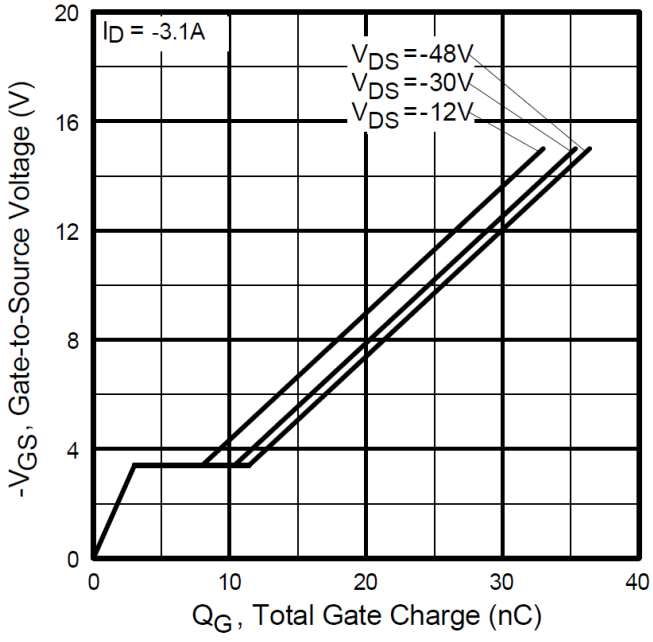


Fig 10. Typical Gate Charge Vs. Gate-to-Source Voltage

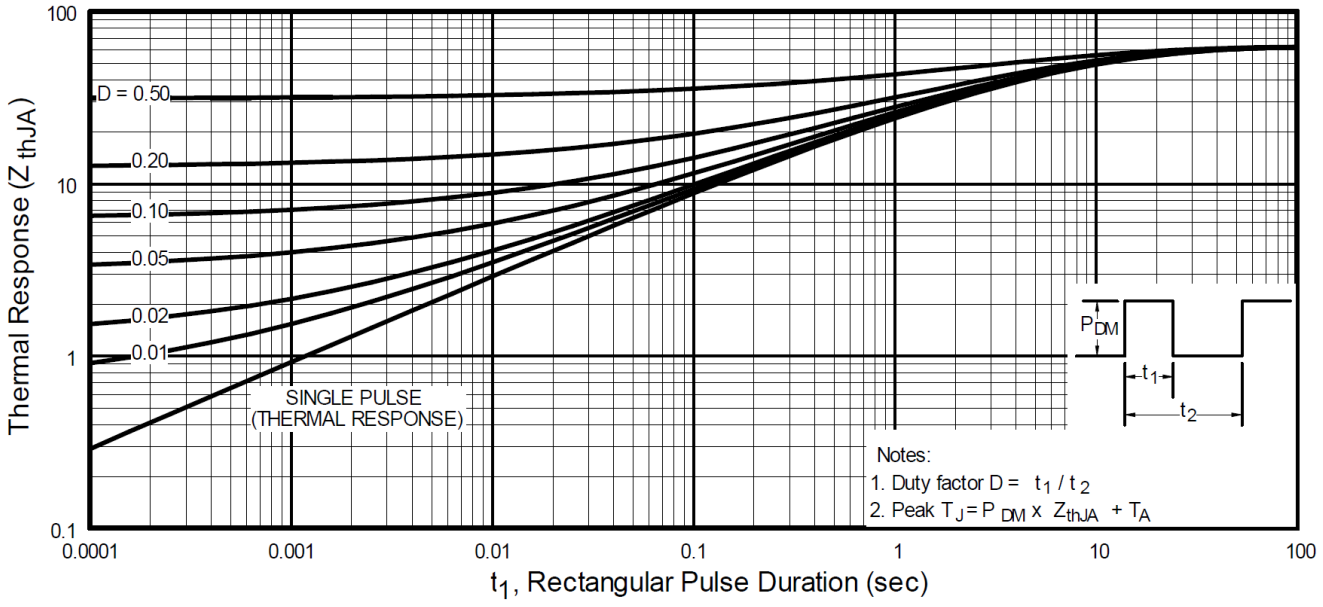
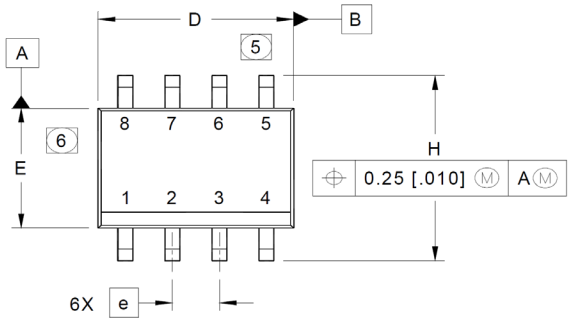
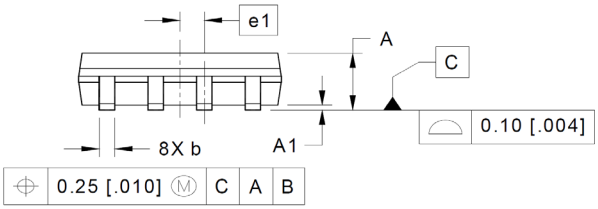


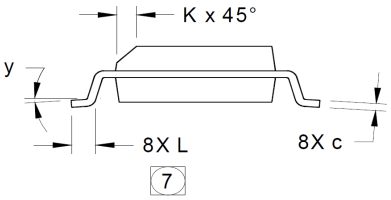
Fig. 11. Maximum Effective Transient Thermal Impedance, Junction-to-Ambient

SO-8 封装外形（尺寸以毫米（英寸）为单位）

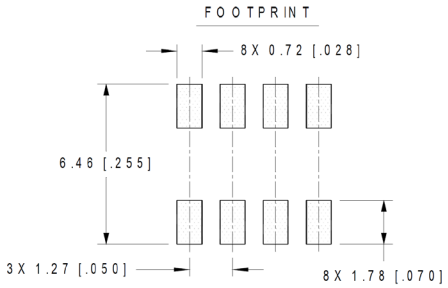


DIM	IN CH ES		MILLIMETERS	
	MIN	MAX	MIN	MAX
A	.0532	.0688	1.35	1.75
A1	.0040	.0098	0.10	0.25
b	.013	.020	0.33	0.51
c	.0075	.0098	0.19	0.25
D	.189	.1968	4.80	5.00
E	.1497	.1574	3.80	4.00
e	.050 BASIC		1.27 BASIC	
e 1	.025 BASIC		0.635 BASIC	
H	.2284	.2440	5.80	6.20
K	.0099	.0196	0.25	0.50
L	.016	.050	0.40	1.27
y	0°	8°	0°	8°

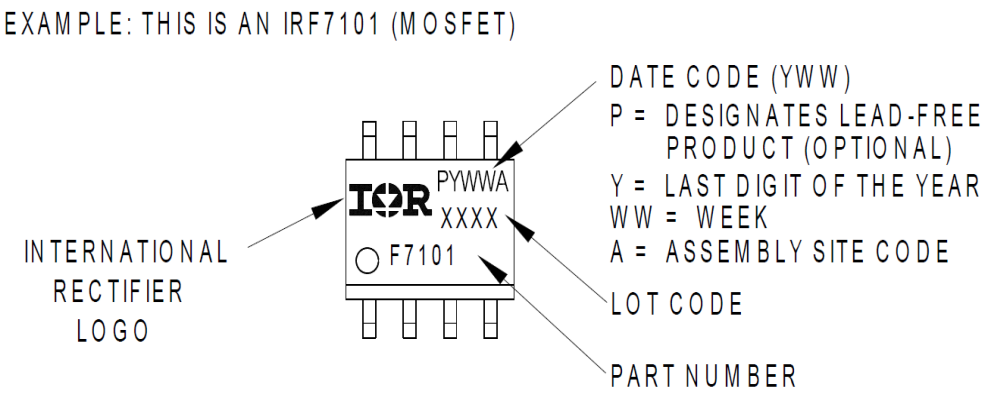




NOTES:
1. DIMENSIONING & TOLERANCING PER ASME Y14.5M-1994.
2. CONTROLLING DIMENSION: MILLIMETER
3. DIMENSIONS ARE SHOWN IN MILLIMETERS [INCHES].
4. OUTLINE CONFORMS TO JEDEC OUTLINE MS-012AA.
5 DIMENSION DOES NOT INCLUDE MOLD PROTRUSIONS. MOLD PROTRUSIONS NOT TO EXCEED 0.15 [.006].
6 DIMENSION DOES NOT INCLUDE MOLD PROTRUSIONS. MOLD PROTRUSIONS NOT TO EXCEED 0.25 [.010].
7 DIMENSION IS THE LENGTH OF LEAD FOR SOLDERING TO A SUBSTRATE.

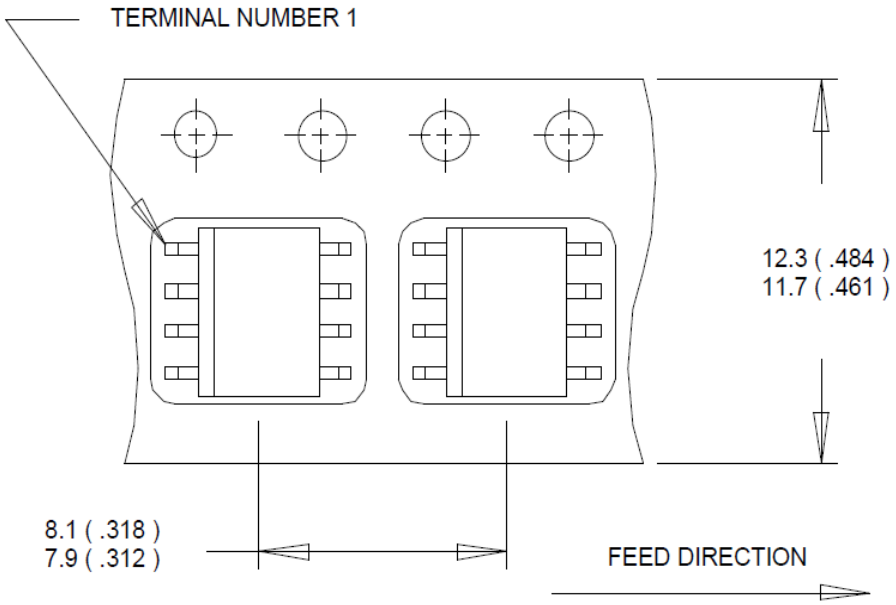


SO-8零件标识信息

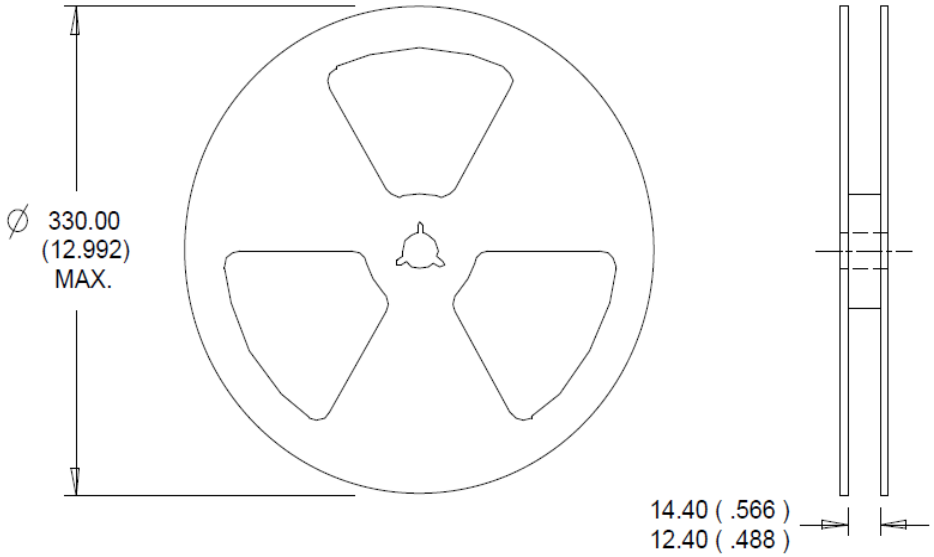


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SO-8卷带包装（尺寸单位为毫米（英寸））



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3. OUTLINE CONFORMS TO EIA-481 & EIA-541.



NOTES :
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2. OUTLINE CONFORMS TO EIA-481 & EIA-541.

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Qualification Level	Consumer	
Moisture Sensitivity Level	SO-8	MSL1 (per JEDEC J-STD-020D)††
RoHS Compliant	Yes	

† Qualification standards can be found at Infineon's web site www.infineon.com

†† 产品发布时的 JEDEC 标准适用版本。

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Date	Comments
05/26/2016	• Updated datasheet with corporate template • Added disclaimer on last page.

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