

EVVOSEMI[®]

THINK CHANGE DO



ESD



TVS



MOS



LDO



Diode



Sensor



DC-DC

Product Specification

▶ Domestic	Part Number	IRF7465
▶ Overseas	Part Number	IRF7465
▶ Equivalent	Part Number	IRF7465

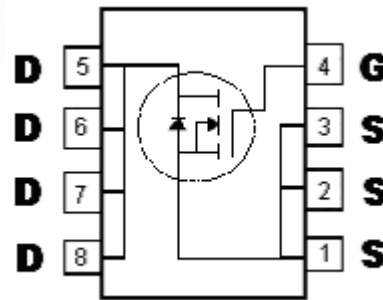
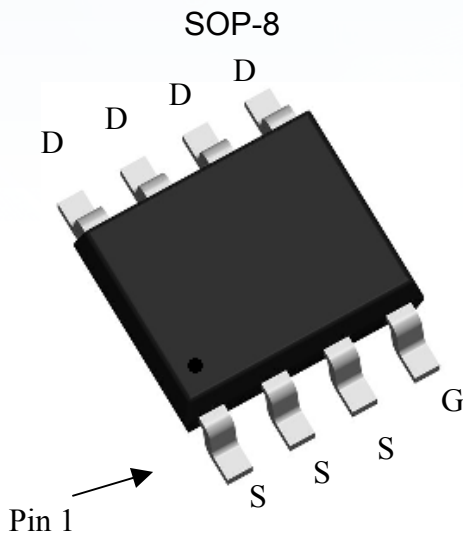
EV is the abbreviation of name EVVO

N-Channel Enhancement Mode Power MOSFET

Features

- Simple drive requirement
- Low on-resistance
- Fast switching characteristic
- Pb-free & halogen-free package

BV_{DSS}	150V
I_D @ T_A=25°C, V_{GS}=10V	4.9A
R_{DS(ON)}@V_{GS}=10V, I_D=4.5A	46.5 mΩ (typ)
R_{DS(ON)}@V_{GS}=4.5V, I_D=3.3A	52 mΩ (typ)



G : Gate D : Drain S : Source

Absolute Maximum Ratings (T_c=25°C, unless otherwise noted)

Parameter	Symbol	Limits	Unit
Drain-Source Voltage	V _{DS}	150	V
Gate-Source Voltage	V _{GS}	±20	
Continuous Drain Current @ V _{GS} =10V, T _c =25°C	I _D	6.2	A
Continuous Drain Current @ V _{GS} =10V, T _c =100°C		3.9	
Continuous Drain Current @ V _{GS} =10V, T _A =25°C		4.9	
Continuous Drain Current @ V _{GS} =10V, T _A =70°C		3.9	
Pulsed Drain Current	I _{DM}	20 *1	mJ
Avalanche Current @ L=0.1mH	I _{AS}	32	
Avalanche Energy @ L=1mH, I _D =16A, V _{DD} =25V	E _{AS}	128 *3	
Repetitive Avalanche Energy @ L=0.05mH	E _{AR}	1.6 *2	W
Total Power Dissipation	P _D	3.1	
		2.0	
Operating Junction and Storage Temperature	T _j , T _{stg}	-55~+150	°C

Note : *1. Pulse width limited by maximum junction temperature

*2. Duty cycle ≤ 1%

*3. 100% tested by conditions of L=0.1mH, I_{AS}=4.5A, V_{GS}=10V, V_{DD}=25V

Thermal Data

Parameter	Symbol	Value	Unit
Thermal Resistance, Junction-to-case	$R_{\theta JC}$	25	°C/W
Thermal Resistance, Junction-to-ambient (Note)	$R_{\theta JA}$	40	

Note : 40°C / W when mounted on a 1 in² pad of 2 oz copper, $t \leq 10s$; 125°C/W when mounted on minimum pad.

Characteristics (T_c=25°C, unless otherwise specified)

Symbol	Min.	Typ.	Max.	Unit	Test Conditions
Static					
BV _{DSS}	150	-	-	V	V _{GS} =0V, I _D =250μA
V _{GS(th)}	1	-	2.5		V _{DS} = V _{GS} , I _D =250μA
G _{FS}	-	12.6	-	S	V _{DS} =10V, I _D =5A
I _{GSS}	-	-	±100	nA	V _{GS} =±20V, V _{DS} =0V
I _{DSS}	-	-	1	μA	V _{DS} =120V, V _{GS} =0V
	-	-	10		V _{DS} =120V, V _{GS} =0V, T _j =85℃
*R _{DS(ON)}	-	46.5	62	mΩ	V _{GS} =10V, I _D =4.5A
	-	52	72		V _{GS} =4.5V, I _D =3.3A
Dynamic					
Q _g *1, 2	-	24.5	37	nC	V _{DS} =75V, I _D =2A, V _{GS} =10V
Q _{gs} *1, 2	-	3.9	-		
Q _{gd} *1, 2	-	4.7	-		
C _{iss}	-	1376	2064	pF	V _{DS} =75V, V _{GS} =0V, f=1MHz
C _{oss}	-	65	98		
C _{rss}	-	12	24		

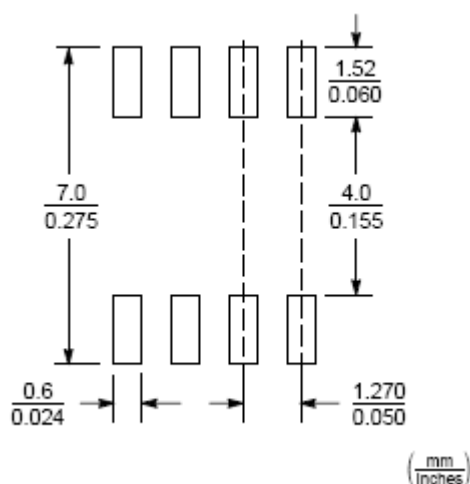
Characteristics (Cont. Tc=25°C, unless otherwise specified)

Symbol	Min.	Typ.	Max.	Unit	Test Conditions
Dynamic					
$t_{d(ON)}$ *1, 2	-	12.6	18.9	ns	$V_{DS}=75V, I_D=1A, V_{GS}=10V, R_G=3\Omega$
t_r *1, 2	-	17	25.5		
$t_{d(OFF)}$ *1, 2	-	41	61.5		
t_f *1, 2	-	8.2	12.3		
R_g	-	1	-	Ω	$f=1MHz$
Source-Drain Diode Ratings and Characteristics					
I_S *1	-	-	4.2	A	
I_{SM} *3	-	-	20		
V_{SD} *1	-	0.77	1.2	V	$I_S=2.3A, V_{GS}=0V$
t_{rr}	-	37.8	-	ns	$I_F=2.3A, dI_F/dt=100A/\mu s$
Q_{rr}	-	58.8	-	nC	

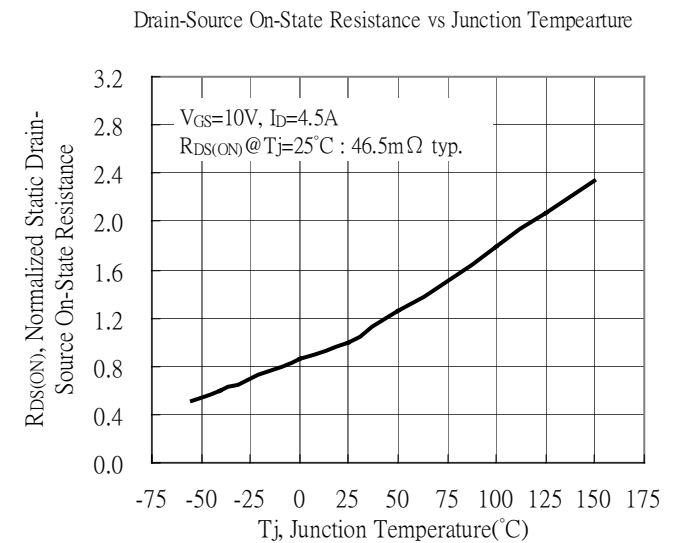
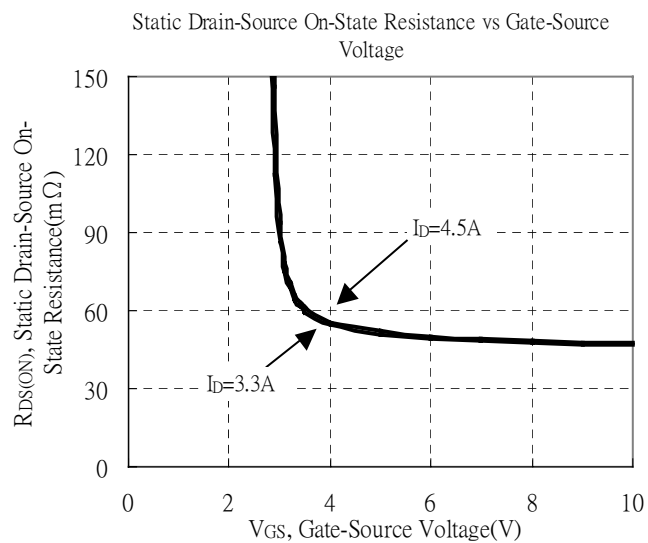
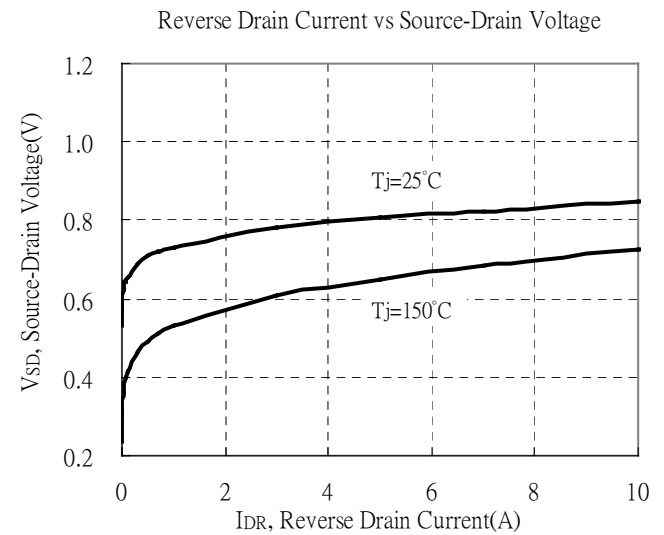
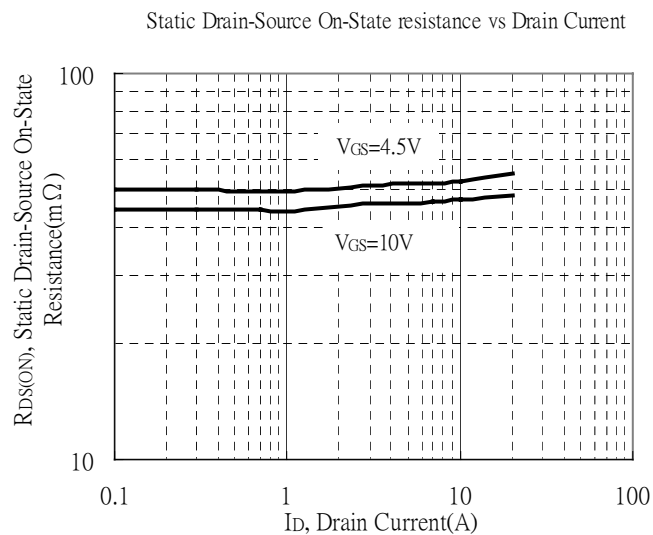
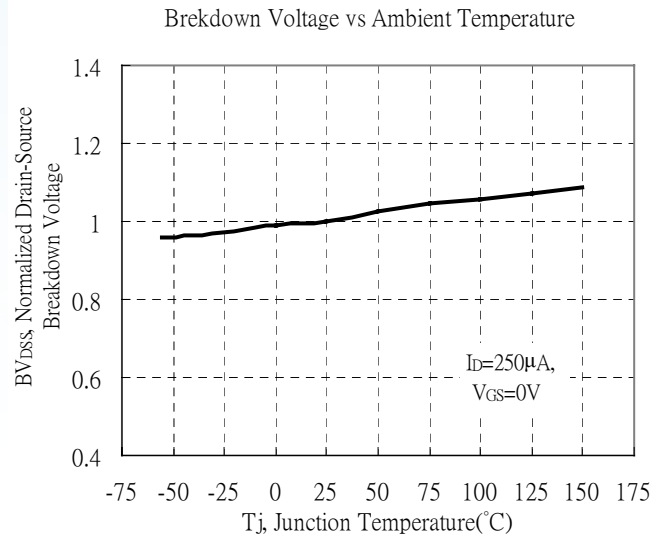
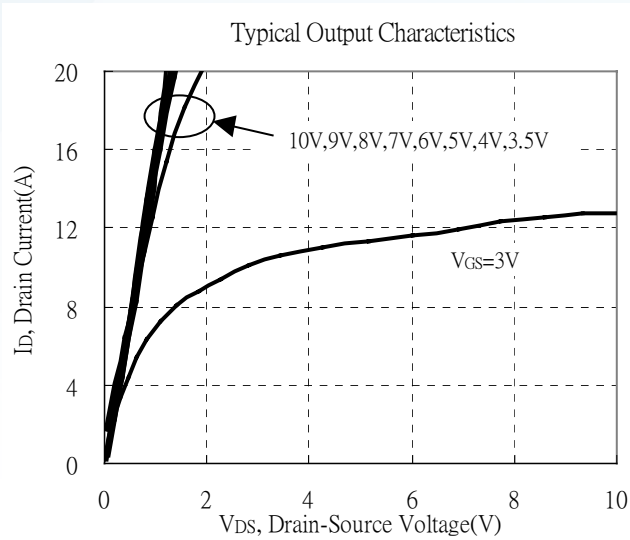
Note : *1.Pulse Test : Pulse Width $\leq 300\mu s$, Duty Cycle $\leq 2\%$

*2.Independent of operating temperature

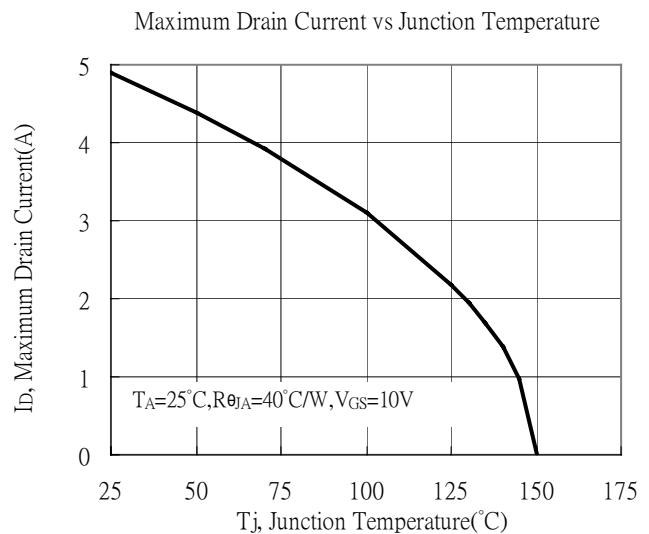
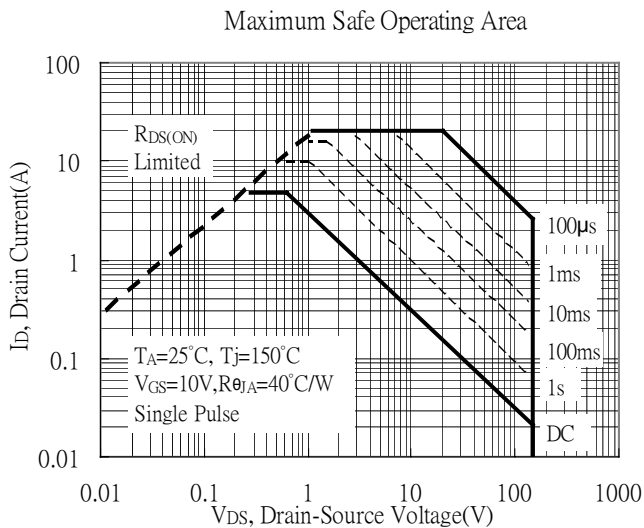
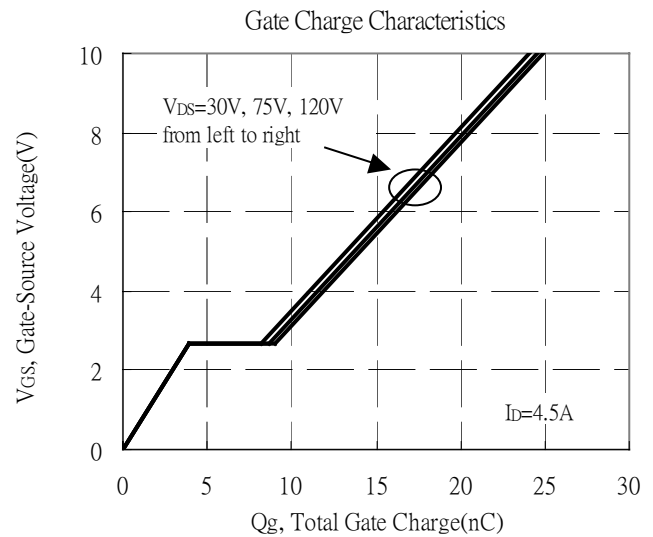
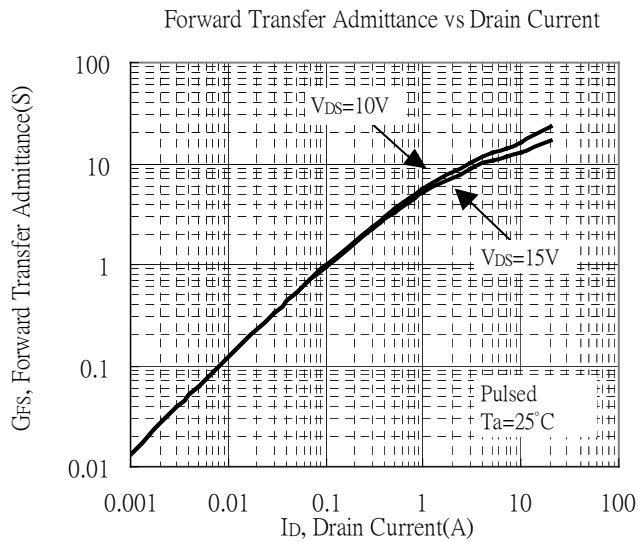
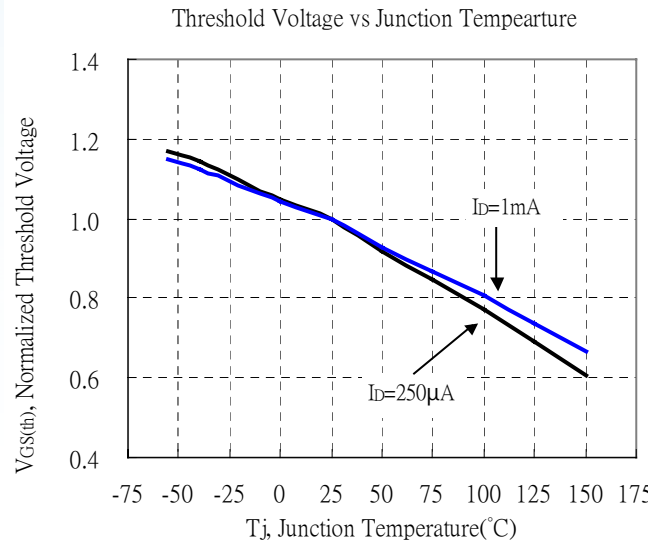
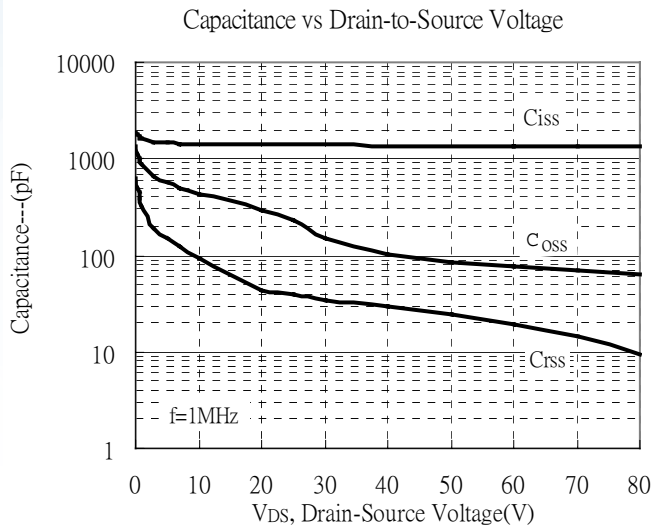
*3.Pulse width limited by maximum junction temperature.

Recommended Soldering Footprint


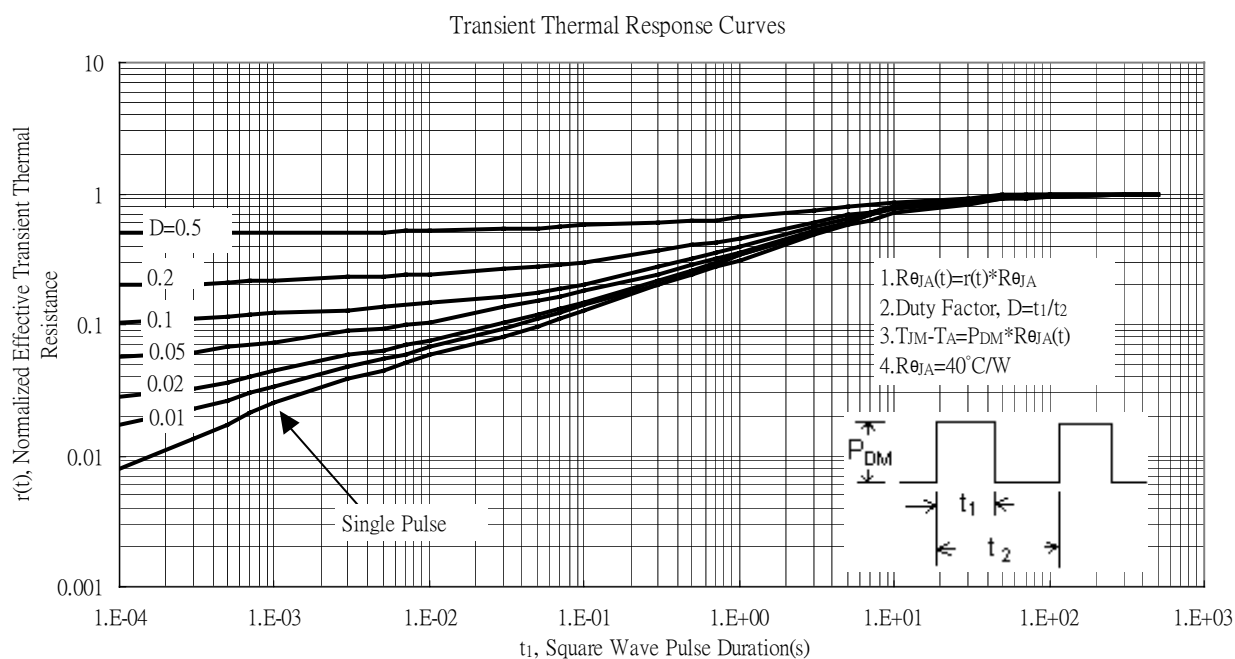
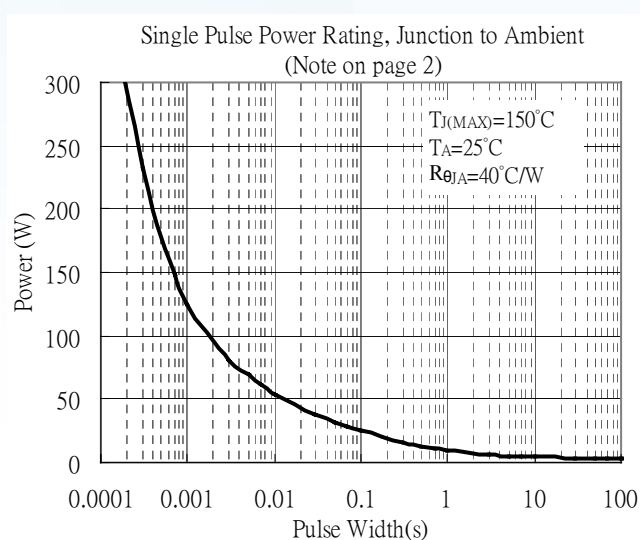
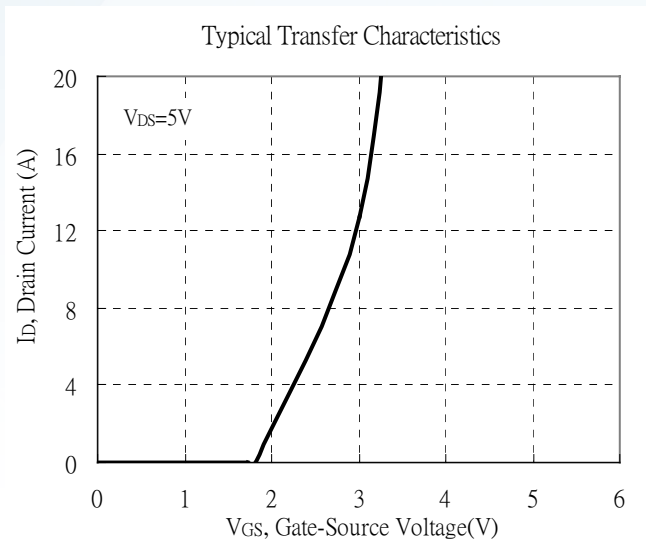
Typical Characteristics



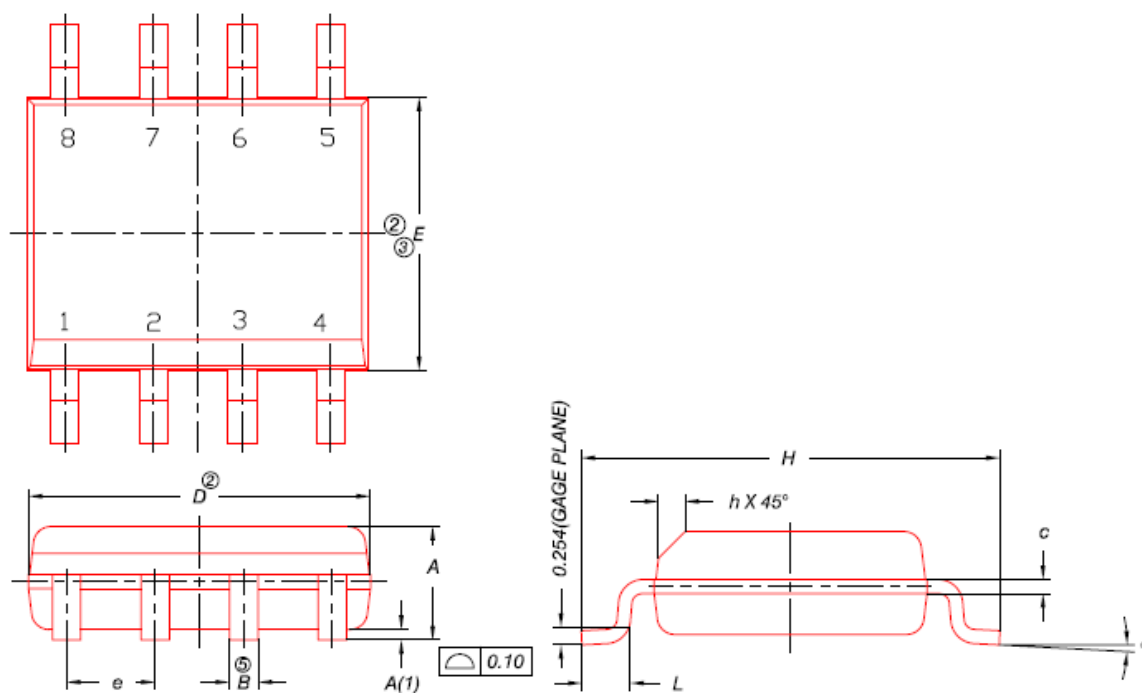
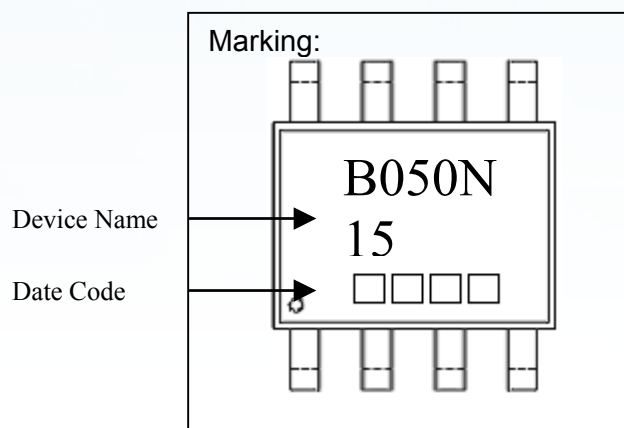
Typical Characteristics(Cont.)



Typical Characteristics(Cont.)



SOP-8 Dimension



- Note:
1. All Dimension Are In mm.
 - ② Package Body Sizes Exclude Mold Flash, Protrusion Or Gate Burrs.
Mold Flash, Protrusion Or Gate Burrs Shall Not Exceed 0.10 mm Per Side.
 - ③ Package Body Sizes Determined At The Outermost Extremes Of The Plastic Body Exclusive Of Mold Flash, Tie Bar Burrs, Gate Burrs And Interlead Flash, But Including Any Mismatch Between The Top And Bottom Of The Plastic Body.
 4. The Package Top May Be Smaller Than The Package Bottom.
 - ⑤ Dimension "B" Does Not Include Dambar Protrusion. Allowable Dambar Protrusion Shall Be 0.08 mm Total In Excess Of "B" Dimension At Maximum Material Condition. The Dambar Cannot Be Located On The Lower Radius Of The Foot.

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