

EVVOSEMI[®]

THINK CHANGE DO



ESD



TVS



MOS



LDO



Diode



Sensor



DC-DC

Product Specification

▶ Domestic	Part Number	IRFB4321
▶ Overseas	Part Number	IRFB4321
▶ Equivalent	Part Number	IRFB4321

EV is the abbreviation of name EVVO

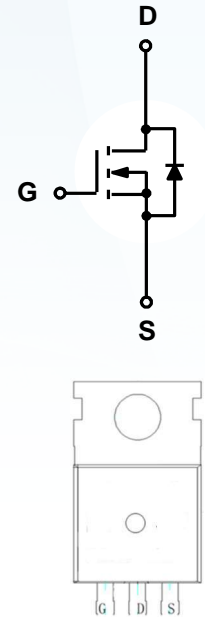
Features

- 150V,80A
 $R_{DS(ON)} < 12m\Omega @ V_{GS}=10V$ TYP:10.7 m Ω
 $R_{DS(ON)} < 15m\Omega @ V_{GS}=6V$ TYP:11.8m Ω

- Surface-mounted package
- Super Trench

Applications

- LCD TV appliances
- LCDM appliances
- High power inverter system



ABSOLUTE MAXIMUM RATINGS (T_J=25°C unless otherwise noted)

Parameter	Symbol	Value	Unit
Drain-Source Voltage	V _{DS}	150	V
Gate-Source Voltage	V _{GS}	±25	V
Continuous Drain Current (T _C =25°C) ^(1,3)	I _D	80	A
Continuous Drain Current (T _C =100°C) ^(1,3)	I _D	46	A
Pulsed Drain Current ^(1,2,3)	I _{DM}	240	A
Single Pulsed Avalanche Energy (V _{DD} =50V, L=1.0mH)	E _{AS}	684	mJ
Drain Power Dissipation	P _D	156	W
Thermal Resistance from Junction to Case ⁽²⁾	R _{θJC}	0.8	°C/W
Thermal Resistance- Junction to Ambient ⁽²⁾	R _{θJA}	62.5	°C/W
Junction Temperature	T _J	150	°C
Storage Temperature	T _{STG}	-55~ +150	°C

Notes:

1. Pulse width ≤ 300 μs, duty cycle ≤ 2 %
2. Surface Mounted on minimum footprint pad area.
3. Limited by bonding wire

MOSFET ELECTRICAL CHARACTERISTICS(T_J=25°C unless otherwise noted)

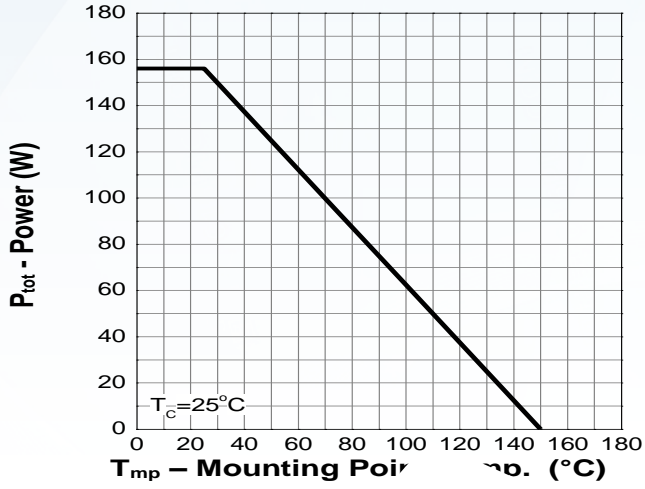
Parameter	Symbol	Test Condition	Min	Type	Max	Unit
Static Characteristics						
Drain-source breakdown voltage	V _{(BR)DSS}	V _{GS} = 0V, I _D =250μA	100	-	-	V
Zero gate voltage drain current	I _{DSS}	V _{DS} =120V, V _{GS} = 0V	-	-	1	μA
Gate-body leakage current	I _{GSS}	V _{GS} = ±25V, V _{DS} = 0V	-	-	±100	nA
Gate threshold voltage	V _{GS(th)}	V _{DS} =V _{GS} , I _D =250μA	2.0	-	4.0	V
Drain-source on-resistance ^(a)	R _{DS(on)}	V _{GS} =10V, I _D =30A	-	10.7	12	mΩ
		V _{GS} =6V, I _D =20A	-	11.8	15	mΩ
Dynamic characteristics						
Input Capacitance	C _{iss}	V _{DS} =75V, V _{GS} =0V, f =1.0MHz	-	4756	-	pF
Output Capacitance	C _{oss}		-	318	-	
Reverse Transfer Capacitance	C _{rss}		-	65	-	
Switching characteristics						
Turn-on delay time	t _{d(on)}	V _{DD} =75V, I _D =30A, R _G =3.9Ω, V _{GS} =10V	-	19	-	ns
Turn-on rise time	t _r		-	69	-	
Turn-off delay time	t _{d(off)}		-	55	-	
Turn-off fall time	t _f		-	80	-	
Total Gate Charge	Q _g	V _{DS} =75V, I _D =30A, V _{GS} =10V	-	81	-	nC
Gate-Source Charge	Q _{gs}		-	21	-	
Gate-Drain Charge	Q _{gd}		-	17	-	
Source-Drain Diode characteristics						
Diode Forward voltage ^(a)	V _{SD}	T _C =25°C, V _{GS} =0V, I _S =30A	-	-	1.3	V
Diode Forward current	I _S	T _C =25°C	-	-	80	A
Body Diode Reverse Recovery Time	t _{rr}	T _C =25°C, I _F =30A, di/dt=100A/us		96		ns
Body Diode Reverse Recovery Charge	Q _{rr}	T _C =25°C, I _F =30A, di/dt=100A/us		355		nc

Notes:

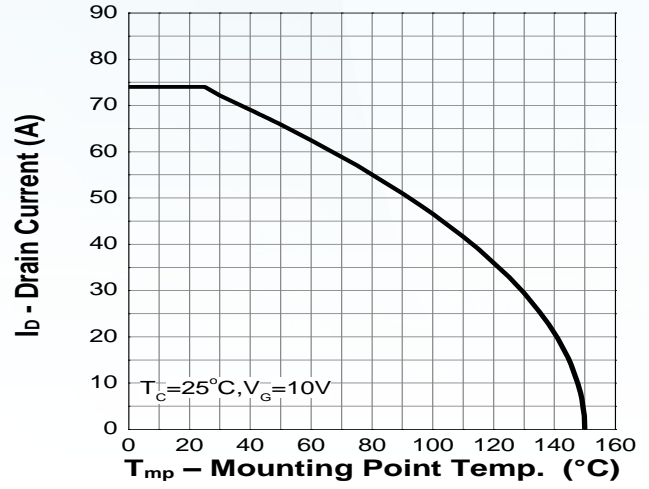
- a) : Pulse test ; pulse width ≤ 300 μs, duty cycle ≤ 2%
 b) : Guaranteed by design, not subject to production testing

Typical Characteristics (cont.)

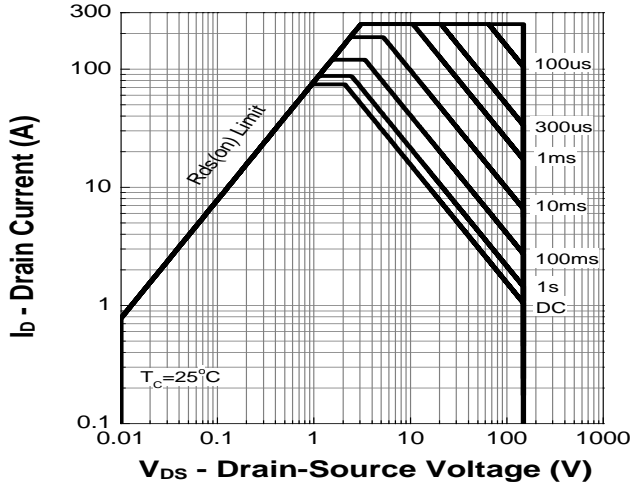
Power Capability



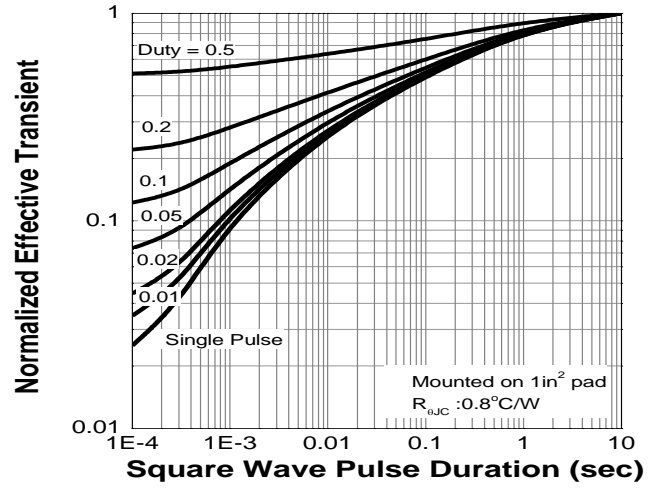
Current Capability



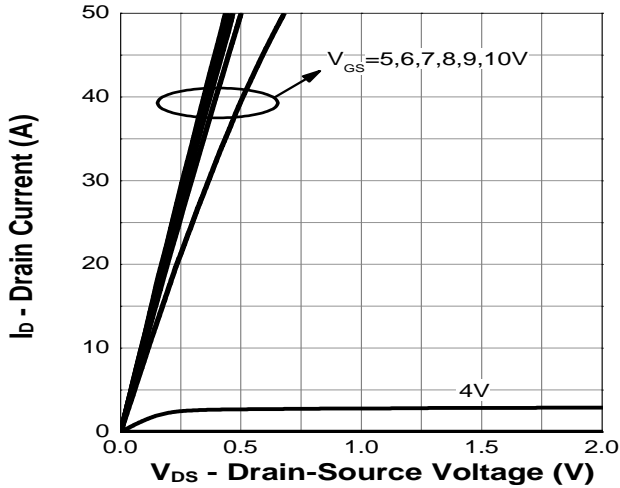
Safe Operating Area



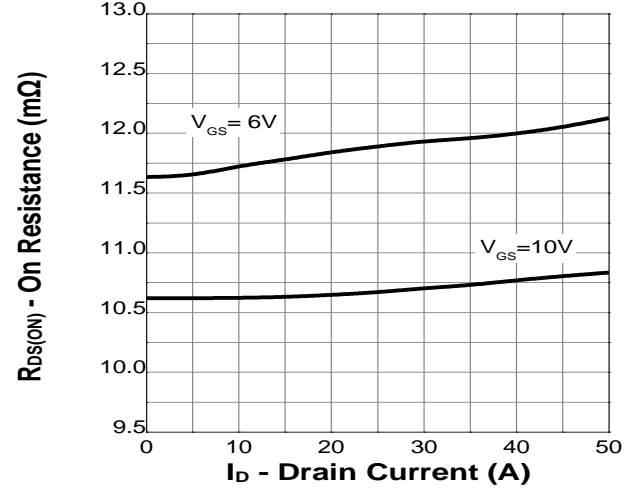
Transient Thermal Impedance



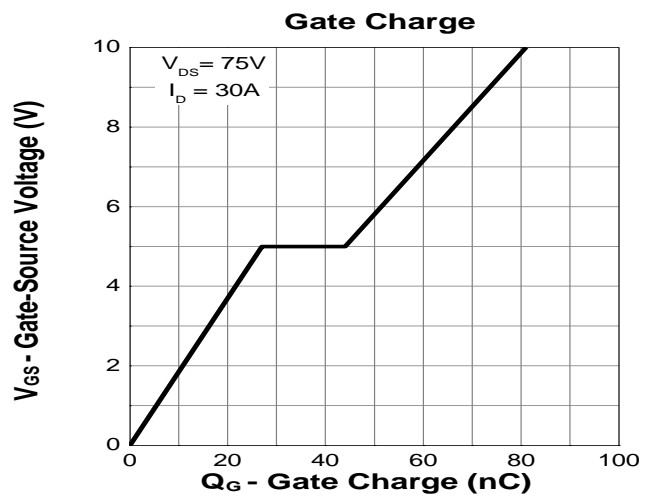
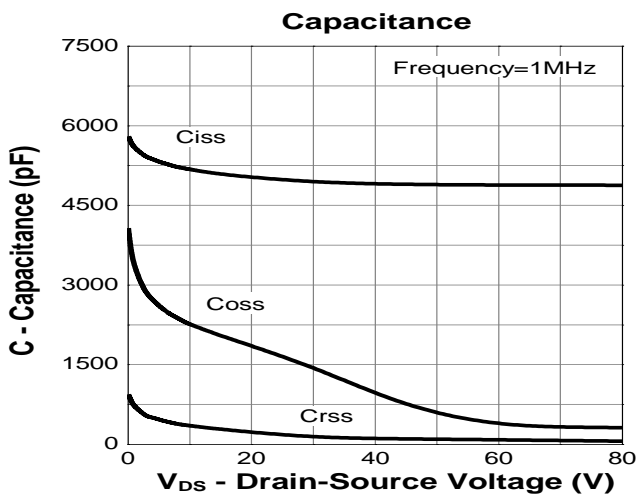
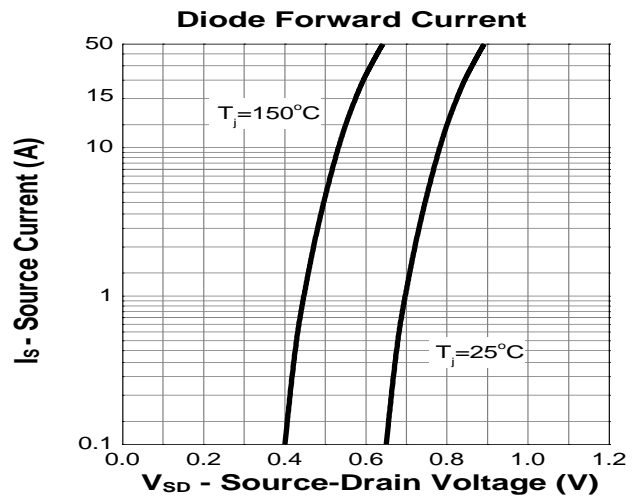
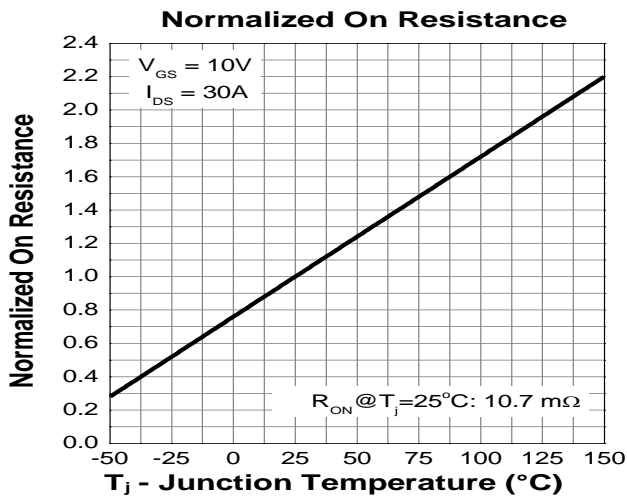
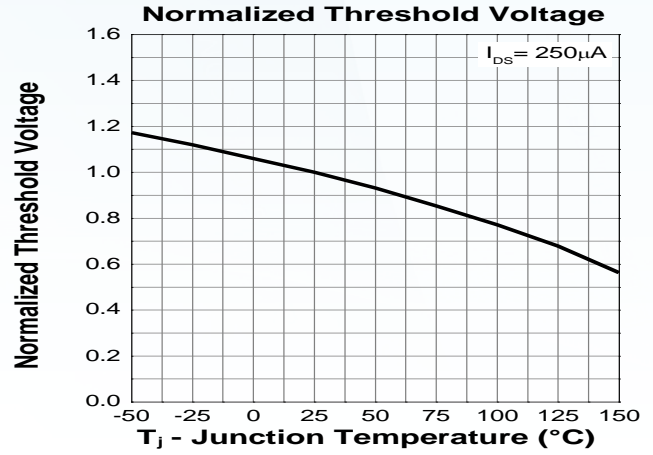
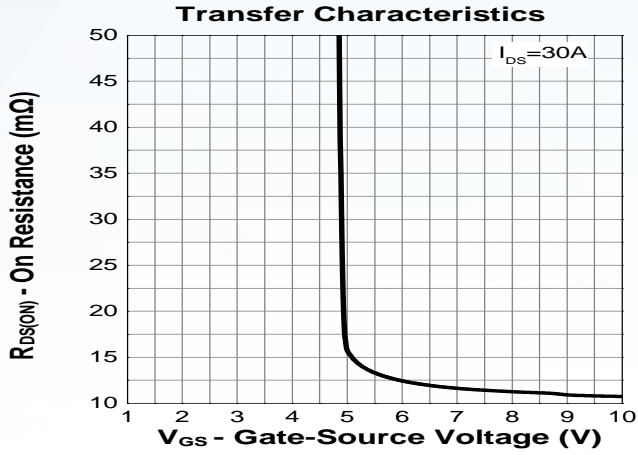
Output Characteristics



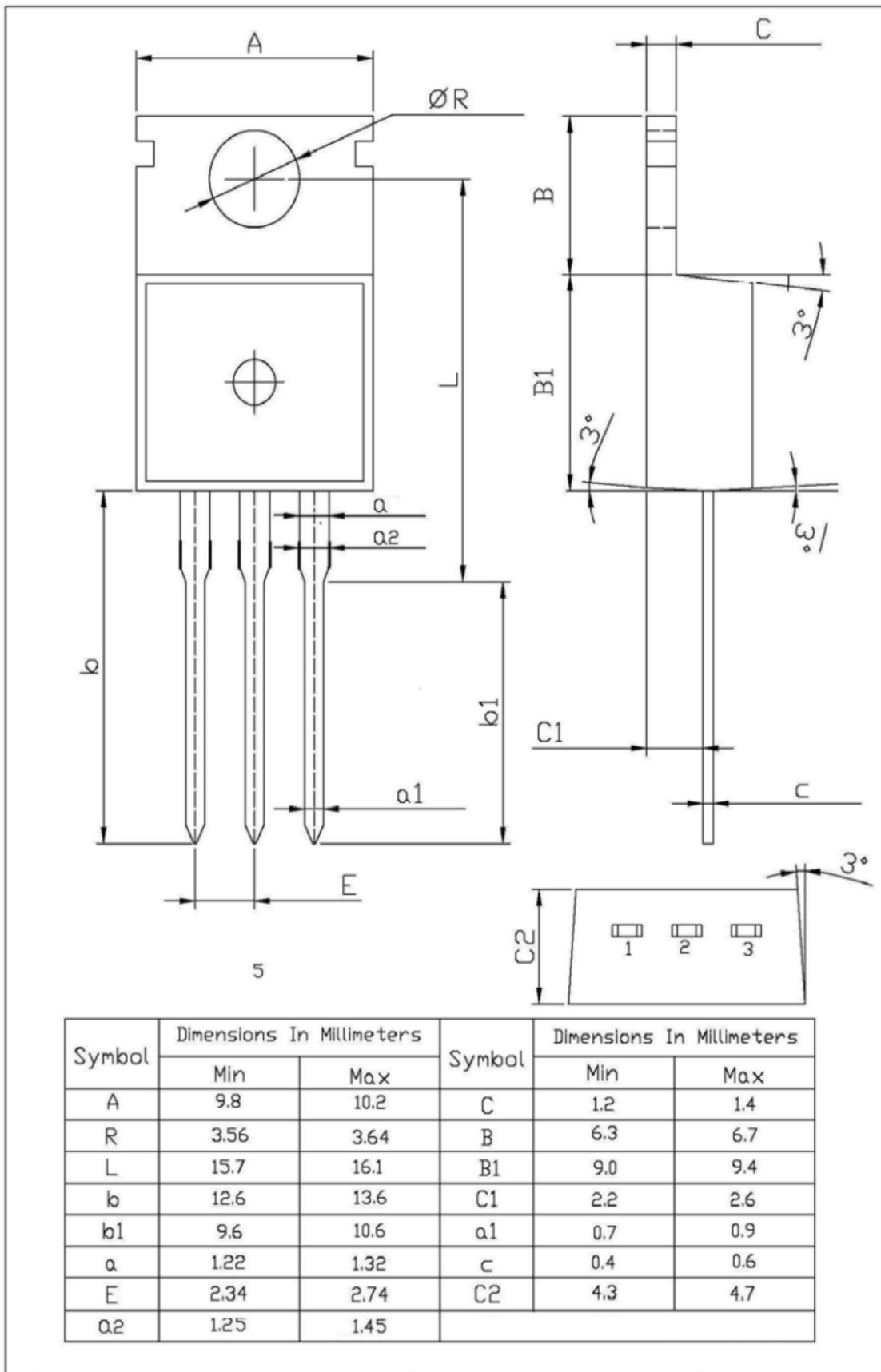
On Resistance



Typical Characteristics (cont.)



TO220 Package Information



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