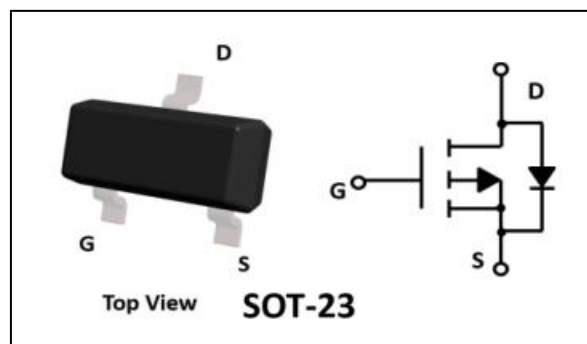


isc P-Channel MOSFET Transistor

Si2315BDS

• FEATURES

- Static drain-source on-resistance:
 $R_{DS(on)} \leq 52m\Omega @ V_{GS} = -4.5V; I_D = -3.8A$
- Enhancement mode
- Fast Switching Speed
- 100% avalanche tested
- Minimum Lot-to-Lot variations for robust device performance and reliable operation



• DESCRIPTION

- Be suitable for synchronous rectification for server and general purpose applications

• ABSOLUTE MAXIMUM RATINGS($T_a=25^\circ C$)

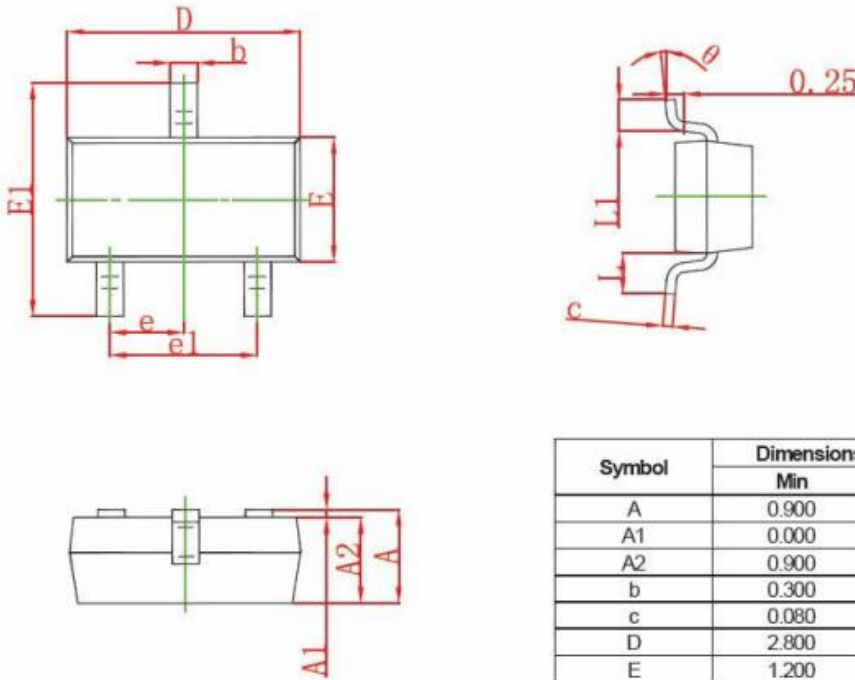
SYMBOL	PARAMETER	VALUE	UNIT
V_{DS}	Drain-Source Voltage	-12	V
V_{GS}	Gate-Source Voltage	± 10	V
I_D	Drain Current-Continuous@ $T_A=25^\circ C$	-3.8	A
I_{DM}	Drain Current-Single Pulsed	-15	A
P_D	Total Dissipation @ $T_A=25^\circ C$	1	W
T_j	Max. Operating Junction Temperature	150	$^\circ C$
T_{stg}	Storage Temperature	-55~150	$^\circ C$

• THERMAL CHARACTERISTICS

SYMBOL	PARAMETER	MAX	UNIT
$R_{th(ch-a)}$	Channel-to-ambient thermal resistance@ Steady State	125	$^\circ C/W$

isc P-Channel MOSFET Transistor**Si2315BDS****ELECTRICAL CHARACTERISTICS****T_C=25°C unless otherwise specified**

SYMBOL	PARAMETER	CONDITIONS	MIN	TYP	MAX	UNIT
BV _{DSS}	Drain-Source Breakdown Voltage	V _{GS} =0V; I _D = -250 μ A	-12			V
V _{GS(th)}	Gate Threshold Voltage	V _{DS} =V _{GS} ; I _D = -250 μ A	-0.4		-1	V
R _{DS(on)}	Drain-Source On-Resistance	V _{GS} = -4.5V; I _D = -3.8A		42	52	m Ω
		V _{GS} = -2.5V; I _D = -3.0A		52	78	
		V _{GS} = -1.8V; I _D = -2.5A		70	87	
I _{GSS}	Gate-Source Leakage Current	V _{GS} = ±10V; V _{DS} =0V			±100	nA
I _{DSS}	Drain-Source Leakage Current	V _{DS} = -12V; V _{GS} = 0V			-1	μ A
V _{SD}	Diode forward voltage	I _S = -3.8A; V _{GS} = 0V		-0.8	-1.2	V
C _{iss}	Input Capacitance	V _{DS} =-10V, V _{GS} =0V, f=1MHZ		520		pF
C _{oss}	Output Capacitance			89		
C _{rss}	Reverse Transfer Capacitance			53		
Q _g	Total Gate Charge	V _{GS} =-4.5V, V _{DS} =-10V, I _D =-3.8A		4.3		nC
Q _{gs}	Gate Source Charge			0.8		
Q _{gd}	Gate Drain Charge			1.1		
t _{d(on)}	Turn-on Delay Tim	V _{GS} =-4.5V, V _{DD} =-10V, I _D =-1A, R _{GEN} =2.5 Ω		12		ns
t _r	Turn-on Rise Time			54		
t _{d(off)}	Turn-off Delay Time			15		
t _f	Turn-off Fall Time			9		

isc P-Channel MOSFET Transistor**Si2315BDS****SOT-23 PACKAGE INFORMATION**

Symbol	Dimensions In Millimeters		Dimensions In Inches	
	Min	Max	Min	Max
A	0.900	1.150	0.035	0.045
A1	0.000	0.100	0.000	0.004
A2	0.900	1.050	0.035	0.041
b	0.300	0.500	0.012	0.020
c	0.080	0.150	0.003	0.006
D	2.800	3.000	0.110	0.118
E	1.200	1.400	0.047	0.055
E1	2.250	2.550	0.089	0.100
e	0.950 TYP		0.037 TYP	
e1	1.800	2.000	0.071	0.079
L	0.550 REF		0.022 REF	
L1	0.300	0.500	0.012	0.020
θ	0°	8°	0°	8°

NOTICE:

ISC reserves the rights to make changes of the content herein the datasheet at any time without notification. The information contained herein is presented only as a guide for the applications of our products.

ISC products are intended for usage in general electronic equipment. The products are not designed for use in equipment which require specialized quality and/or reliability, or in equipment which could have applications in hazardous environments, aerospace industry, or medical field. Please contact us if you intend our products to be used in these special applications.

ISC makes no warranty or guarantee regarding the suitability of its products for any particular purpose, nor does ISC assume any liability arising from the application or use of any products, and specifically disclaims any and all liability, including without limitation special, consequential or incidental damages.