

Product Summary

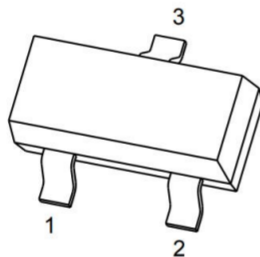
- V_{DS} -25 V
- I_{DS} (at $V_{GS}=-4.5V$) -0.66 A
- $R_{DS(ON)}$ (at $V_{GS}=-4.5V$) <520m Ω

Application

- Interfacing Switching
- Portable equipment and battery
- Load Switch

Package and Pin Configuration

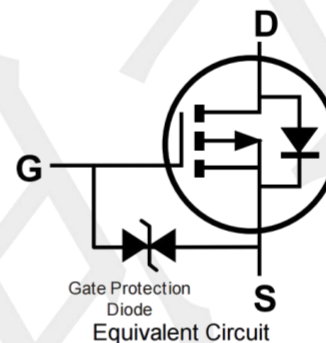
1. GATE
2. SOURCE
3. DRAIN



SOT-323

Marking:PA1

Circuit diagram



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

PARAMETER	SYMBOL	LIMIT	UNIT
Drain-Source Voltage	V_{DS}	-25	V
Gate-Source Voltage	V_{GS}	±10	V
Continuous Drain Current	I_D	-0.66	A
Pulsed Drain Current	I_{DM}	-2.4	A
Maximum Power Dissipation	P_D	0.5	W
Operating Junction Temperature Range	T_J	-55 to +150	°C
Storage Temperature Range	T_{stg}	-55 to +150	°C

Thermal Characteristic

PARAMETER	Symbol	Value	Unit
Thermal Resistance from Junction to Ambient(t≤10s)	$R_{\theta JA}$	300	°C/W
	PCB Mount (Note)		

Note : When mounted on 1" square PCB (FR4 material).

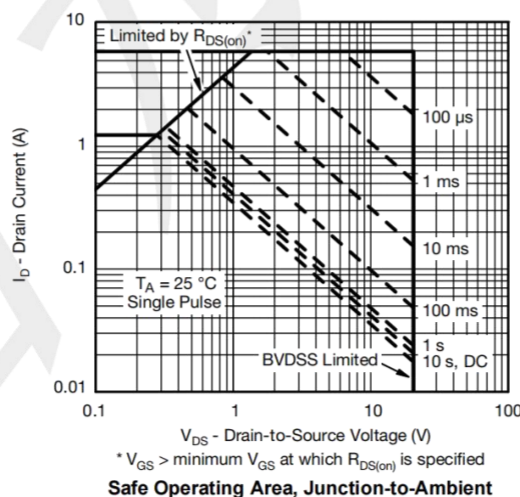
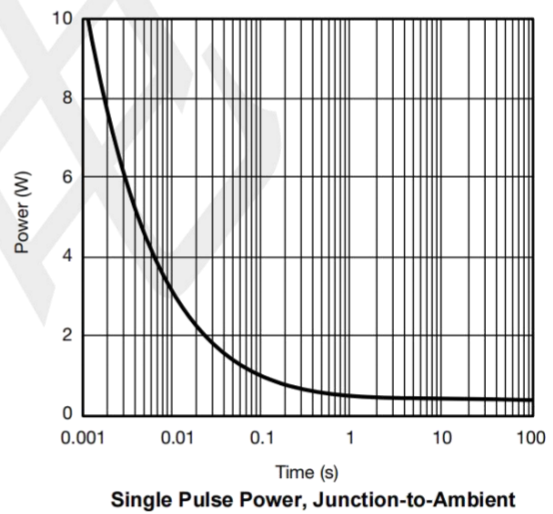
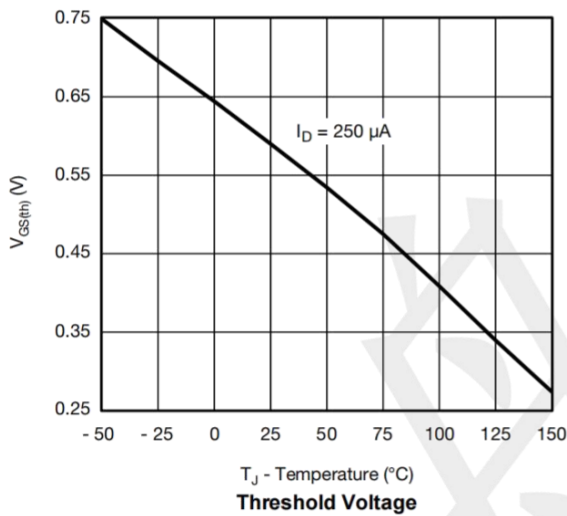
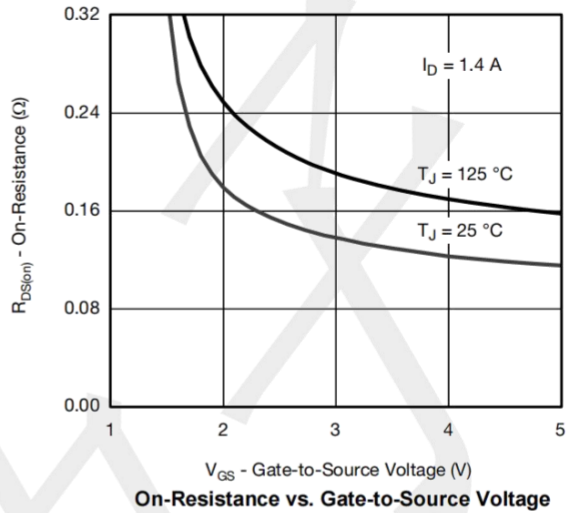
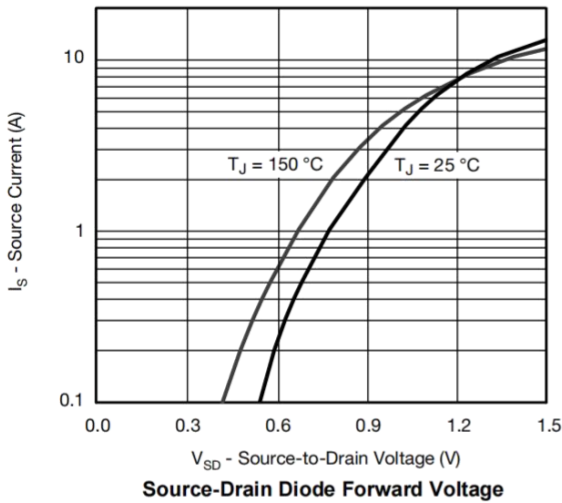
Electrical Characteristics ($T_A=25^\circ\text{C}$ unless otherwise noted)

PARAMETER	CONDITIONS	SYMBOL	MIN	TYP	MAX	UNIT
Static						
Drain-Source Breakdown Voltage	$V_{GS}=0V, I_D=-250\mu A$	BV_{DSS}	-25	--	--	V
Gate-Source Threshold Voltage	$V_{DS}=V_{GS}, I_D=-250\mu A$	$V_{GS(th)}$	-0.5	-0.9	-1.5	V
Gate-Source Leakage	$V_{DS}=0V, V_{GS}=\pm 10V$	I_{GSS}	--	--	± 100	nA
Zero Gate Voltage Drain Current	$V_{DS}=-25V, V_{GS}=0V$	I_{DSS}	--	-0.1	-1	μA
	$V_{DS}=-25V, T_J=125^\circ C$		--	-10	-100	μA
Drain-Source On-State Resistance (Note 1)	$V_{GS}=-4.5V, I_D=-1.0A$	$R_{DS(on)}$	--	--	520	m Ω
	$V_{GS}=-2.5V, I_D=-0.8A$		--	--	700	
	$V_{GS}=-1.5V, I_D=-0.5A$		--	950	--	
Forward Transconductance (Note 2)	$V_{DS}=-10V, I_D=-0.54A$	g_{fs}	--	1.2	--	S
Dynamic (Note 2)						
Total Gate Charge (Note 3)	$V_{DS}=-10V,$ $I_D=-0.5A,$ $V_{GS}=-4.5V$	Q_g	--	2.7	--	nC
Gate-Source Charge (Note 3)		Q_{gs}	--	0.7	--	
Gate-Drain Charge (Note 3)		Q_{gd}	--	1.0	--	
Input Capacitance	$V_{DS}=-10V, V_{GS}=0V,$ $F=1.0MHz$	C_{iss}	--	113	--	pF
Output Capacitance		C_{oss}	--	15	--	
Reverse Transfer Capacitance		C_{rss}	--	9	--	
Switching						
Turn-On Delay Time (Note 3)	$V_{DS}=-10V,$ $I_D=-0.5A,$ $V_{GS}=-4.5V,$ $R_{GEN}=10\Omega$	$t_{d(on)}$	--	9	--	nS
Rise Time (Note 3)		t_r	--	5.8	--	
Turn-Off Delay Time (Note 3)		$t_{d(off)}$	--	32	--	
Fall Time (Note 3)		t_f	--	20	--	
Source-Drain Diode Ratings and Characteristics (Note 2)						
Forward Voltage	$V_{GS}=0V, I_F=-0.6A$	V_{SD}	--	-0.8	-1.2	V
Continuous Source Current	Integral reverse diode in the MOSFET	I_S	--	--	-0.6	A
Pulsed Current (Note 1)		I_{SM}	--	--	-2.4	A

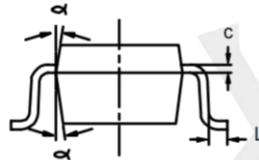
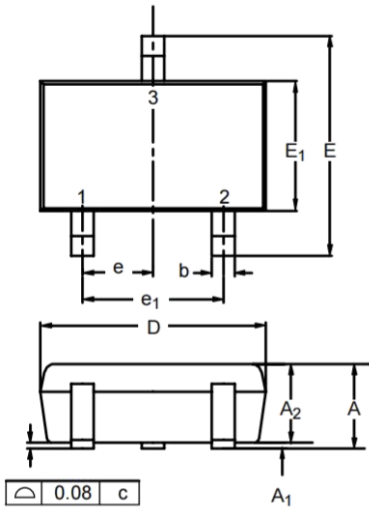
Notes:

1. Pulse test; pulse width $\leq 300 \mu s$, duty cycle $\leq 2\%$.
2. Guaranteed by design, not subject to production testing.
3. Independent of operating temperature

TYPICAL CHARACTERISTICS (25 °C, unless otherwise noted)



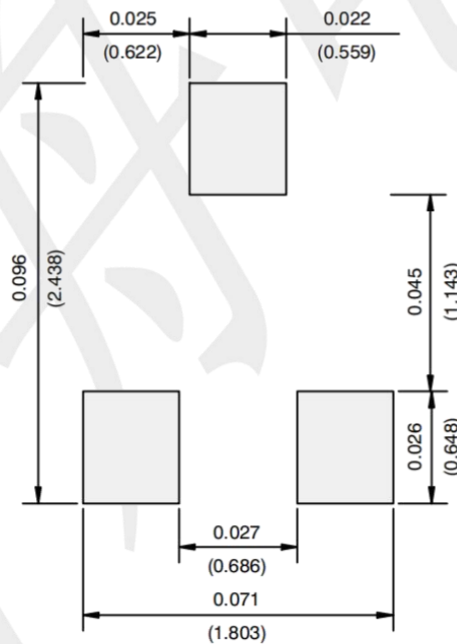
Package Information SOT-323



Dim	MILLIMETERS			INCHES		
	Min	Nom	Max	Min	Nom	Max
A	0.90	-	1.10	0.035	-	0.043
A ₁	-	-	0.10	-	-	0.004
A ₂	0.80	-	1.00	0.031	-	0.039
b	0.25	-	0.40	0.010	-	0.016
c	0.10	-	0.25	0.004	-	0.010
D	1.80	2.00	2.20	0.071	0.079	0.087
E	1.80	2.10	2.40	0.071	0.083	0.094
E ₁	1.15	1.25	1.35	0.045	0.049	0.053
e	0.65BSC			0.026BSC		
e ₁	1.20	1.30	1.40	0.047	0.051	0.055
L	0.10	0.20	0.30	0.004	0.008	0.012
α	7°Nom			7°Nom		

ECN: S-03946—Rev. C, 09-Jul-01
DWG: 5549

Suggested Pad Layout



Recommended Minimum Pads
Dimensions in Inches/(mm)

X-ON Electronics

Largest Supplier of Electrical and Electronic Components

Click to view similar products for [MOSFET](#) category:

Click to view products by [TECH PUBLIC](#) manufacturer:

Other Similar products are found below :

[IRFD120](#) [IRFY240C](#) [JANTX2N5237](#) [2SK2267\(Q\)](#) [BUK455-60A/B](#) [MIC4420CM-TR](#) [VN1206L](#) [NDP4060](#) [SI4482DY](#)
[IPS70R2K0CEAKMA1](#) [SQD23N06-31L-GE3](#) [TK16J60W,S1VQ\(O](#) [2SK2614\(TE16L1,Q\)](#) [DMN1017UCP3-7](#) [EFC2J004NUZTDG](#)
[DMN1053UCP4-7](#) [SQJ469EP-T1-GE3](#) [NTE2384](#) [DMC2700UDMQ-7](#) [DMN2080UCB4-7](#) [DMN61D9UWQ-13](#) [US6M2GTR](#)
[DMN31D5UDJ-7](#) [DMP22D4UFO-7B](#) [DMN1006UCA6-7](#) [DMN16M9UCA6-7](#) [STF5N65M6](#) [IRF40H233XTMA1](#) [STU5N65M6](#)
[DMN6022SSD-13](#) [DMN13M9UCA6-7](#) [DMTH10H4M6SPS-13](#) [DMN2990UFB-7B](#) [IPB80P04P405ATMA2](#) [2N7002W-G](#) [MCAC30N06Y-](#)
[TP](#) [MCQ7328-TP](#) [NTMC083NP10M5L](#) [NVMFS2D3P04M8LT1G](#) [BXP7N65D](#) [BXP4N65F](#) [AOL1454G](#) [WMJ80N60C4](#) [BXP2N20L](#)
[BXP2N65D](#) [BXT1150N10J](#) [BXT1700P06M](#) [TSM60NB380CP](#) [ROG](#) [RQ7L055BGTCR](#) [DMNH15H110SK3-13](#)