

Features

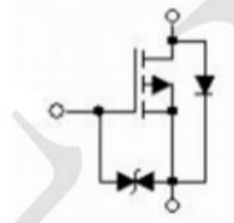
- Lead free
- Surface mount package
- P-Channel switch with low $R_{DS(on)}$
- Operated at low logic level gate drive

Applications

- Load/Power switching
- Interfacing, logic switching
- Battery management for ultra small portable electronics



Schematic Diagram



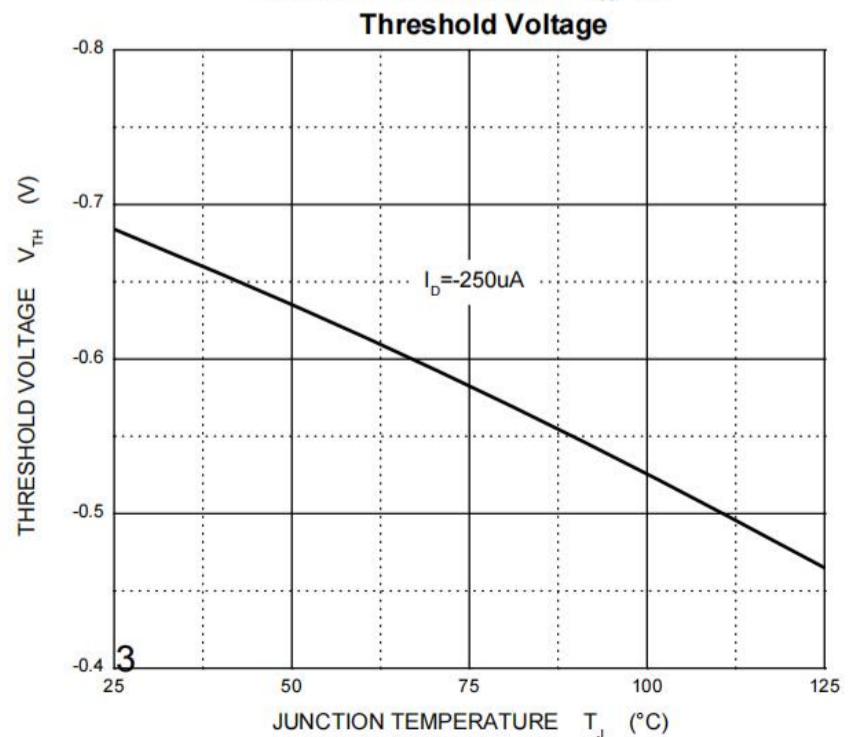
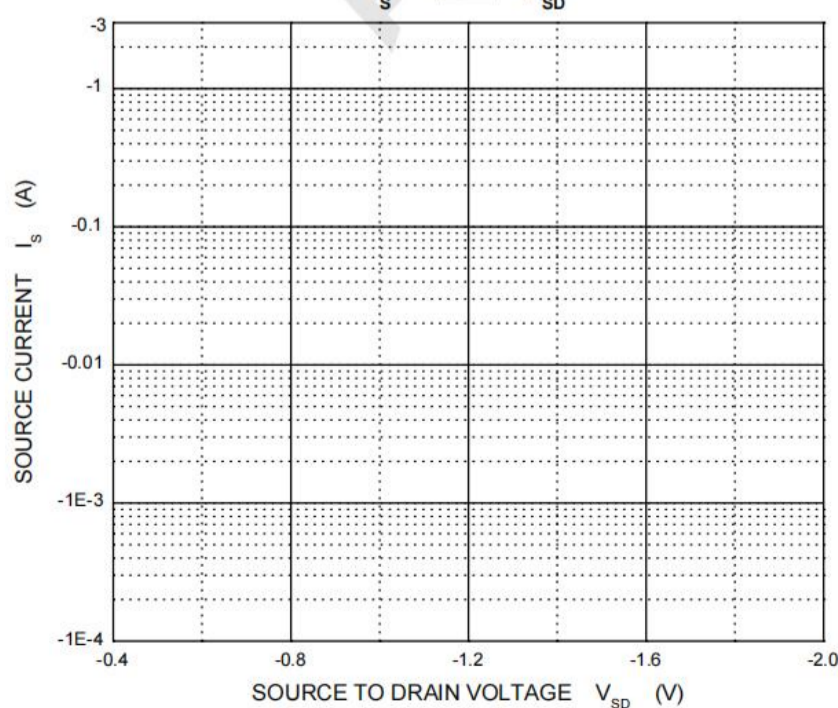
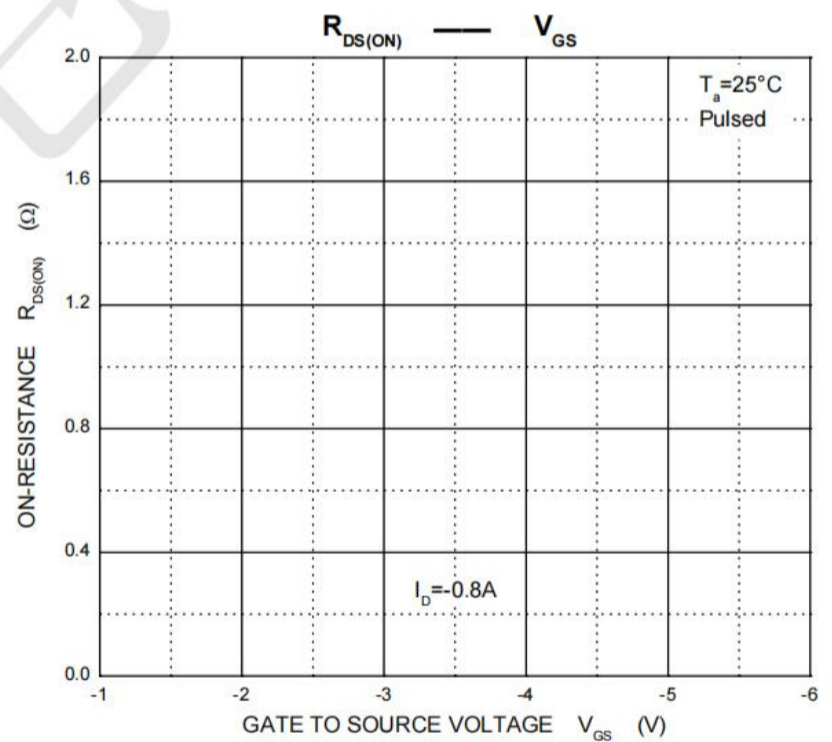
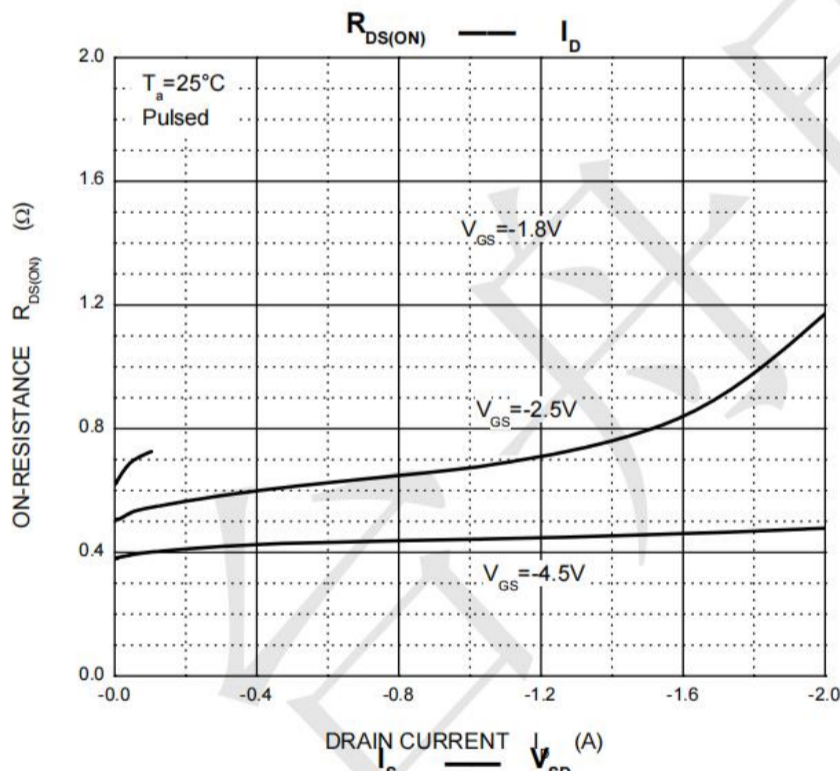
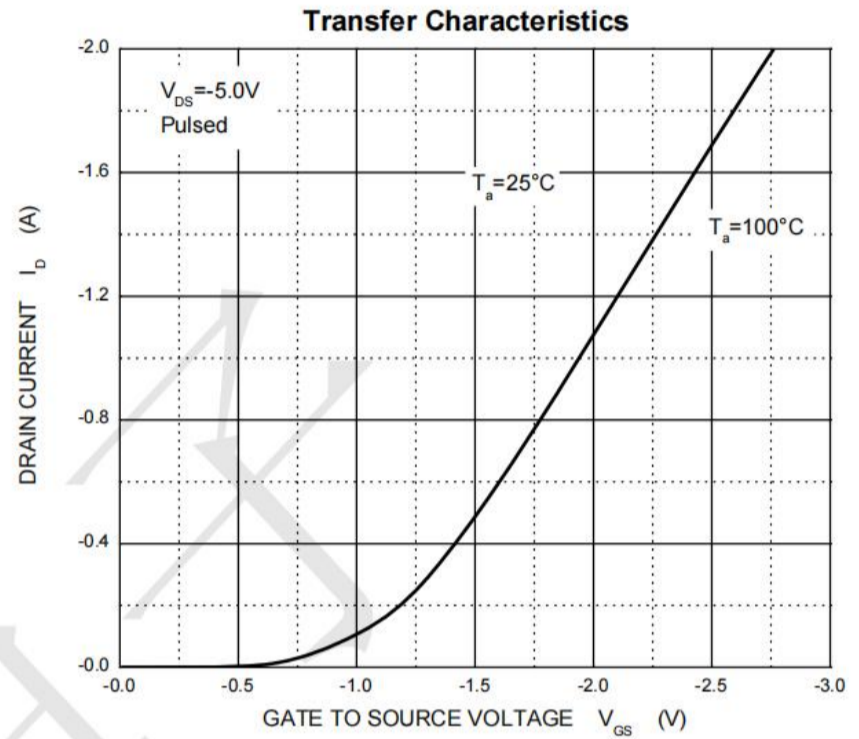
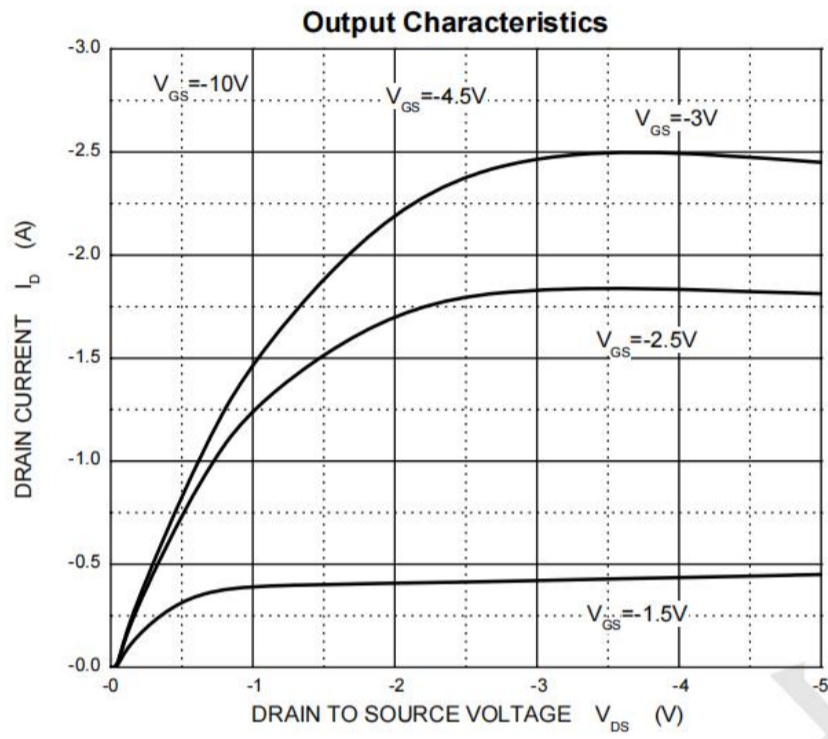
Maximum Ratings (T_A=25°C unless otherwise noted)

Parameter	Symbol	Value	Unit
Drain-Source Voltage	V _{DS}	-20	V
Gate-Source Voltage	V _{GS}	±12	V
Continuous Drain Current ¹	I _D	-0.66	A
Pulsed Drain Current (t _p =10μS)	I _{DM}	-1.2	A
Power Dissipation ¹	P _D	150	mW
Thermal Resistance from Junction to Ambient ¹	R _{θJA}	833	°C/W
Junction Temperature	T _J	150	°C
Storage Temperature	T _{STG}	-55 to +150	°C
Lead Temperature for Soldering Purposes(1/8" from case for 10 S)	T _L	260	°C

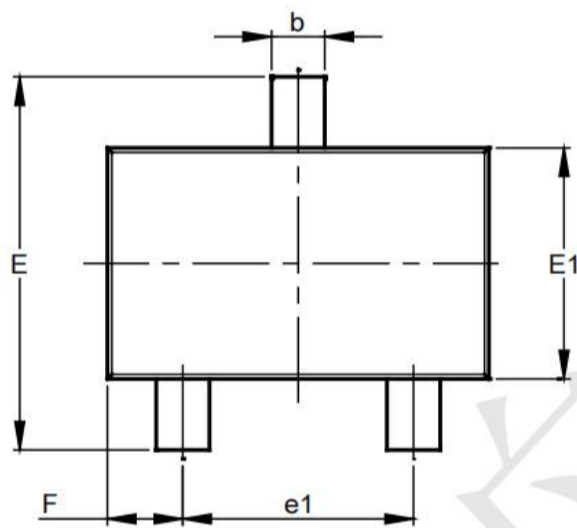
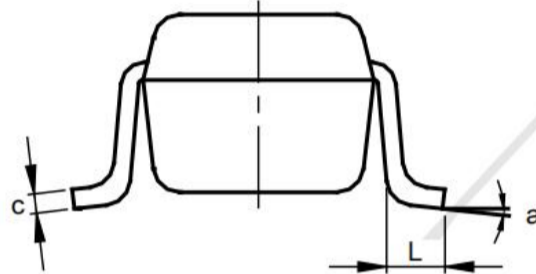
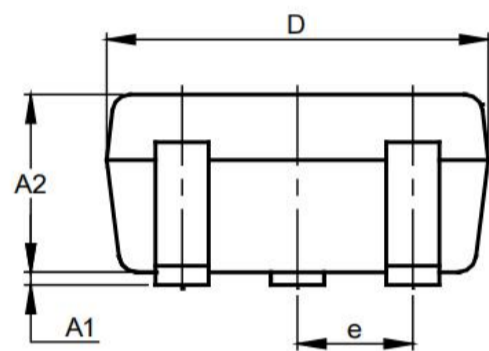
Electrical Characteristics ($T_A=25^\circ\text{C}$ unless otherwise noted)

Parameter	Symbol	Test Condition	Min	Typ	Max	Unit
STATIC CHARACTERISTICS						
Drain-Source Breakdown Voltage	$V_{(BR)DSS}$	$V_{GS} = 0V, I_D = -250\mu A$	-20	-	-	V
Zero Gate Voltage Drain Current	I_{DSS}	$V_{DS} = -20V, V_{GS} = 0V$	-	-	-1	μA
Gate-Body Leakage Current	I_{GSS}	$V_{GS} = \pm 12V, V_{DS} = 0V$	-	-	20	μA
Gate Threshold Voltage ²	$V_{GS(th)}$	$V_{DS} = V_{GS}, I_D = -250\mu A$	-0.35	-	-1.1	V
Drain-Source On-Resistance ²	$R_{DS(on)}$	$V_{GS} = -4.5V, I_D = -1A$	-	-	520	m Ω
		$V_{GS} = -2.5V, I_D = -0.8A$	-	-	700	m Ω
		$V_{GS} = -1.8V, I_D = -0.5A$	-	-	950	m Ω
Forward Transconductance ²	g_{FS}	$V_{DS} = -10V, I_D = -0.54A$	-	1.2	-	S
Diode Forward Voltage	V_{SD}	$I_S = -0.5A, V_{GS} = 0V$	-	-	-1.2	V
DYNAMIC CHARACTERISTICS						
Input Capacitance	C_{iss}	$V_{DS} = -16V, V_{GS} = 0V, f = 1MHz$	-	113	170	pF
Output Capacitance	C_{oss}		-	15	25	pF
Reverse Transfer Capacitance	C_{rss}		-	9	15	pF
SWITCHING CHARACTERISTICS						
Turn-on Delay Time ³	$t_{d(on)}$	$V_{GS} = -4.5V, V_{DS} = -10V,$ $I_D = -200mA, R_{GEN} = 10\Omega$	-	9	-	nS
Turn-on Rise Time ³	t_r		-	5.8	-	nS
Turn-off Delay Time ³	$t_{d(off)}$		-	32.7	-	nS
Turn-off Fall Time ³	t_f		-	20.3	-	nS

Typical Characteristics

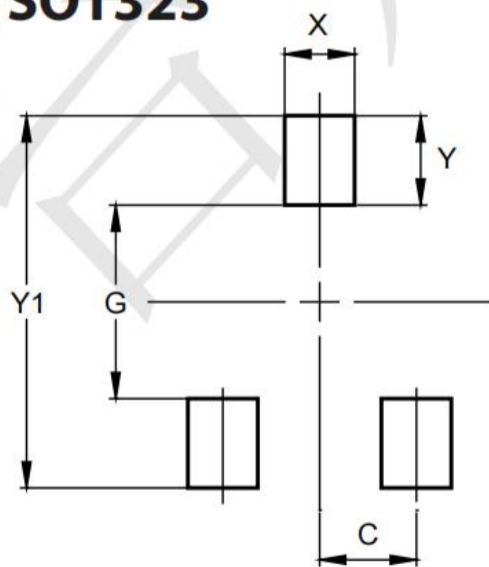


Outline Drawing - SOT323(SC70-3)



SOT323			
Dim	Min	Max	Typ
A1	0.00	0.10	0.05
A2	0.90	1.00	0.95
b	0.25	0.40	0.30
c	0.10	0.18	0.11
D	1.80	2.20	2.15
E	2.00	2.20	2.10
E1	1.15	1.35	1.30
e	0.650 BSC		
e1	1.20	1.40	1.30
F	0.375	0.475	0.425
L	0.25	0.40	0.30
a	0°	8°	--
All Dimensions in mm			

Land Pattern - SOT323



Dimensions	Value (in mm)
C	0.650
G	1.300
X	0.470
Y	0.600
Y1	2.500