SSC7002EGSD

Dual N-Channel Enhancement Mode MOSFET

➢ Features

VDS	VGS	RDSON Typ.	ID	ESD
60V	±20V	2R@10V	0.3A	1KV
		3R@4V5		

➢ Description

The SSC7002EGSD is dual N-channel enhancement MOS field effect transistor. With low on-resistance and fast switching speed. It is ideal for portable equipment with high saturation current capability and ESD protected.

➢ Applications

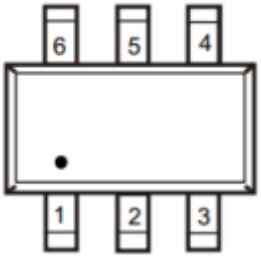
- Voltage controlled small signal switch
- Direct Logic-Level Interface: TTL/CMOS
- Display, Memories, Transistors, etc.

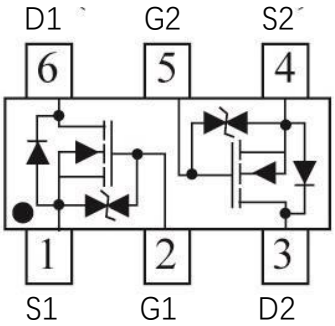
➢ Ordering Information

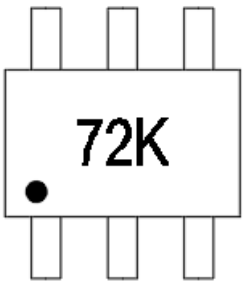
Device	Package	Shipping
SSC7002EGSD	SOT363	3000/Reel

➢ Pin configuration

Top view







Marking

➢ Absolute Maximum Ratings(T_A=25℃ unless otherwise noted)

Symbol	Parameter	Ratings	Unit
V_{DSS}	Drain-to-Source Voltage	60	V
V_{GSS}	Gate-to-Source Voltage	±20	V
I_D	Continuous Drain Current [a]	0.3	A
I_{DM}	Pulsed Drain Current [b]	0.8	A
P_D	Power Dissipation [c]	0.45	W
P_{DSM}	Power Dissipation [a]	0.25	W
T_J	Operation junction temperature	-55 to 150	℃
T_{STG}	Storage temperature range	-55 to 150	℃

➢ Thermal Resistance Ratings(T_A=25℃ unless otherwise noted)

Symbol	Parameter	Typical	Maximum	Unit
$R_{\theta JA}$	Junction-to-Ambient Thermal Resistance [a]		520	℃/W
$R_{\theta JC}$	Junction-to-Case Thermal Resistance		290	

Note:

a. The value of RθJA is measured with the device mounted on 1 in^2 FR-4 board with 2oz.copper,in a still air environment with TA=25℃.The value in any given application depends on the user is specific board design. The current rating is based on the t≤ 10s thermal resistance rating.

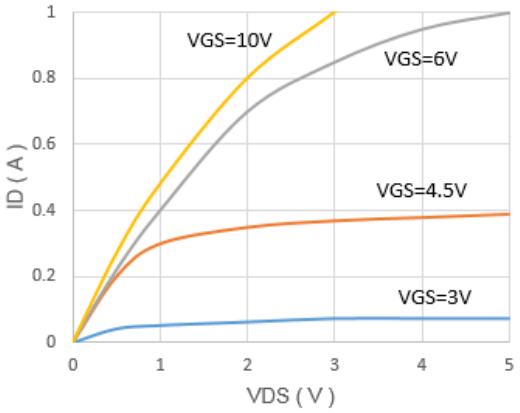
b. Repetitive rating, pulse width limited by junction temperature.

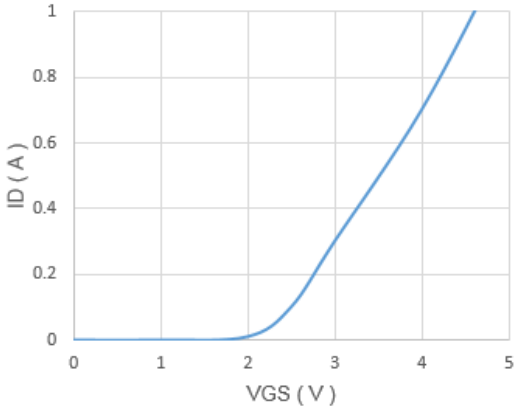
c. The power dissipation PD is based on TJ(MAX)=150°C, using junction-to-case thermal resistance, and is more useful in setting the upper dissipation limit for cases where additional heat sinking is used.

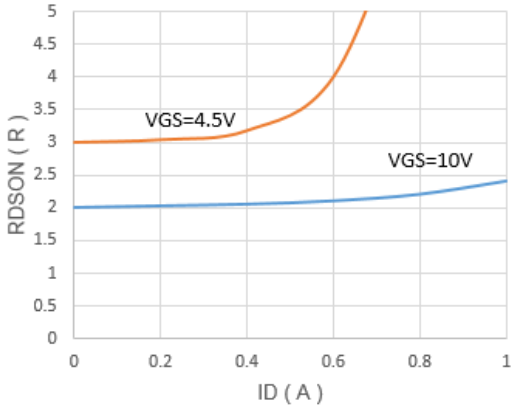
➢ **Electronics Characteristics**(T_A=25℃ unless otherwise noted)

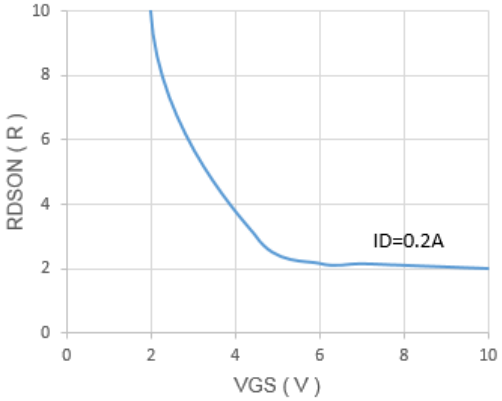
Symbol	Parameter	Test Conditions	Min	Typ.	Max	Unit
$V_{(BR)DSS}$	Drain-Source Breakdown Voltage	VGS=0V , ID=250uA	60			V
$V_{GS\ (th)}$	Gate Threshold Voltage	VDS=VGS , ID=1mA	1		2.5	V
$R_{DS(on)}$	Drain-Source On-Resistance	VGS=10V , ID=0.3A		2	4	R
		VGS=4.5V , ID=0.2A		3	6	
I_{DSS}	Zero Gate Voltage Drain Current	VDS=48V , VGS=0V			1	uA
I_{GSS}	Gate-Source leak current	VGS=±20V , VDS=0V			±10	uA
V_{SD}	Forward Voltage	VGS=0V , IS=0.3A		0.8	1.5	V
G_{FS}	Transconductance	VDS=5V , ID=0.3A		0.4		S
Ciss	Input Capacitance	VDS=10V , VGS=0V , f=1MHz		40		pF
Coss	Output Capacitance			30		
Crss	Reverse Transfer Capacitance			10		
Qg	Total Gate charge	VGS=10V , VDS=30V , ID=0.3A		1.2		nC
Qgs	Gate to Source charge			0.21		
Qgd	Gate to Drain charge			0.12		
$T_{D(ON)}$	Turn-on delay time	VGS=10V, VDS=50V, RG=6R,RL=250R		7		ns
Tr	Rise time			5		
$T_{D(OFF)}$	Turn-off delay time			25		
Tf	Fall time			10		

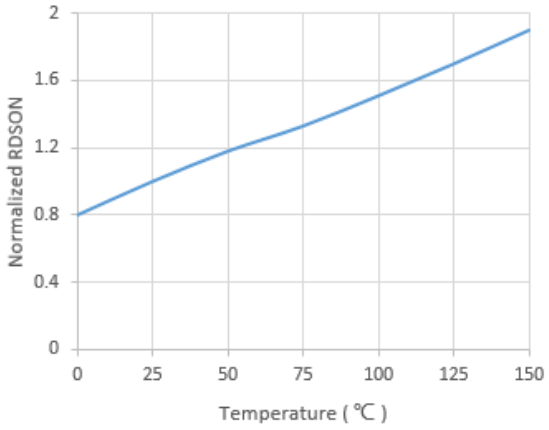
➢ **Typical Characteristics**(T_A=25℃ unless otherwise noted)

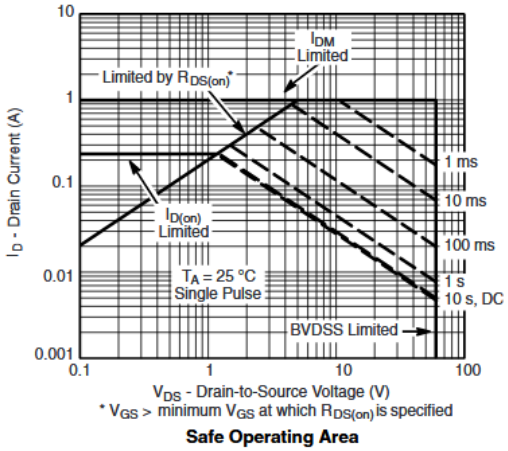








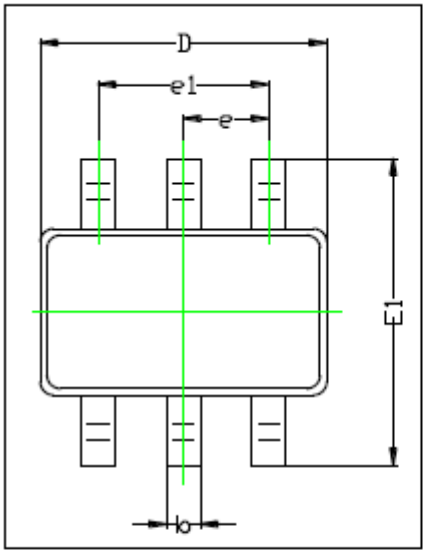




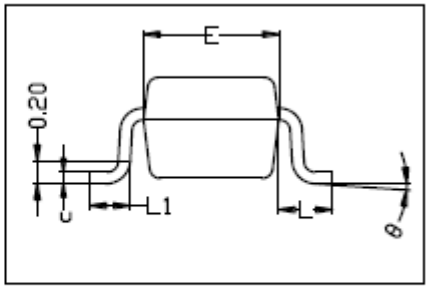
Safe Operating Area

➢ Package Information

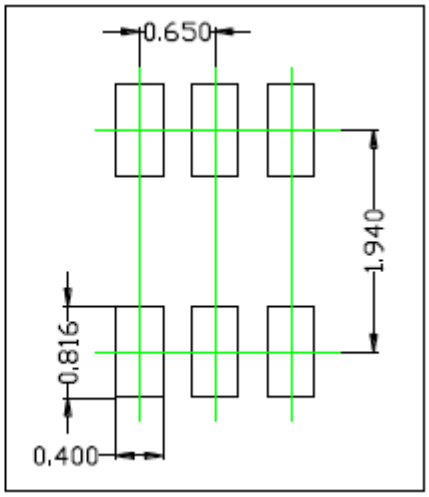
TOP VIEW



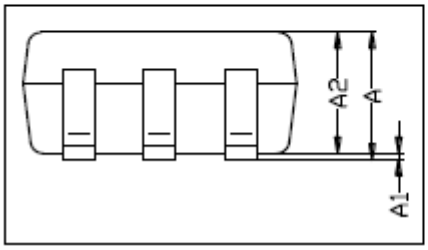
SIDE VIEW



SOLDRING PATTERN



FRONT VIEW



SYMBOL	DIMENSIONS IN MILLIMETER	
	MIN	MAX
A	0.900	1.000
A1	0.000	0.100
A2	0.900	1.000
b	0.150	0.300
c	0.100	0.150
D	2.000	2.200
E	1.150	1.350
E1	2.150	2.400
e	0.650 TYP.	
e1	1.200	1.400
L	0.525 REF.	
L1	0.260	0.450
θ	0°	8°

DISCLAIMER

AFSEMI RESERVES THE RIGHT TO MAKE CHANGES WITHOUT FURTHER NOTICE TO ANY PRODUCTS HEREIN TO IMPROVE RELIABILITY, FUNCTION OR DESIGN. AFSEMI DOES NOT ASSUME ANY LIABILITY ARISING OUT OF THE APPLICATION OR USE OF ANY PRODUCT OR CIRCUIT DESCRIBED HEREIN; NEITHER DOES IT CONVEY ANY LICIENCE UNDER ITS PATENT RIGHTS, NOR THE RIGHTS OF OTHERS.

THE GRAPHS PROVIDED IN THIS DOCUMENT ARE STATISTICAL SUMMARIES BASED ON A LIMITED NUMBER OF SAMPLES AND ARE PROVIDED FOR INFORMATIONAL PURPOSE ONLY. THE PERFORMANCE CHARACTERISTICS LISTED IN THEM ARE NOT TESTED OR GUARANTEED. IN SOME GRAPHS, THE DATA PRESENTED MAY BE OUTSIDE THE SPECIFIED OPERATING RANGE (E.G. OUTSIDE SPECIFIED POWER SUPPLY RANGE) AND THEREFORE OUTSIDE THE WARRANTED RANGE.