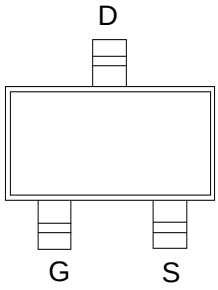
20V/0.9A N-Channel MOSFET

Features

- TrenchFET Power MOSFET
- Low Gate Charge
- Low On-resistance
- Surface Mount Package

Application

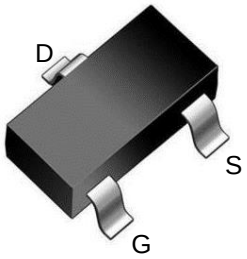
- Battery protection
- Load switch
- Power management



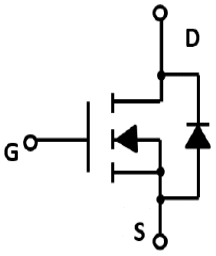
Marking and pin assignment

Product Summary

V_{DS}	$R_{DS(ON)}$ MAX	I_D MAX
20V	220mΩ@4.5V	0.9A
	300mΩ@2.5V	



SOT-23 top view



Schematic diagram

Absolute Maximum Ratings (TA=25℃unless otherwise noted)				
Symbol	**Parameter**		**Rating**	**Unit**
Common Ratings (TC=25°C Unless Otherwise Noted)				
V_{DS}	Drain-Source Breakdown Voltage		20	V
V_{GS}	Gate-Source Voltage		±12	V
T_J	Maximum Junction Temperature		150	°C
T_{STG}	Storage Temperature Range		-50 to 155	°C
I_S	Diode Continuous Forward Current	Tc=25°C	0.9	A
Mounted on Large Heat Sink				
I_{DM}	Pulse Drain Current Tested	Tc=25°C	2.0	A
I_D	Continuous Drain Current	Tc=25°C	0.9	A
P_D	Maximum Power Dissipation	Tc=25°C	0.35	W
$R_{\theta JA}$	Thermal Resistance Junction-Ambient		357	°C/W

Electrical Characteristics (TJ=25℃ unless otherwise noted)						
Symbol	**Parameter**	**Condition**	**Min**	**Typ**	**Max**	**Unit**
Static Electrical Characteristics @ TJ = 25°C (unless otherwise stated)						
$BV_{(BR)DSS}$	Drain-Source Breakdown Voltage	VGS=0V，ID=250μA	20	--	--	V
I_{DSS}	Zero Gate Voltage Drain Current	VDS=16V，VGS=0V	--	--	1	uA
I_{GSS}	Gate-Body Leakage Current	VGS=±12V，VDS=0V	--	--	±100	nA
$V_{GS(th)}$	Gate Threshold Voltage	VDS=VGS，ID=250μA	0.6	1.0	1.5	V
$R_{DS(on)}$	Drain-Source On-State Resistance	VGS=4.5V，ID=0.9A	--	170	220	mΩ
		VGS=2.5V，ID=0.7A	--	270	350	mΩ
Dynamic Electrical Characteristics @ TJ = 25°C (unless otherwise stated)						
C_{ISS}	Input Capacitance	VDS=10V，VGS=0V，f=1MHz	--	83	--	pF
C_{OSS}	Output Capacitance		--	21	--	pF
C_{RSS}	Reverse Transfer Capacitance		--	10.2	--	pF
Switching Characteristics						
Q_g	Total Gate Charge	VDS=10V，ID=0.5A，VGS=4.5V	--	0.8	--	nC
Q_{gs}	Gate Source Charge		--	0.1	--	nC
Q_{gd}	Gate Drain Charge		--	0.2	--	nC
$t_{d(on)}$	Turn-on Delay Time	VDD=10V，ID=0.5A，VGS=4.5V，RG=3Ω	--	7	--	nS
t_r	Turn-on Rise Time		--	10	--	nS
$t_{d(off)}$	Turn-Off Delay Time		--	35	--	nS
t_f	Turn-Off Fall Time		--	15	--	nS
Source- Drain Diode Characteristics						
V_{SD}	Forward on voltage	Tj=25℃，Is=0.3A，	--	0.8	1.2	V

Typical Operating Characteristics

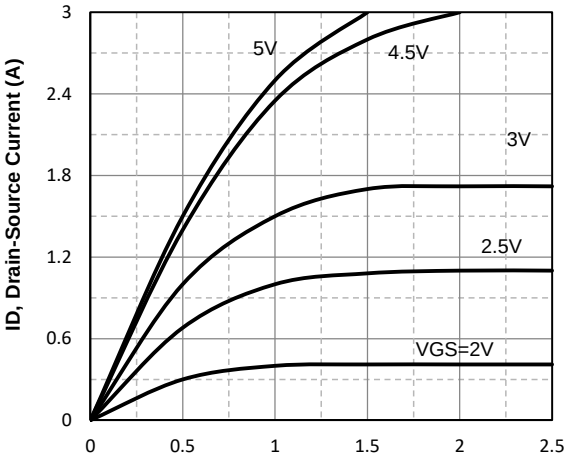


Fig1. Typical Output Characteristics

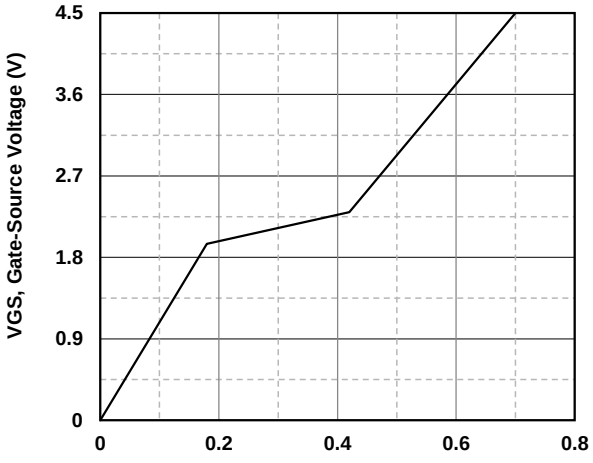


Fig2. Typical Gate Charge Vs.Gate-Source Voltage

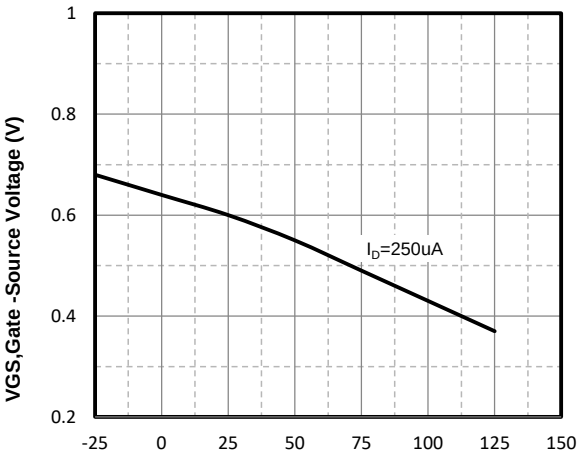


Fig3. Normalized Threshold Voltage Vs. Temperature

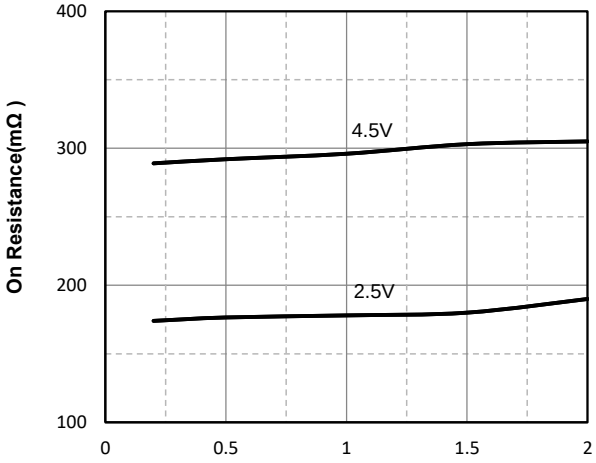


Fig4. On-Resistance Vs. Drain-Source Current

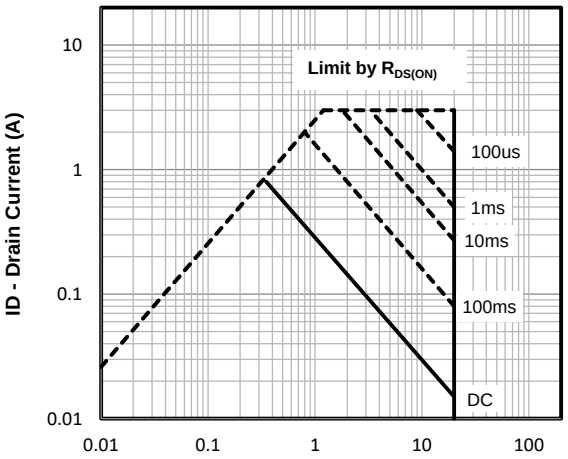


Fig5. Maximum Safe Operating Area

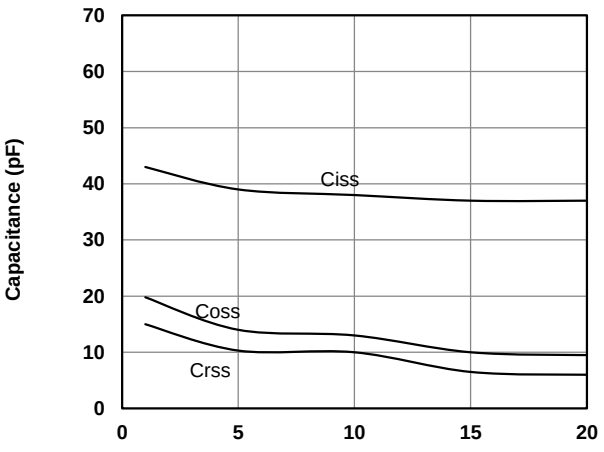
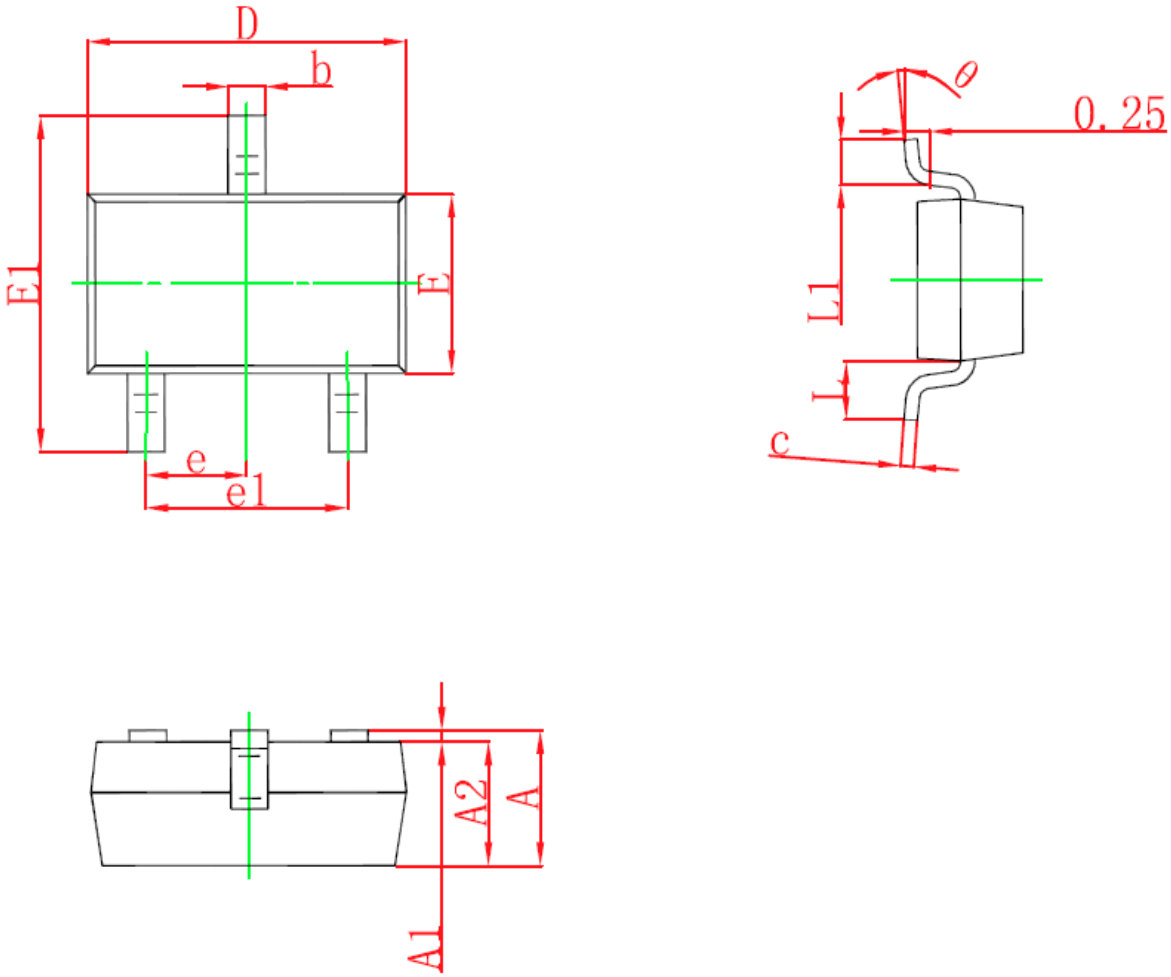


Fig6 Typical Capacitance Vs.Drain-Source Voltage

SOT-23 Package information



Symbol	Dimensions in Millimeters(mm)		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	0.950TYP		0.037TYP	
e1	1.800	2.000	0.071	0.079
L	0.550REF		0.022REF	
L1	0.300	0.500	0.012	0.020
θ	0°	8°	0°	8°

ENTEGRECİ

Bu belge www.entegreci.com üzerinden sunulmaktadır.

Elektronik komponent tedarikinde Entegreci

Entegreci, Eskişehir merkezli, Türkiye geneline satış yapan bir elektronik komponent mağazasıdır. Entegreler (IC), mikrodenetleyiciler, transistörler, diyotlar, pasif elemanlar, konnektörler, modüller ve geliştirme kartları tek adetten seri üretim adetlerine kadar satılır. Ürün sayfalarında güncel stok durumunu, fiyatı ve datasheet bağlantısını bulabilirsiniz.

Parça koduyla arama

Üretici parça numarasını yazın; stok ve fiyatı hemen görün.

www.entegreci.com

Ürün kategorileri

Entegreden kapasitöre tüm elektronik komponent kategorileri.

Kategorilere göz atın

Üreticiler

Aradığınız üreticinin ürünlerini tek sayfada inceleyin.

Üreticileri görün

Toplu alım ve teklif

Listede olmayan ya da yüksek adetli parçalar için teklif isteyin.

Teklif isteyin

www.entegreci.com | **destek@entegreci.com** | **0850 305 90 34**

Entegreci is an online electronic components store based in Türkiye. Search by manufacturer part number to see stock, prices and datasheets for integrated circuits, microcontrollers, transistors, passive components and connectors, or request a quote for parts that are not listed.

Bu sayfa Entegreci tarafından eklenmiştir. Belgenin önceki sayfaları asıl yayıncısına aittir ve içeriği değiştirilmemiştir; en güncel sürüm için belgenin yayıncısına başvurun.