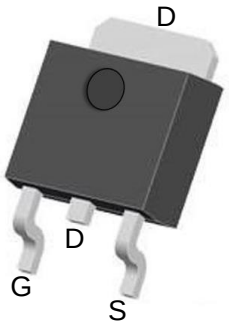
SL100N03

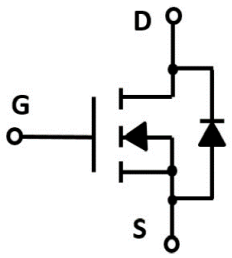
N-Channel Enhancement Mode Field Effect Transistor

Features

- Excellent package for good heat dissipation
- Ultra low gate charge
- Low reverse transfer capacitance
- Fast switching capability
- Avalanche energy specified



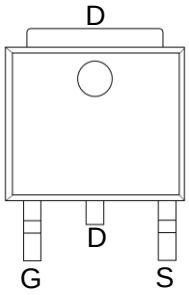
TO-252 top view



Schematic diagram

Application

- Power switching application



Marking and pin assignment

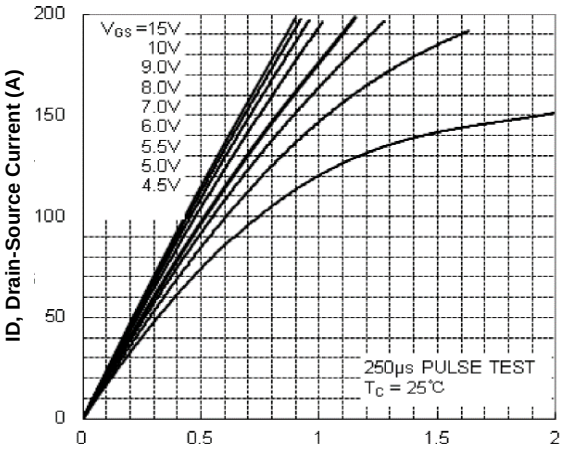
Product Summary		
V_{DS}	30	V
$R_{DS(ON)}$@10V,MAX	3.5	mΩ
I_D	100	A

Absolute Maximum Ratings (TA=25℃unless otherwise noted)

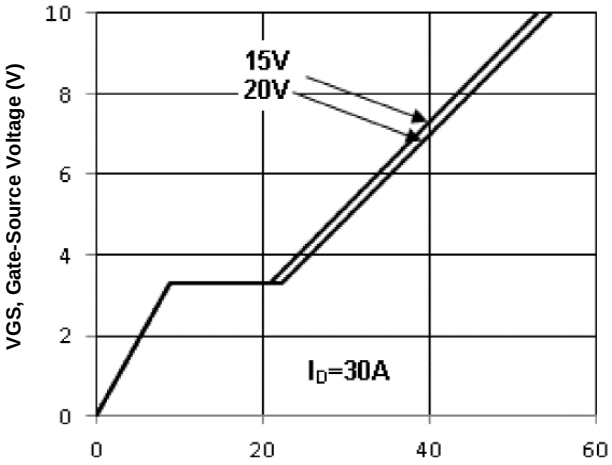
Symbol	Parameter		Rating	Unit
Common Ratings (TC=25°C Unless Otherwise Noted)				
V_{DS}	Drain-Source Breakdown Voltage		30	V
V_{GS}	Gate-Source Voltage		±20	V
T_J	Maximum Junction Temperature		150	°C
T_{STG}	Storage Temperature Range		-50 to 155	°C
I_S	Diode Continuous Forward Current	Tc=25°C	100	A
Mounted on Large Heat Sink				
I_{DM}	Pulse Drain Current Tested	Tc=25°C	400	A
I_D	Continuous Drain Current@GS=10V	Tc=25°C	100	A
P_D	Maximum Power Dissipation	Tc=25°C	54	W
E_{AS}	Single pulse avalanche energy		100	mJ

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	30	--	--	V
I_{DSS}	Zero Gate Voltage Drain Current	VDS=30V，VGS=0V	--	--	1	uA
I_{GSS}	Gate-Body Leakage Current	VGS=±20V，VDS=0V	--	--	±100	nA
$V_{GS(th)}$	Gate Threshold Voltage	VDS=VGS，ID=250μA	1	--	3	V
$R_{DS(on)}$	Drain-Source On-State Resistance	VGS=10V， ID=40A	--	3	3.5	mΩ
		VGS=4.5V，ID=30A	--	5	6.5	
Dynamic Electrical Characteristics @ TJ = 25°C (unless otherwise stated)						
C_{ISS}	Input Capacitance	VDS=30V，VGS=0V，f=1MHz	--	2550	--	pF
C_{OSS}	Output Capacitance		--	380	--	pF
C_{RSS}	Reverse Transfer Capacitance		--	290	--	pF
Switching Characteristics						
Q_g	Total Gate Charge	VDD=15V，ID=30A，VGS=10V	--	53	--	nC
Q_{gs}	Gate Source Charge		--	9	--	nC
Q_{gd}	Gate Drain Charge		--	13	--	nC
$t_{d(on)}$	Turn-on Delay Time	VDD=15V，ID=30A，VGS=10V，RG=12Ω	--	17	--	nS
t_r	Turn-on Rise Time		--	43	--	nS
$t_{d(off)}$	Turn-Off Delay Time		--	110	--	nS
t_f	Turn-Off Fall Time		--	105	--	nS
Source- Drain Diode Characteristics						
V_{SD}	Forward on voltage	Tj=25℃，Is=40A，	--	--	1.2	V

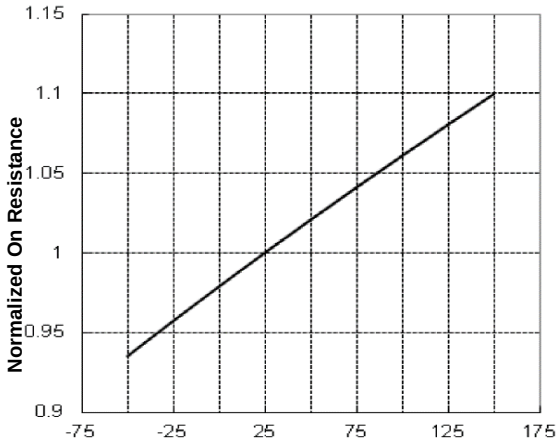
Typical Operating Characteristics



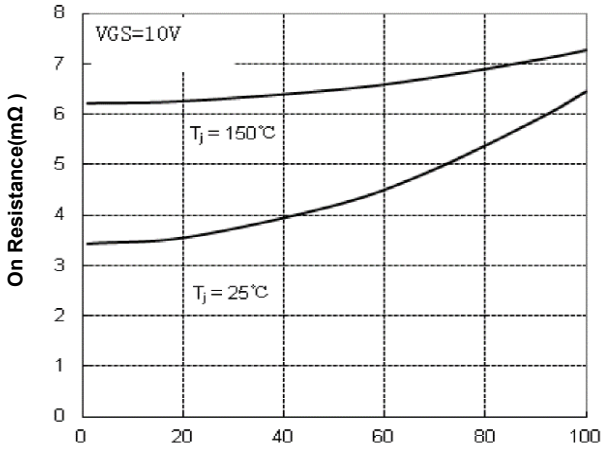
VDS, Drain -Source Voltage (V)
Fig1. Typical Output Characteristics



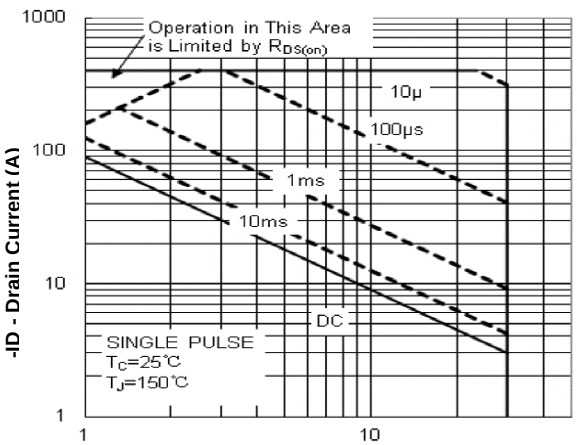
Qg -Total Gate Charge (nC)
Fig2. Typical Gate Charge Vs.Gate-Source Voltage



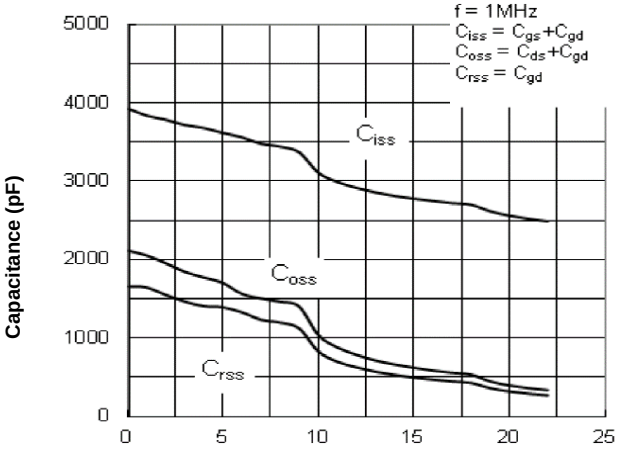
Tj - Junction Temperature (°C)
Fig3. Normalized On-Resistance Vs. Temperature



ID, Drain-Source Current (A)
Fig4. On-Resistance Vs. Drain-Source Current

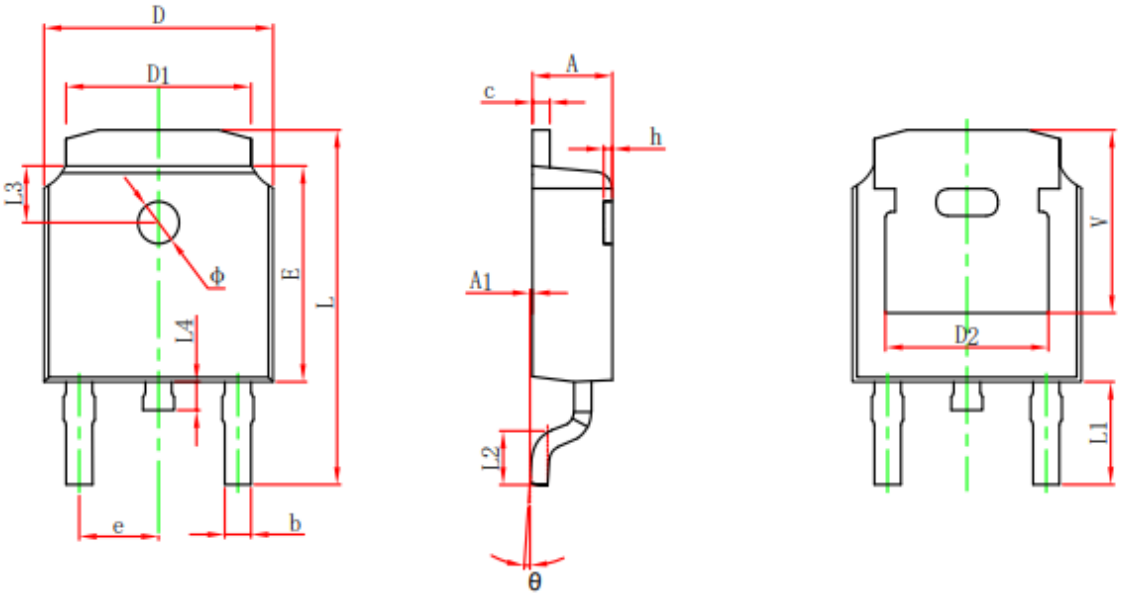


VDS, Drain -Source Voltage (V)
Fig7. Maximum Safe Operating Area



VDS , Drain-Source Voltage (V)
Fig6 Typical Capacitance Vs.Drain-Source Voltage

TO-252 Package information



Symbol	Dimensions In Millimeters		Dimensions In Inches	
	Min.	Max.	Min.	Max.
A	2.200	2.400	0.087	0.094
A1	0.000	0.127	0.000	0.005
b	0.635	0.770	0.025	0.030
c	0.460	0.580	0.018	0.023
D	6.500	6.700	0.256	0.264
D1	5.100	5.460	0.201	0.215
D2	4.830 REF.		0.190 REF.	
E	6.000	6.200	0.236	0.244
e	2.186	2.386	0.086	0.094
L	9.712	10.312	0.382	0.406
L1	2.900 REF.		0.114 REF.	
L2	1.400	1.700	0.055	0.067
L3	1.600 REF.		0.063 REF.	
L4	0.600	1.000	0.024	0.039
Φ	1.100	1.300	0.043	0.051
θ	0°	8°	0°	8°
h	0.000	0.300	0.000	0.012
V	5.250 REF.		0.207 REF.	

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.