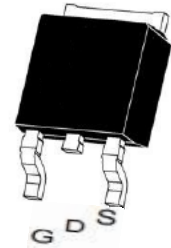
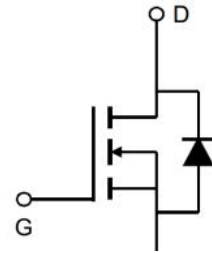


Description

The SK40N15 uses advanced trench technology and design to provide excellent $R_{DS(ON)}$ with low gate charge. This device is well suited for high current load applications.



TO-252 top view



N-Channel MOSFET

General Features

- 150V/25A
 $R_{DS(ON)}=45m\Omega$ (typ.) @ $V_{GS} = 10V$
- 100% Avalanche Tested
- Reliable and Rugged
- Halogen- Free Devices Available

Applications

- Power Switching application
- LED drive power
- Power Management for DC/DC

Absolute Maximum Ratings ($T_C=25^\circ C$ unless otherwise noted)

Parameter	Symbol	Value	Unit
Drain-Source Voltage	V_{DSS}	150V	V
Gate-Source Voltage	V_{GSS}	$\pm 20V$	V
Drain Current-Continuous @ $T_C=25^\circ C$	I_D	25	A
Drain Current-Pulsed	I_{DM}	100	A
Operating Junction Temperature Range	T_J	-50 to 150°C	°C

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

Parameter	Symbol	Conditions	Min.	Typ.	Max.	Unit
OFF CHARACTERISTIC						
Drain-Source Breakdown Voltage	$B_{V_{DSS}}$	$V_{GS}=0V, I_D=-250\mu A$	150	-	-	V
Drain-Source Leakage Current	I_{DSS}	$V_{DS}=120V, V_{GS}=0V, T_J=25^\circ C$	-	-	1	μA
Gate-Source Leakage Current	I_{GSS}	$V_{GS}=\pm 20V, V_{DS}=0V$	-	-	± 100	nA
ON CHARACTERISTIC						
Gate Threshold Voltage	$V_{GS(TH)}$	$V_{GS}=V_{DS}, I_D=250\mu A$	2	3	4	V
Static Drain-Source On-Resistance	$R_{DS(ON)}$	$V_{GS}=10V, I_D=15A$	-	45	52	m Ω
DYNAMIC CHARACTERISTICS						
DRAIN-SOURCE DIODE CHARACTERISTICS AND MAXIMUM RATINGS						
Drain-Source Diode Forward Voltage	V_{SD}	$V_{GS}=0V, I_S=10A$	-	-	1.2	V

NOTE:

1. Pulse Test: Pulse Width $\leq 300\mu s$, Duty Cycle $\leq 2\%$.
2. Drain Current, Power Dissipation and $R_{DS(ON)}$ calculated by TO-252 Package Type.

Typical Electrical and Thermal Characteristics (Curves)

Figure 1: Drain Current

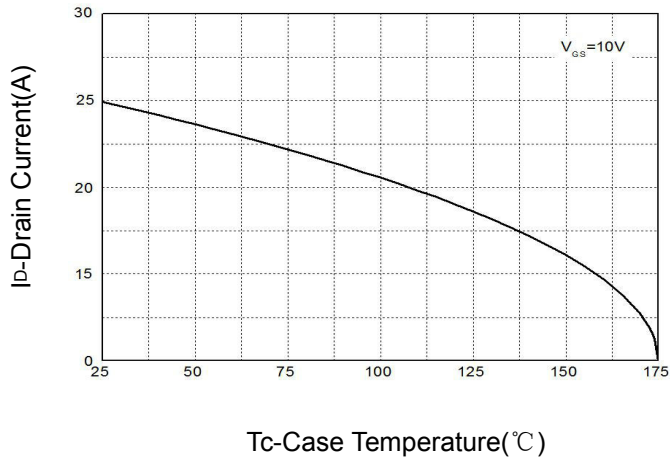


Figure 2: Output Characteristics

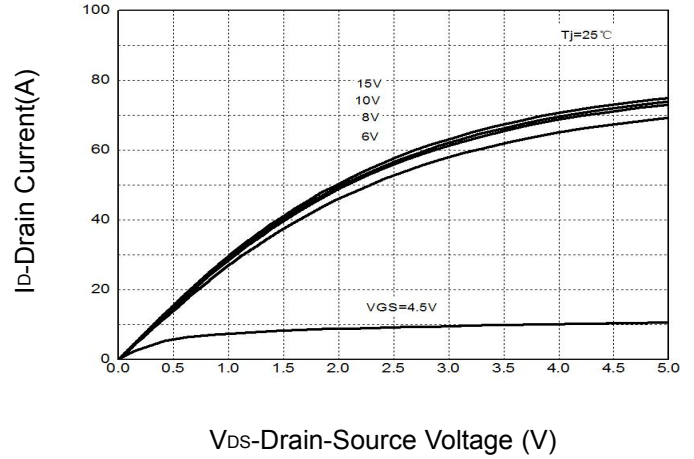


Figure 3: Safe Operation Area

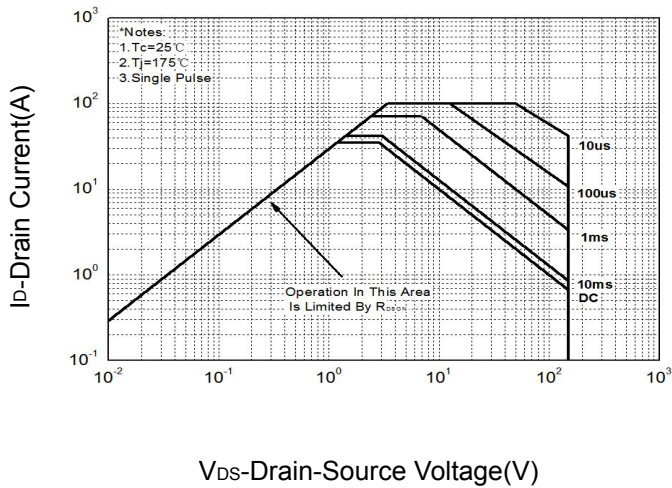


Figure 4: Thermal Transient Impedance Impedance, Junction-to-Case

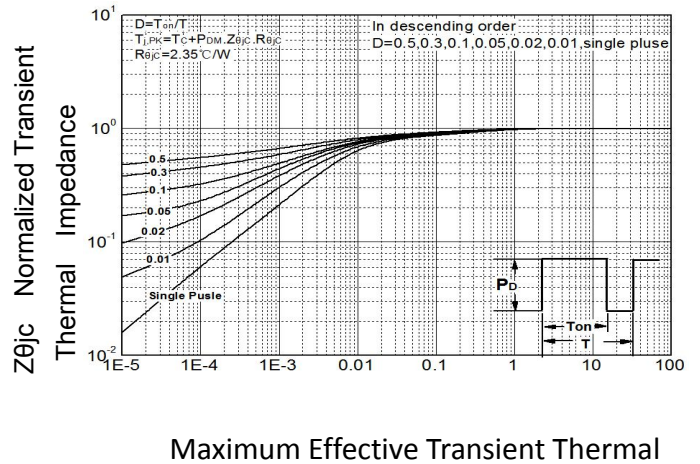


Figure 5: Drain-Source On Resistance

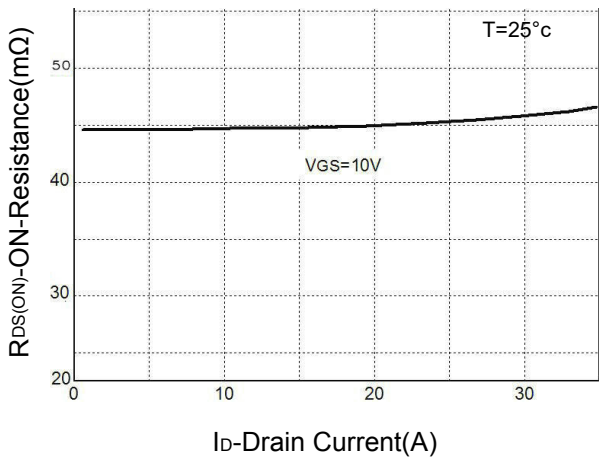
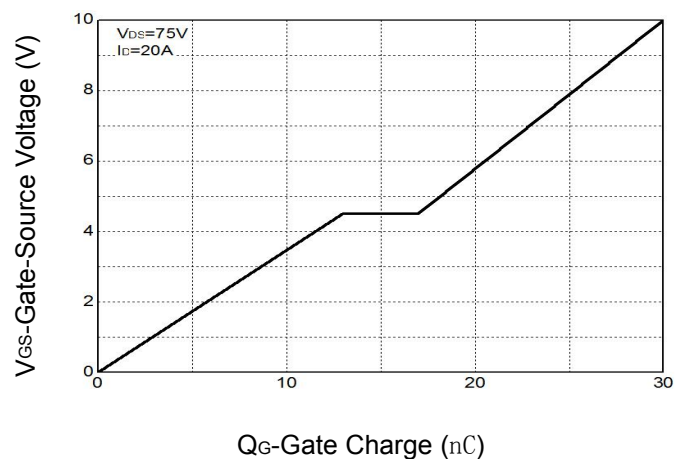
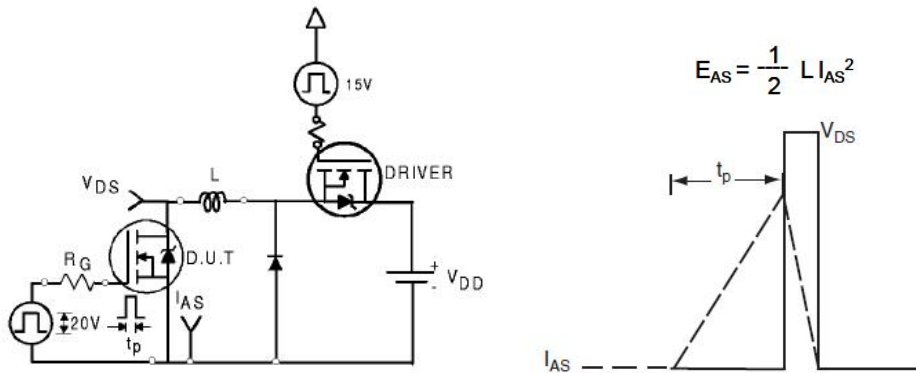


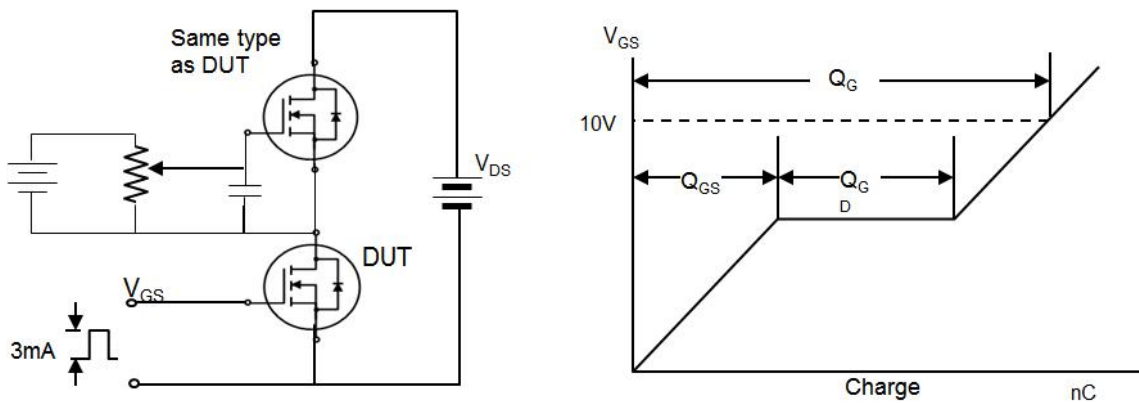
Figure 6: Gate Charge Characteristics

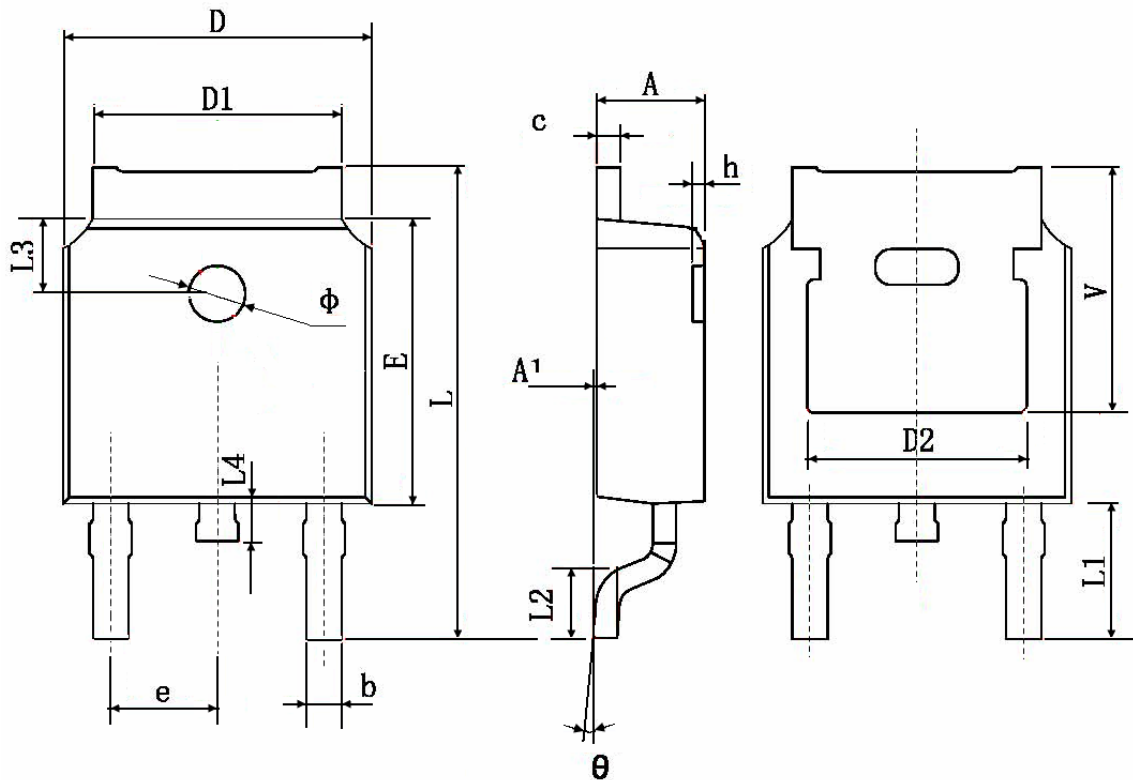


Avalanche Test Circuit



Gate Charge Test Circuit



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	0.660	0.860	0.026	0.034
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	0.483 TYP.		0.190 TYP.	
E	6.000	6.200	0.236	0.244
e	2.186	2.386	0.086	0.094
L	9.800	10.400	0.386	0.409
L1	2.900 TYP.		0.114 TYP.	
L2	1.400	1.700	0.055	0.067
L3	1.600 TYP.		0.063 TYP.	
L4	0.600	1.000	0.024	0.039
phi	1.100	1.300	0.043	0.051
theta	0°	8°	0°	8°
h	0.000	0.300	0.000	0.012
V	5.350 TYP.		0.211 TYP.	