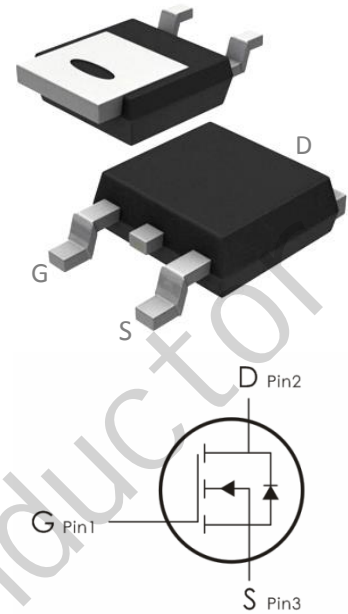


Description:

This N-Channel MOSFET uses advanced SGT technology and design to provide excellent $R_{DS(on)}$ with low gate charge. It can be used in a wide variety of applications.



Features:

- 1) $V_{DS}=150V, I_D=25A, R_{DS(ON)} < 55m\ \Omega @ V_{GS}=10V$
- 2) Low gate charge.
- 3) Green device available.
- 4) Advanced high cell density trench technology for ultra $R_{DS(ON)}$.
- 5) Excellent package for good heat dissipation.

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

Symbol	Parameter	Ratings	Units
V_{DS}	Drain-Source Voltage	150	V
V_{GS}	Gate-Source Voltage	± 20	V
I_D^*	Continuous Drain Current- $T_C=25^\circ C$	25	A
	Continuous Drain Current- $T_C=100^\circ C$	15	
	Pulsed Drain Current	76	
I_S	Continuous-Source Current	20	A
P_D	Power Dissipation	50	W
T_J, T_{STG}	Operating and Storage Junction Temperature Range	-55 to +150	$^\circ C$

Thermal Characteristics:

Symbol	Parameter	Max	Units
$R_{\theta JC}^{**}$	Thermal Resistance, Junction to Case	50	$^\circ C/W$
$R_{\theta JA}^{**}$	Thermal Resistance, Junction to Ambient	2.5	

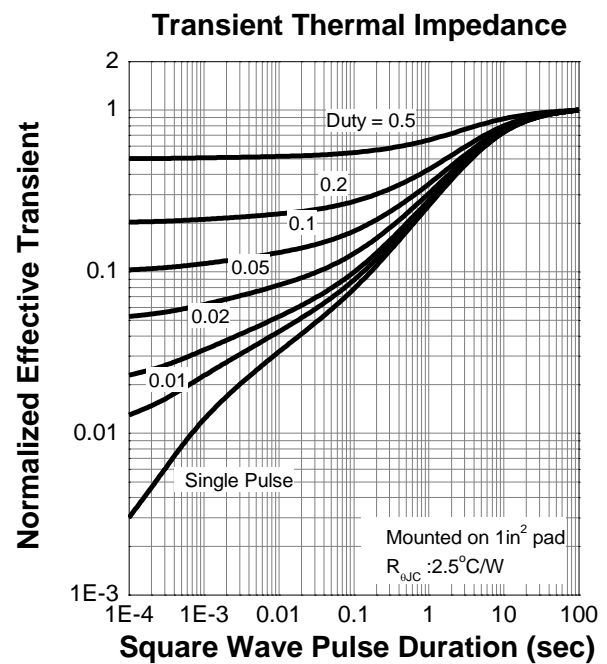
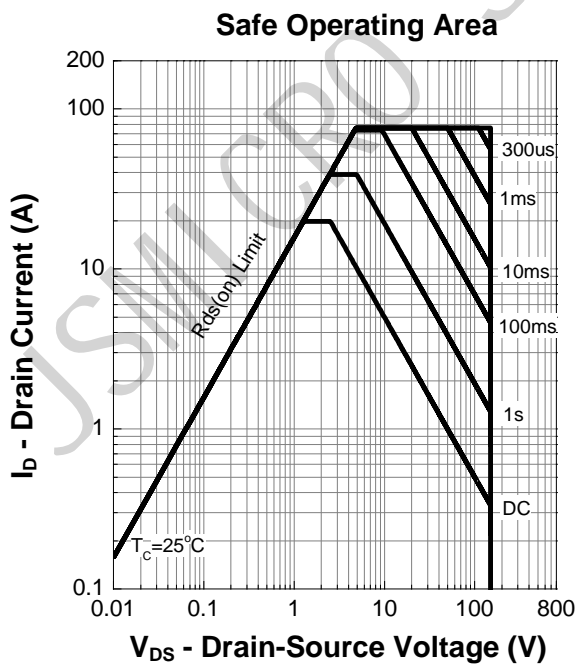
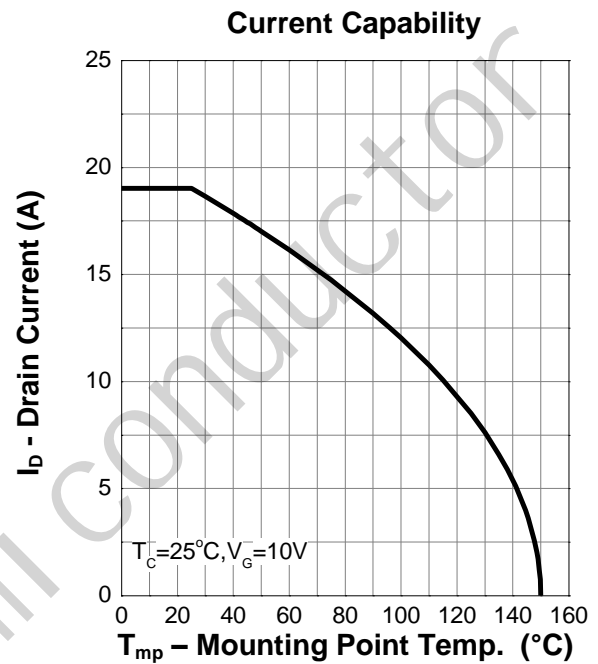
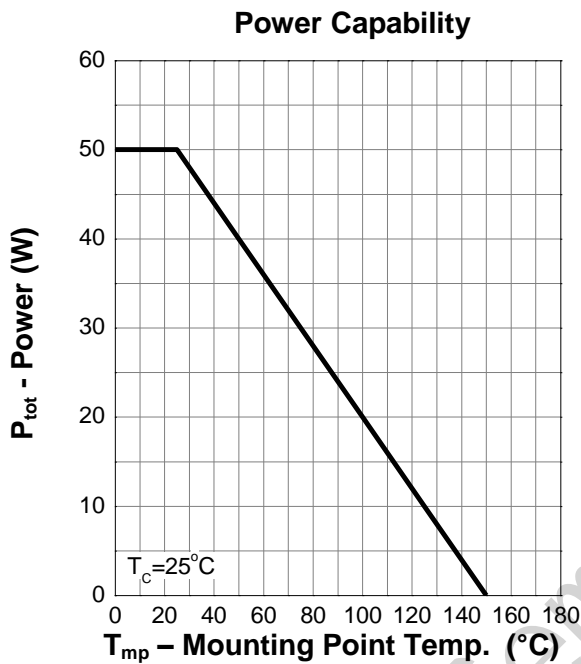
Electrical Characteristics: ($T_C=25^\circ\text{C}$ unless otherwise noted)

Symbol	Parameter	Conditions	Min	Typ	Max	Units
Off Characteristics						
BV_{DSS}	Drain-Source Breakdown Voltage	$V_{GS}=0V, I_D=250\ \mu\text{A}$	150	---	---	V
I_{DSS}	Zero Gate Voltage Drain Current	$V_{GS}=0V, V_{DS}=120V$	---	---	1	μA
I_{GSS}	Gate-Source Leakage Current	$V_{GS}=\pm 25V, V_{DS}=0A$	---	---	± 100	nA
On Characteristics						
$V_{GS(th)}$	GATE-Source Threshold Voltage	$V_{GS}=V_{DS}, I_D=250\ \mu\text{A}$	2	---	4	V
$R_{DS(on)}^a$	Drain-Source On Resistance	$V_{GS}=10V, I_D=10A$	---	49	55	m Ω
		$V_{GS}=6V, I_D=4A$	---	53	65	
Dynamic Characteristics^b						
C_{iss}	Input Capacitance	$V_{DS}=75V, V_{GS}=0V, f=1\text{MHz}$	---	1041	---	pF
C_{oss}	Output Capacitance		---	67	---	
C_{rss}	Reverse Transfer Capacitance		---	31	---	
Switching Characteristics^b						
$t_{d(on)}$	Turn-On Delay Time	$V_{DS}=75V, I_D=10A,$ $V_{GS}=10V, R_{GEN}=4.5\Omega$ $R_L=7.5\Omega$	---	9	---	ns
t_r	Rise Time		---	34	---	ns
$t_{d(off)}$	Turn-Off Delay Time		---	13.6	---	ns
t_f	Fall Time		---	36.8	---	ns
Q_g	Total Gate Charge	$V_{GS}=10V, V_{DS}=75V,$ $I_D=10A$	---	16.4	---	nC
Q_{gs}	Gate-Source Charge		---	6.2	---	nC
Q_{gd}	Gate-Drain "Miller" Charge		---	2.7	---	nC
Drain-Source Diode Characteristics						
V_{SD}^a	Source-Drain Diode Forward Voltage ²	$V_{GS}=0V, I_S=10A$	---	---	1.3	V
t_{rr}	Reverse Recovery Time	$I_{DS}=4A, V_{GS}=0V$	---	79	---	Ns
q_{rr}	Reverse Recovery Charge	$di_{SD}/dt = 100\ \text{A}/\mu\text{s}$	---	176	---	nc

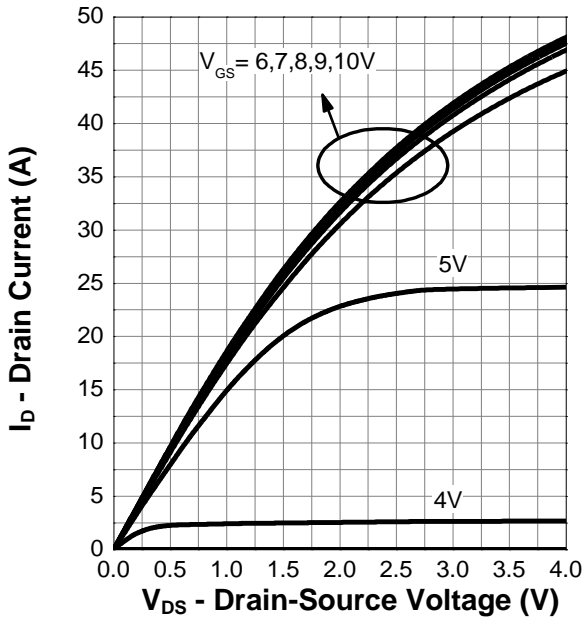
Notes:

- * Pulse width $\leq 300 \mu\text{s}$, duty cycle $\leq 2\%$
- ** Mounted on Large Heat Sink
- *** limited by bonding wire
- a : Pulse test ; pulse width $\leq 300 \mu\text{s}$, duty cycle $\leq 2\%$
- b : Guaranteed by design, not subject to production testing

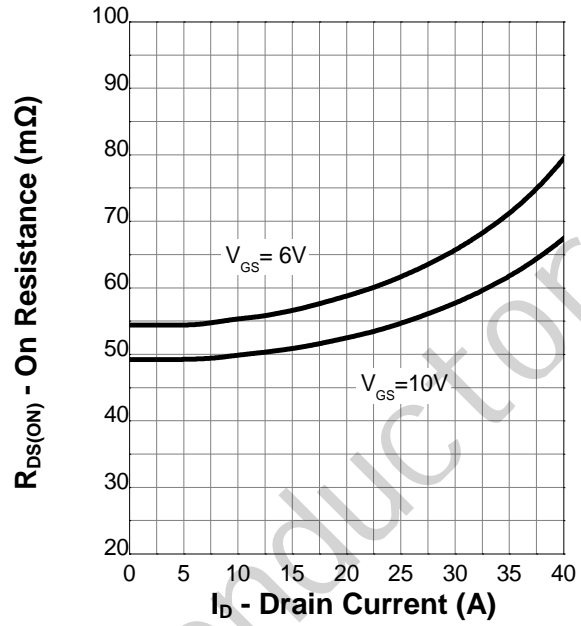
Typical Characteristics: ($T_c=25^\circ\text{C}$ unless otherwise noted)



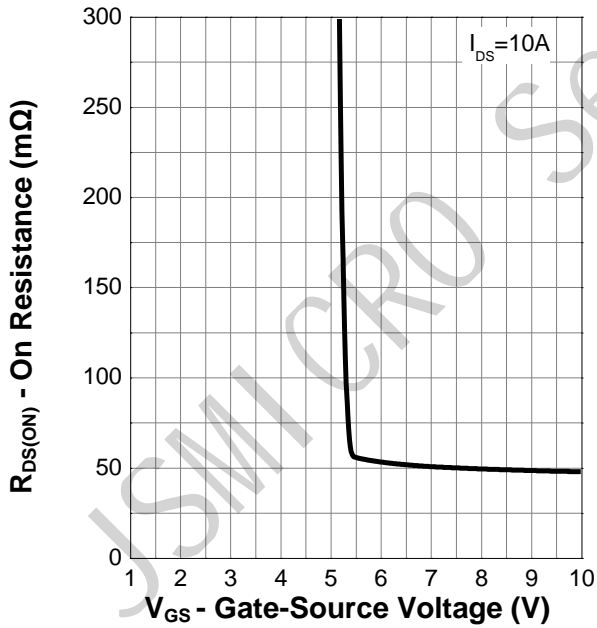
Output Characteristics



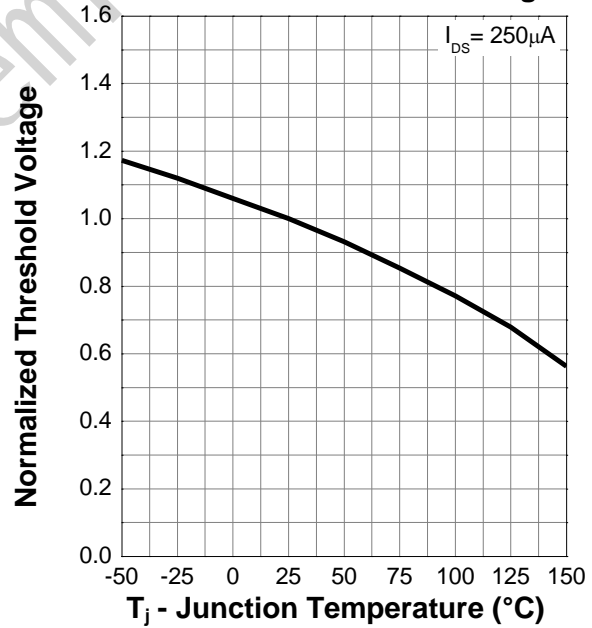
On Resistance

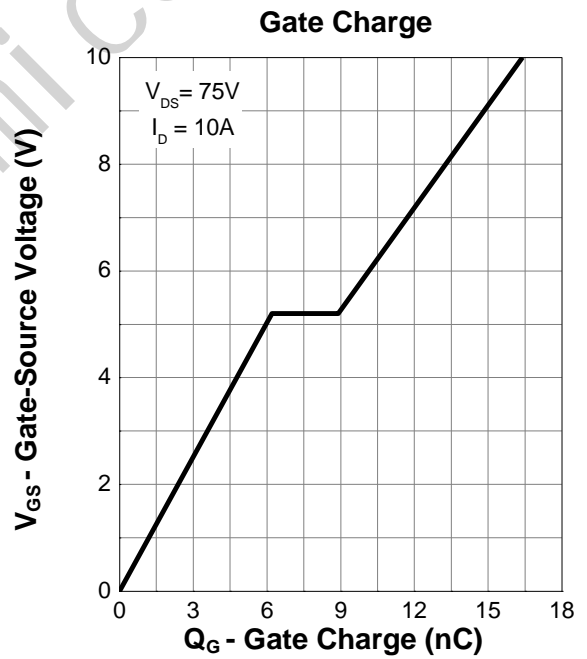
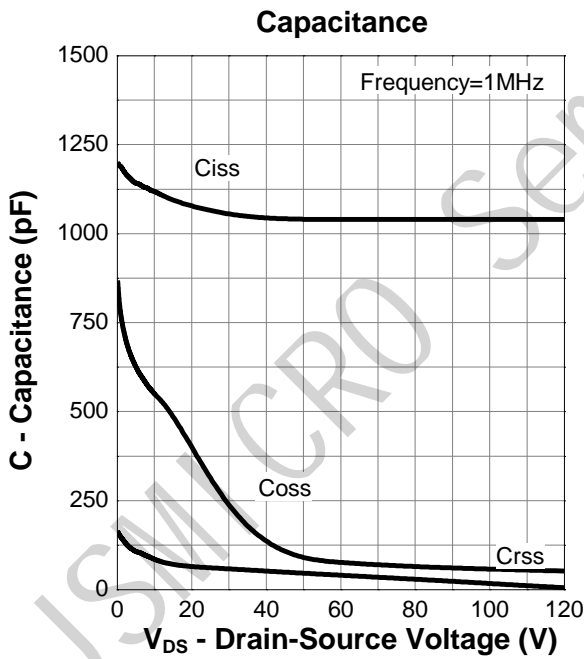
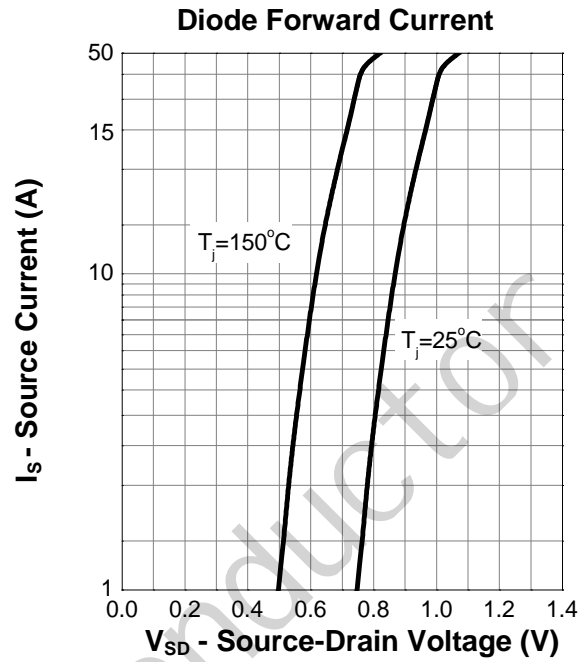
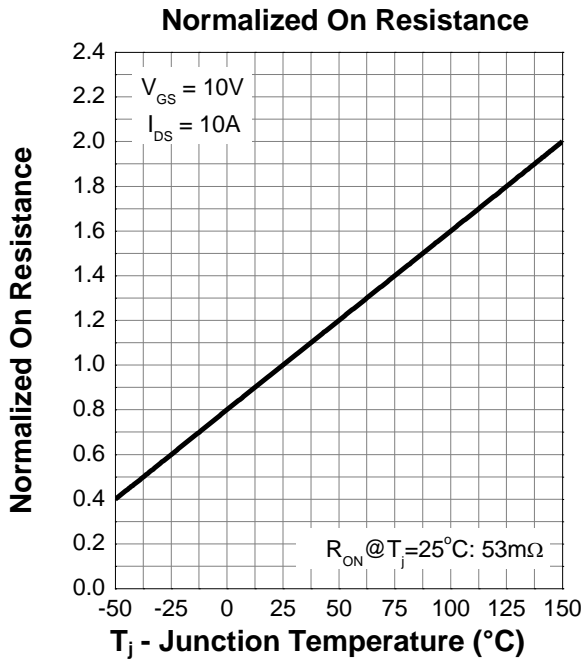


Transfer Characteristics



Normalized Threshold Voltage





外形尺寸图 / Package Dimensions

