STANSON

STN6335

Dual N Channel Enhancement Mode MOSFET

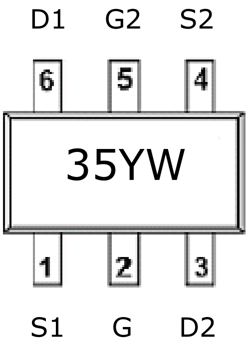
0.95A

DESCRIPTION

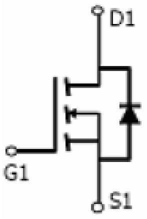
STN6335 is the dual N-Channel enhancement mode power field effect transistor which is produced using high cell density, DMOS trench technology. This high density process is especially tailored to minimize on-state resistance and provide superior switching performance. These devices are particularly suited for low voltage applications such as notebook computer circuits where high-side switching, low in-line power loss and resistance to transients are needed.

PIN CONFIGURATION

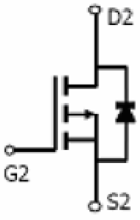
SOT-363 / SC70-6L



Y: Year
A: Process Code



n-channel



n-channel

FEATURE

- 20V/0.95A, $R_{DS(ON)}$ = 380mΩ@V_{GS} =4.5V
- 20V/0.75A, $R_{DS(ON)}$ =450mΩ@V_{GS} =2.5V
- 20V/0.65A, $R_{DS(ON)}$ =800mΩ@V_{GS} =1.8V
- Super high density cell design for extremely low $R_{DS(ON)}$
- Exceptional low on-resistance and maximum DC current capability
- SOT-363 / SC70-6L package design

ORDERING INFORMATION

Part Number	Package	Part Marking
STN6335	SOT-363 / SC70-6L	YA

※ Process Code : A ~ Z(1~26) ; a ~ z(27~52)

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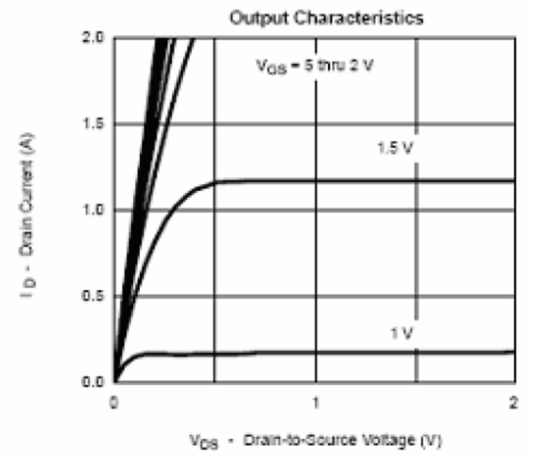
ABSOULTE MAXIMUM RATINGS (Ta = 25℃ Unless otherwise noted)

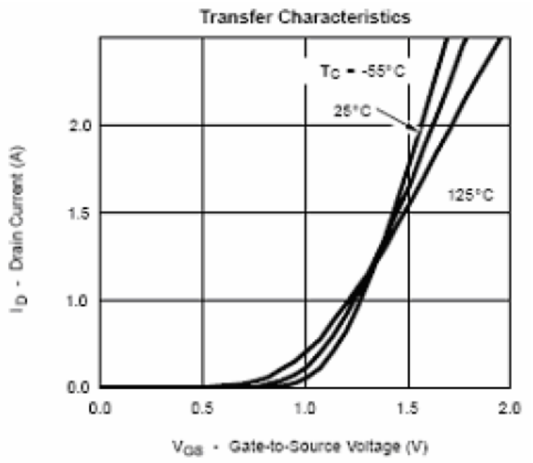
Parameter		Symbol	Typical	Unit
Drain-Source Voltage		V_{DSS}	20	V
Gate-Source Voltage		V_{GSS}	±12	V
Continuous Drain Current (T_J=150℃)	T_A=25℃	I_D	1.2	A
	T_A=80℃		0.9	
Pulsed Drain Current		I_{DM}	4	A
Continuous Source Current (Diode Conduction)		I_S	0.6	A
Power Dissipation	T_A=25℃	P_D	0.35	W
	T_A=70℃		0.19	
Operation Junction Temperature		T_J	-55/150	℃
Storage Temperature Range		T_{STG}	-55/150	℃
Thermal Resistance-Junction to Ambient	T≦10sec	$R_{\theta JA}$	360	℃/W
	Steady State		400	

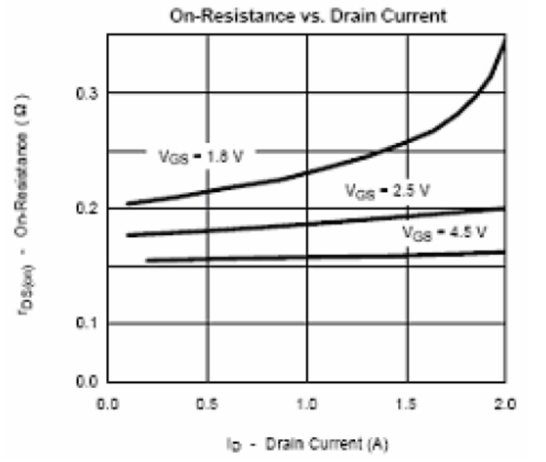
ELECTRICAL CHARACTERISTICS (Ta = 25℃ Unless otherwise noted)

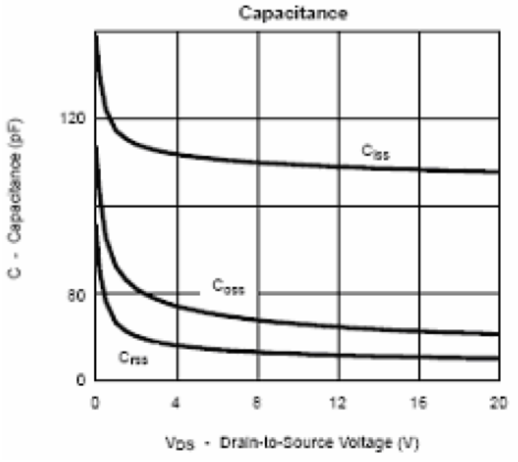
Parameter	**Symbol**	**Condition**	**Min**	**Typ**	**Max**	**Unit**
OFF CHARACTERISTICS						
Drain-Source Breakdown Voltage	$V_{(BR)DSS}$	$V_{GS}=0V, I_D=250uA$	20			V
Gate Threshold Voltage	$V_{GS(th)}$	$V_{DS}=VGS, I_D=250uA$	0.35		1.0	V
Gate Leakage Current	I_{GSS}	$V_{DS}=0V, V_{GS}=\pm12V$			±100	nA
Zero Gate Voltage Drain Current	I_{DSS}	$V_{DS}=20V, V_{GS}=0V$			1	uA
		$V_{DS}=20V, V_{GS}=0V$ $T_J=55℃$			5	
On-State Drain Current	$I_{D(on)}$	$V_{DS}\leqq4.5V, V_{GS}=5V$	2			A
Drain-source On-Resistance	$R_{DS(on)}$	$V_{GS}=4.5V, I_D=0.95A$		260	380	mΩ
		$V_{GS}=2.5V, I_D=0.75A$		320	450	
		$V_{GS}=1.8V, I_D=0.65A$		420	800	
Forward Transconductance	g_{fs}	$V_{DS}=10V, I_D=1.2A$		2.6		S
Diode Forward Voltage	V_{SD}	$I_S=0.5A, V_{GS}=0V$		0.8	1.2	V
DYNAMIC						
Total Gate Charge	Q_g	$V_{DS}=10V, V_{GS}=4.5V, V_{DS}=0.7A$		1.2	1.5	nC
Gate-Source Charge	Q_{gs}			0.2		
Gate-Drain Charge	Q_{gd}			0.3		
Input Capacitance	C_{iss}	$V_{DS}=10V, V_{GS}=0V$ f=1MHz		110		pF
Output Capacitance	C_{oss}			34		
Reverse Transfer Capacitance	C_{rss}			16		
Turn-On Time	$T_{d(on)}$	$V_{DD}=10V$, RL=10Ω, $I_D=1.0A$, $V_{GEN}=4.5V$, RG=6Ω		5	10	nS
	t_r			8	15	
Turn-Off Time	$T_{d(off)}$			10	18	
	t_f			1.2	2.8	

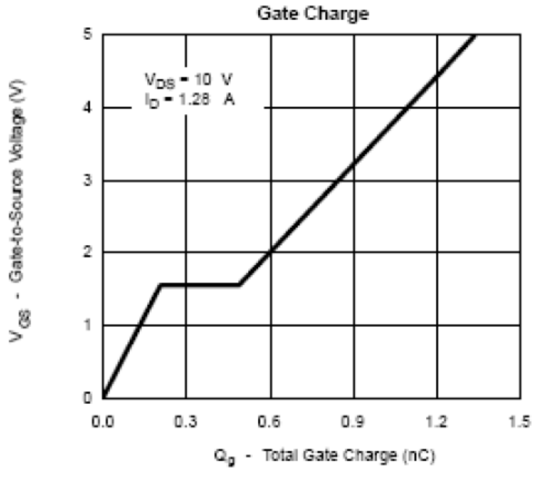
TYPICAL CHARACTERICTICS

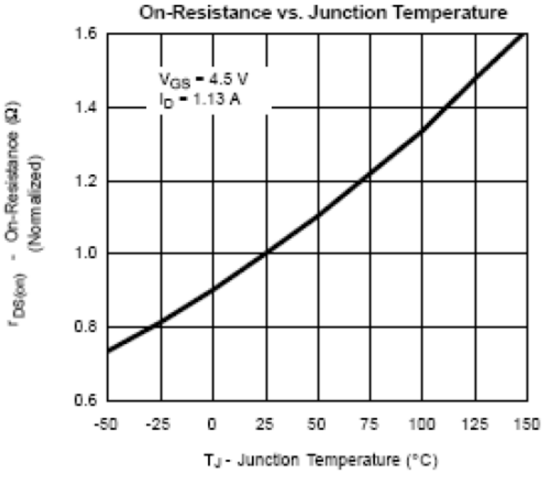

Output Characteristics


Transfer Characteristics


On-Resistance vs. Drain Current

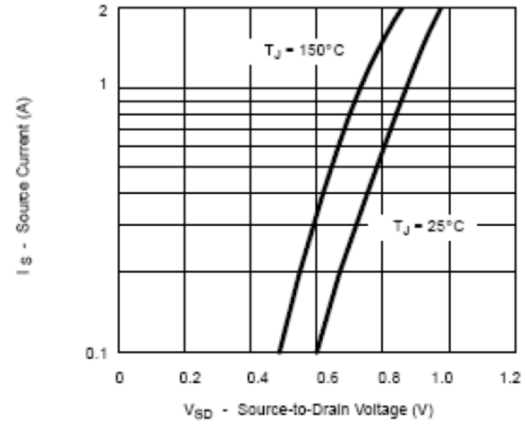

Capacitance


Gate Charge

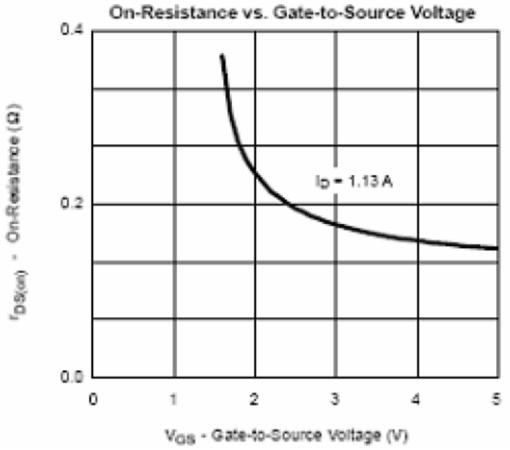

On-Resistance vs. Junction Temperature

TYPICAL CHARACTERICTICS

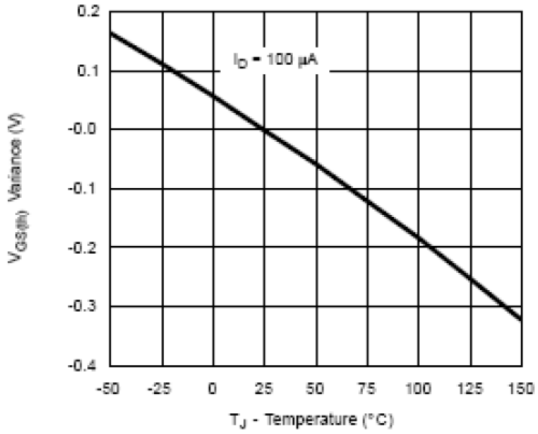
Source-Drain Diode Forward Voltage



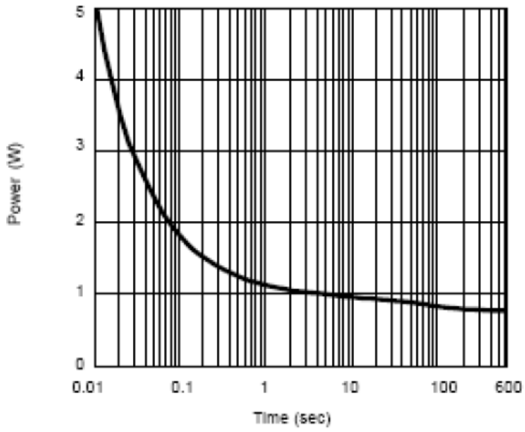
On-Resistance vs. Gate-to-Source Voltage



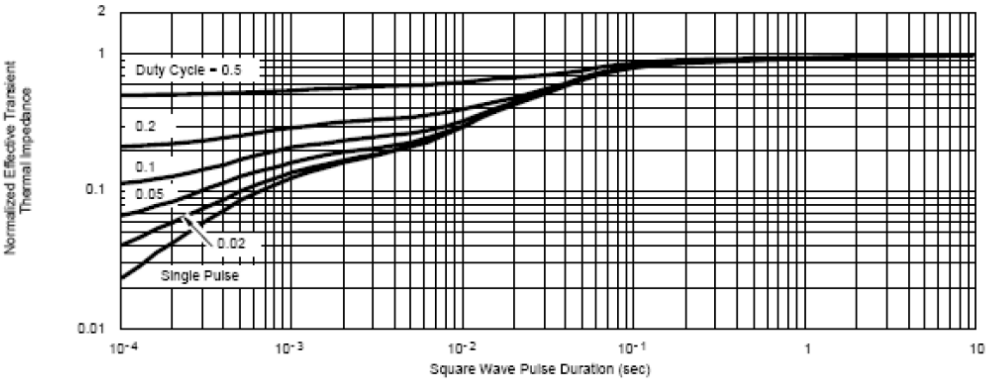
Threshold Voltage



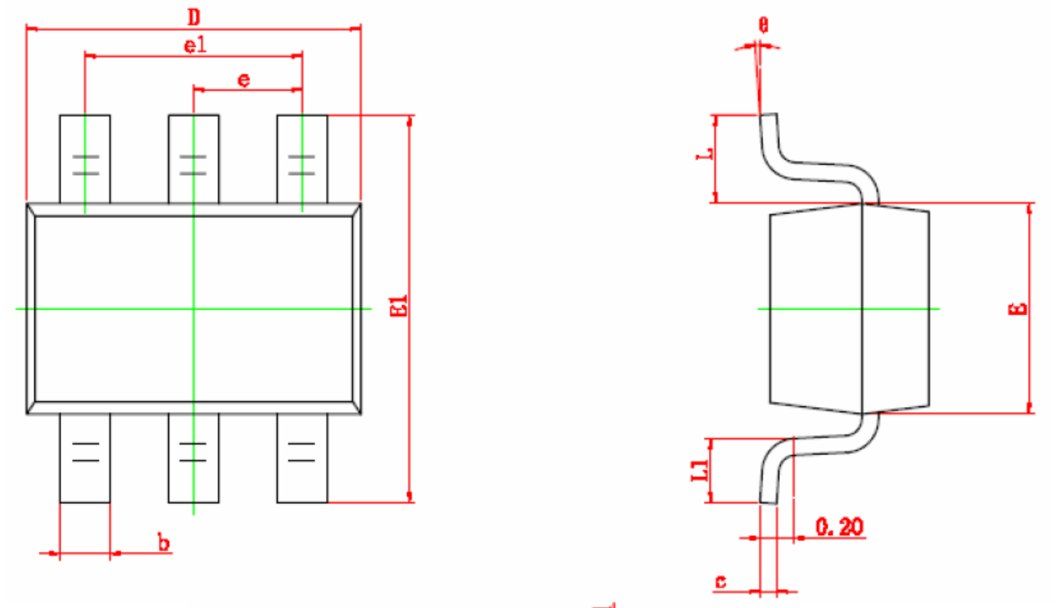
Single Pulse Power, Junction-to-Ambient

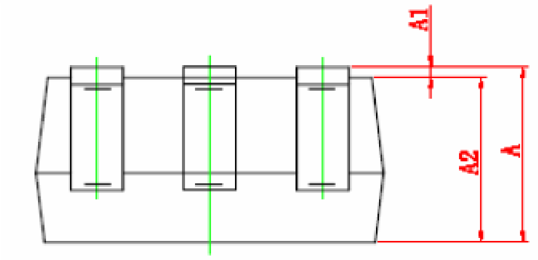


Normalized Thermal Transient Impedance, Junction-to-Foot



SOT363 (sc70-6L) PACKAGE OUTLINE





Symbol	Dimensions In Millimeters		Dimensions In Inches	
	Min	Max	Min	Max
A	0.900	1.100	0.035	0.043
A1	0.000	0.100	0.000	0.004
A2	0.900	1.000	0.035	0.039
b	0.150	0.350	0.006	0.014
c	0.080	0.150	0.003	0.006
D	2.000	2.200	0.079	0.087
E	1.150	1.350	0.045	0.053
E1	2.150	2.450	0.085	0.096
e	0.650 TYP		0.026 TYP	
e1	1.200	1.400	0.047	0.055
L	0.525 REF		0.021 REF	
L1	0.260	0.460	0.010	0.018
θ	0°	8°	0°	8°