

60V N-Channel Enhancement-Mode MOSFET

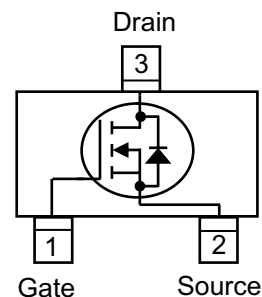
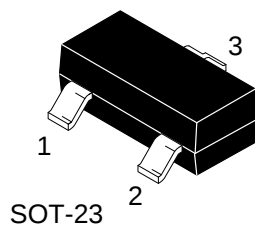
FEATURES:

- $V_{DS} = 60V$
- $R_{DS(ON)} \leq 100m\Omega @ V_{GS} = 10V$
- $R_{DS(ON)} \leq 130m\Omega @ V_{GS} = 4.5V$
- $R_{DS(ON)} \leq 200m\Omega @ V_{GS} = 3.3V$
- Super high density cell design for extremely low $R_{DS(ON)}$.
- Exceptional on-resistance and maximum DC current capability.
- We declare that the material of product compliance with RoHS requirements and Halogen Free.

APPLICATIONS:

- Power Management in Note book
- Portable Equipment
- Battery Powered System
- Load Switch
- DSC

Circuit Diagram & Pin Configuration:



DEVICE MARKING AND ORDERING INFORMATION

Device	Marking	Shipping
SN2308-S03T	N08	3000/Tape&Reel

MAXIMUM RATINGS($T_a = 25^\circ C$)

Parameter		Symbol	Limits	Unit
Drain-Source Voltage		V_{DS}	60	V
Gate-Source Voltage		V_{GS}	± 20	V
Continuous Drain Current($T_j = 150^\circ C$)	$T_A = 25^\circ C$	I_D	2.6	A
	$T_A = 70^\circ C$		1.8	
Pulsed Drain Current		I_{DM}	8	
Maximum Body-Diode Continuous Current		I_S	1.6	

THERMAL CHARACTERISTICS

Parameter		Symbol	Limits	Unit
Maximum Power Dissipation	TA =25℃	PD	0.7	W
	TA =70℃		0.45	
Operating Junction Temperature		TJ	150	℃
Maximum Junction-to-Ambient	T≤10 sec	RθJA	150	℃/W
	Steady State		175	
Thermal Resistance-Junction to Case		RθJC	120	

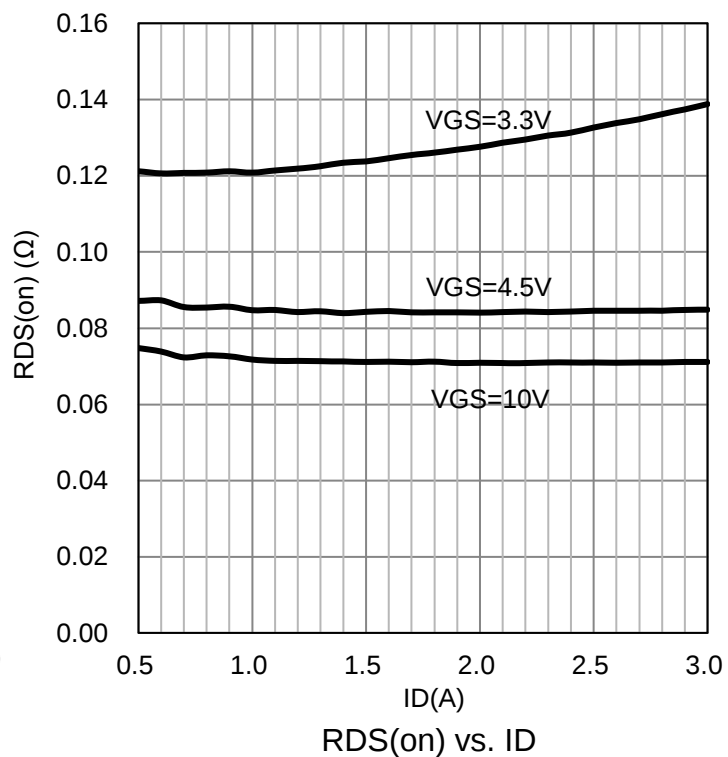
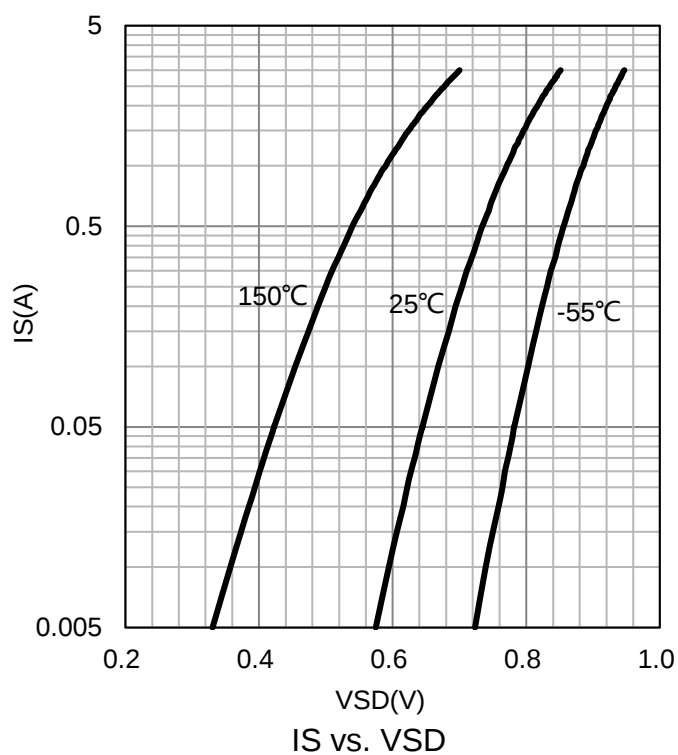
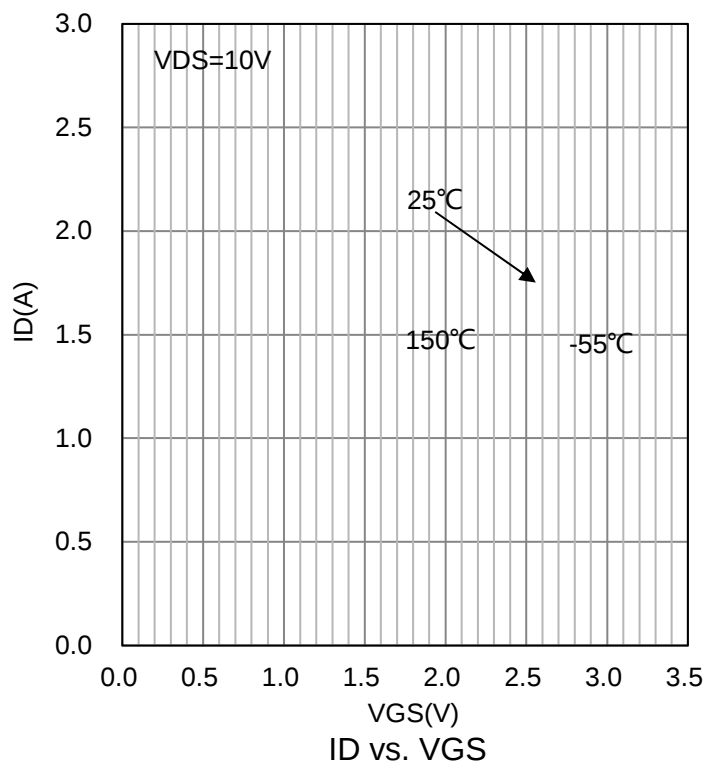
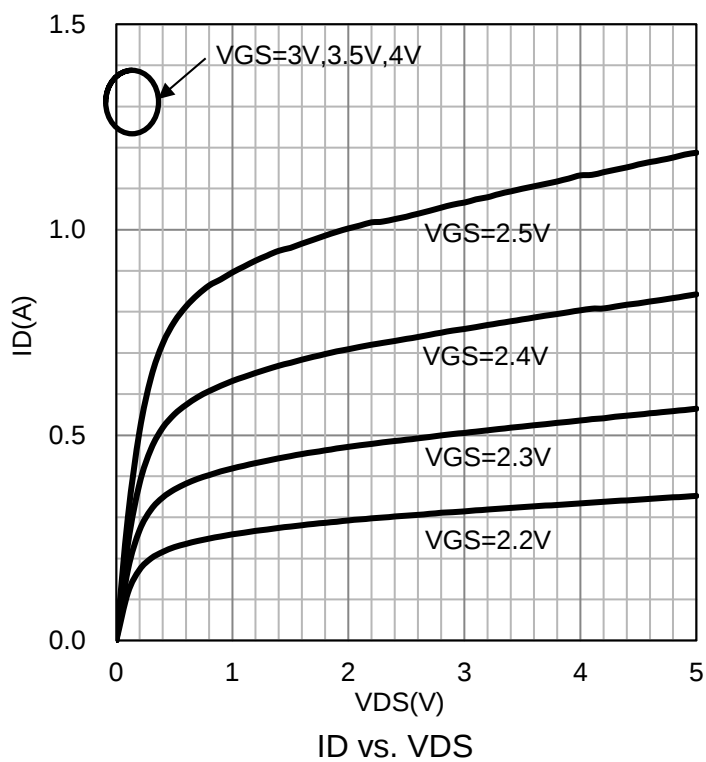
1.The device mounted on 1in² FR4 board with 2 oz copper

ELECTRICAL CHARACTERISTICS (Ta= 25℃)

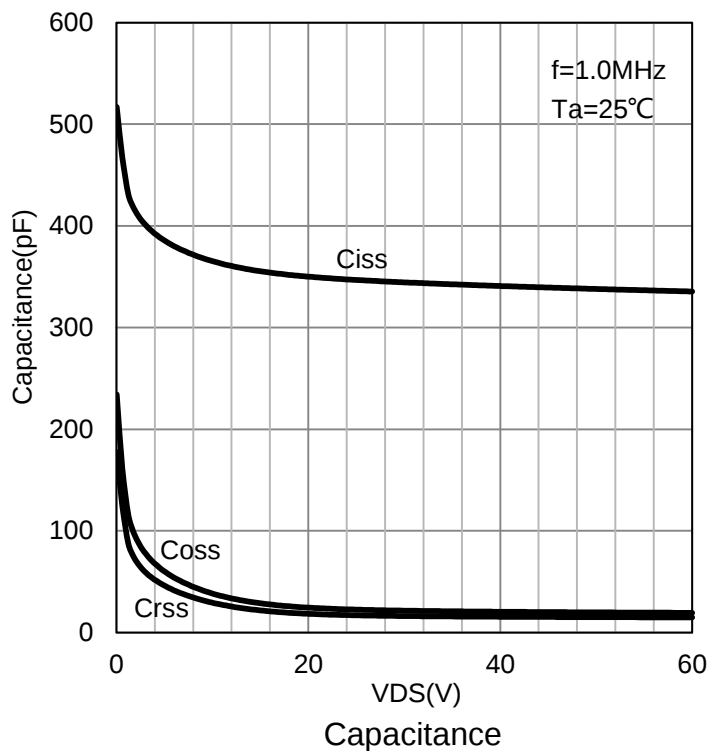
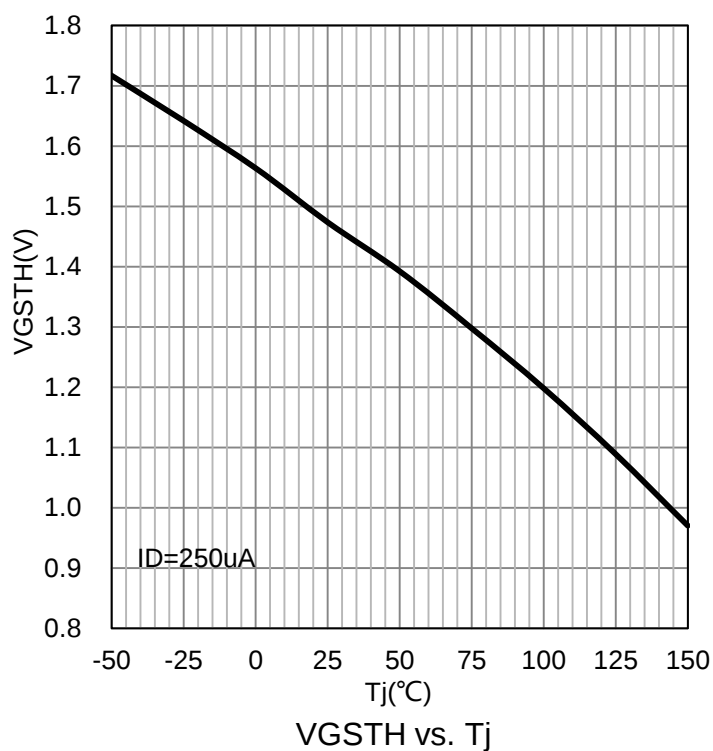
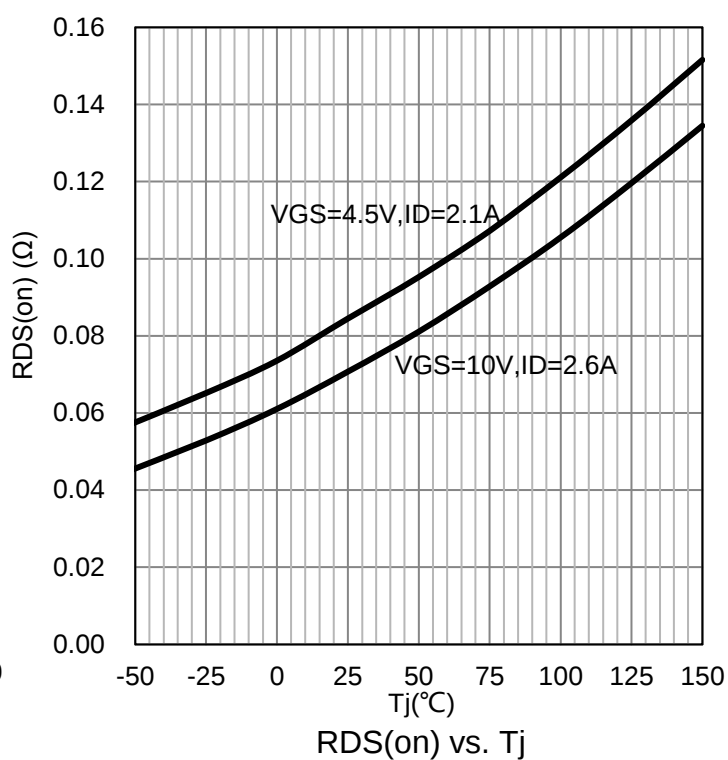
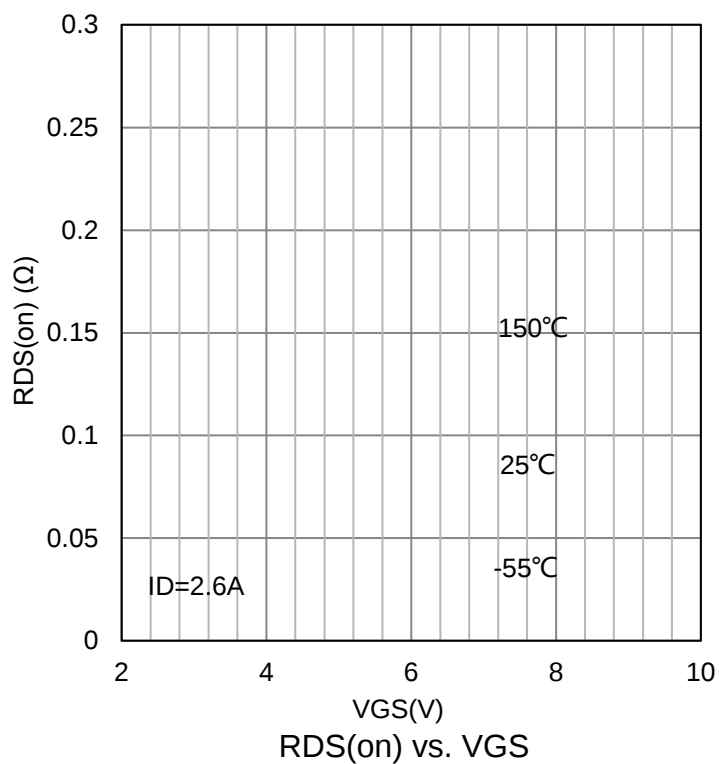
Characteristic	Symbol	Min.	Typ.	Max.	Unit
STATIC					
Drain–Source Breakdown Voltage (VGS = 0, ID = 250μA)	V(BR)DSS	60	-	-	V
Gate Threshold Voltage (VDS = VGS, ID = 250μA)	VGS(th)	1.0	-	3.0	V
Gate Body Leakage (VDS =0V, VGS =±20V)	IGSS	-	-	±100	nA
Zero Gate Voltage Drain Current (VDS =60V, VGS =0V)	IDSS	-	-	1	μA
Drain-Source On-Resistance (VGS =10V, ID = 2.6A) (VGS =4.5V, ID = 2.1A) (VGS =3.3V, ID = 1.8A)	RDS(on)	- - -	82 96 139	100 130 200	mΩ
Diode Forward Voltage (IS =1.0A, VGS =0V)	VSD	-	0.8	1.2	V
DYNAMIC					
Total Gate Charge (VDS =30V, VGS =10V, ID =2.6A)	Qg	-	12	-	nC
Total Gate Charge	(VDS =30V, VGS =4.5V, ID =2.6A) Qg	-	6.5	-	
Gate-Source Charge	Qgs	-	2.2	-	
Gate-Drain Charge	Qgd	-	2.7	-	
Input capacitance	(VDS =30V, VGS =0V, f=1MHz) Ciss	-	350	-	pF
Output Capacitance	Coss	-	40	-	
Reverse Transfer Capacitance	Crss	-	12	-	
Gate Resistance (VDS =0V, VGS =0V, f=1MHz)	Rg	-	0.7	-	Ω
Turn-On Delay Time	(VDD =20V, RL =20Ω, ID =1A, VGEN =10V, RG =1Ω) td(on)	-	10	-	ns
Turn-On Rise Time	tr	-	11	-	
Turn-Off Delay Time	td(off)	-	29	-	
Turn-Off Fall Time	tf	-	3	-	

2.Pulse test; pulse width≤300μs, duty cycle≤2%.

ELECTRICAL CHARACTERISTICS CURVES



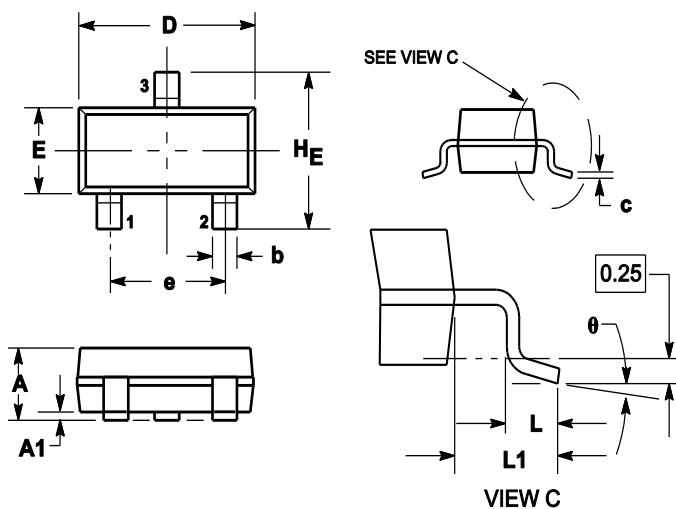
ELECTRICAL CHARACTERISTICS CURVES (Con.)



OUTLINE AND DIMENSIONS

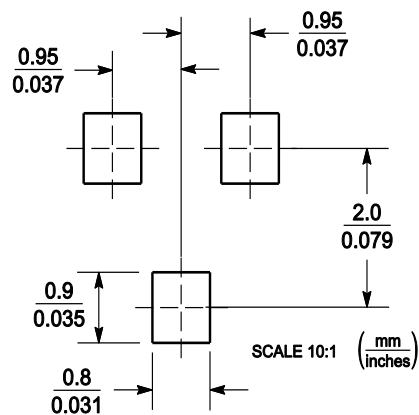
Notes:

1. DIMENSIONING AND TOLERANCING PER ANSI Y14.5M, 1982.
2. CONTROLLING DIMENSION: MILLIMETERS.
3. MAXIMUM LEAD THICKNESS INCLUDES LEAD FINISH. MINIMUM LEAD THICKNESS IS THE MINIMUM THICKNESS OF BASE MATERIAL.
4. DIMENSIONS D AND E DO NOT INCLUDE MOLD FLASH, PROTRUSIONS OR GATE BURRS.



DIM	MILLIMETERS			INCHES		
	MIN	NOM	MAX	MIN	NOM	MAX
A	0.89	1	1.11	0.035	0.04	0.044
A1	0.01	0.06	0.1	0.001	0.002	0.004
b	0.37	0.44	0.5	0.015	0.018	0.02
c	0.09	0.13	0.18	0.003	0.005	0.007
D	2.80	2.9	3.04	0.11	0.114	0.12
E	1.20	1.3	1.4	0.047	0.051	0.055
e	1.78	1.9	2.04	0.07	0.075	0.081
L	0.10	0.2	0.3	0.004	0.008	0.012
L1	0.35	0.54	0.69	0.014	0.021	0.029
H _E	2.10	2.4	2.64	0.083	0.094	0.104
θ	0°	---	10°	0°	---	10°

SOLDERING FOOTPRINT



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