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Si2343DS-T1-GE3
P-Channel 30-V (D-S) MOSFET

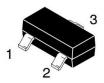
PRODUCT SUMMARY		
V_{DS} (V)	$r_{DS(on)}$ (Ω)	I_D (A)
-30	0.053 @ V_{GS} = -10 V	-4.0
	0.086@ V_{GS} = -4.5 V	-3.1

FEATURES

- TrenchFET® Power MOSFET

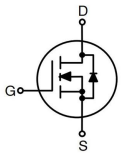
APPLICATIONS

- Load Switch
- PA Switch



SOT–23

1 – Gate
2 – Source
3 – Drain



ABSOLUTE MAXIMUM RATINGS (T_A = 25°C UNLESS OTHERWISE NOTED)					
Parameter		Symbol	5 sec	Steady State	Unit
Drain-Source Voltage		V_{DS}	-30		V
Gate-Source Voltage		V_{GS}	±20		
Continuous Drain Current (T_J = 150°C)[a, b]	T_A = 25°C	I_D	- 4.0	-3.1	A
	T_A = 70°C		-3.2	-2.5	
Pulsed Drain Current		I_{DM}	-15		
Continuous Source Current (Diode Conduction)[a, b]		I_S	-1.0	-0.6	
Maximum Power Dissipation[a, b]	T_A = 25°C	P_D	1.25	0.75	W
	T_A = 70°C		0.8	0.48	
Operating Junction and Storage Temperature Range		T_J, T_{stg}	-55 to 150		°C

THERMAL RESISTANCE RATINGS					
Parameter		Symbol	Typical	Maximum	Unit
Maximum Junction-to-Ambient[a]	t ≤ 5 sec	R_{thJA}	75	100	°C/W
	Steady State		120	166	
Maximum Junction-to-Foot (Drain)	Steady State	R_{thJF}	40	50	

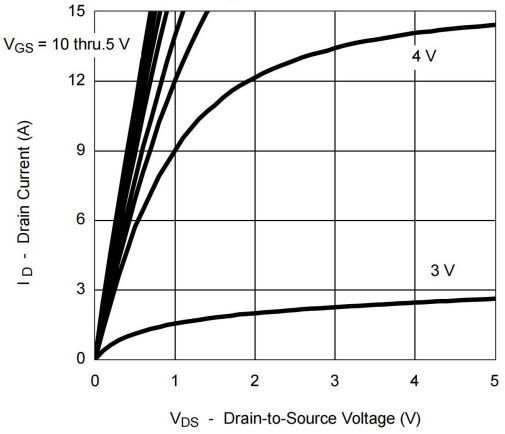
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SPECIFICATIONS (T_J = 25°C UNLESS OTHERWISE NOTED)						
Parameter	Symbol	Test Conditions	Limits			Unit
			Min	Typ	Max	
Static						
Drain-Source Breakdown Voltage	$V_{(BR)DSS}$	V_{GS} = 0 V, I_D = -250 μA	-30			V
Gate-Threshold Voltage	$V_{GS(th)}$	V_{DS} = V_{GS}, I_D = -250 μA	-1		-3	
Gate-Body Leakage	I_{GSS}	V_{DS} = 0 V, V_{GS} = ±20 V			±100	nA
Zero Gate Voltage Drain Current	I_{DSS}	V_{DS} = -24 V, V_{GS} = 0 V			-1	μA
		V_{DS} = -24 V, V_{GS} = 0 V, T_J = 55°C			-10	
On-State Drain Current[a]	$I_{D(on)}$	V_{DS} ≤ -5 V, V_{GS} = -10 V	-15			A
Drain-Source On-Resistance[a]	$r_{DS(on)}$	V_{GS} = -10 V, I_D = -4.0 A		0.043	0.053	Ω
		V_{GS} = -4.5 V, I_D = -3.1 A		0.068	0.086	
Forward Transconductance[a]	g_{fs}	V_{DS} = -5 V, I_D = -4.0 A		10		S
Diode Forward Voltage	V_{SD}	I_S = -1.0 A, V_{GS} = 0 V		0.7	-1.2	V
Dynamic[b]						
Total Gate Charge	Q_g	V_{DS} = -15 V, V_{GS} = -10 V I_D ≅ -4.0 A		14	21	nC
Gate-Source Charge	Q_{gs}			1.9		
Gate-Drain Charge	Q_{gd}			3.7		
Input Capacitance	C_{iss}	V_{DS} = -15 V, V_{GS} = 0, f = 1 MHz		540		pF
Output Capacitance	C_{oss}			131		
Reverse Transfer Capacitance	C_{rss}			105		
Switching[c]						
Turn-On Time	$t_{d(on)}$	V_{DD} = -15 V, R_L = 15 Ω I_D ≅ -1.0 A, V_{GEN} = -10 V R_G = 6 Ω		10	15	ns
	t_r			15	25	
Turn-Off Time	$t_{d(off)}$			31	50	
	t_f			20	30	

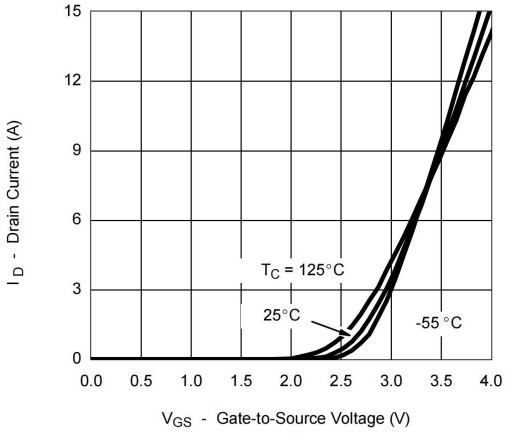
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TYPICAL CHARACTERISTICS (25°C UNLESS NOTED)

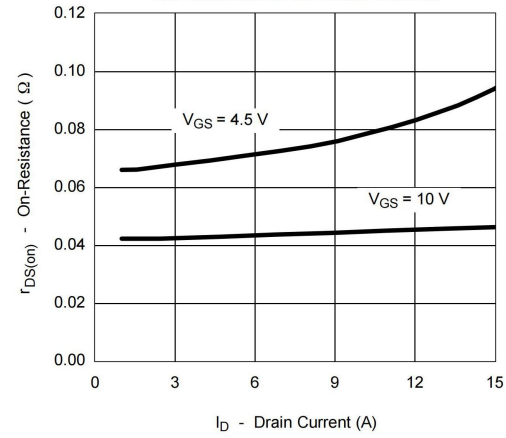
Output Characteristics



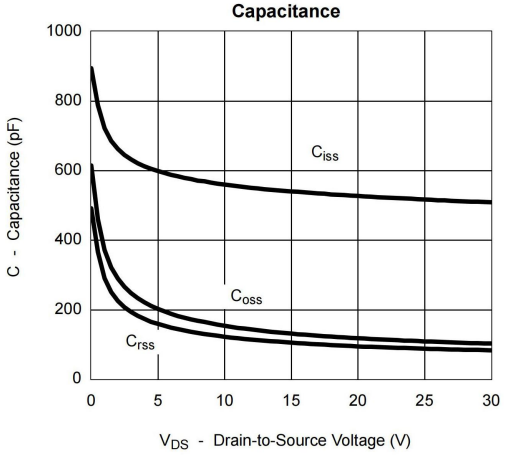
Transfer Characteristics



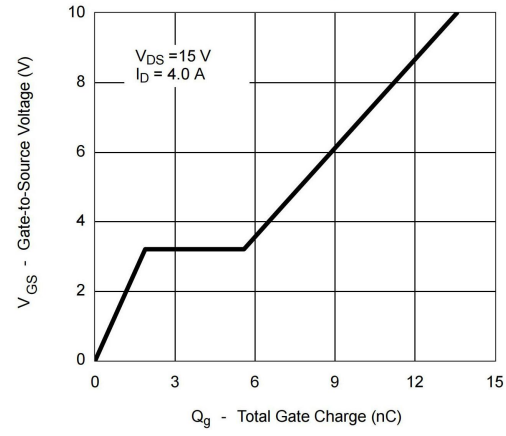
On-Resistance vs. Drain Current



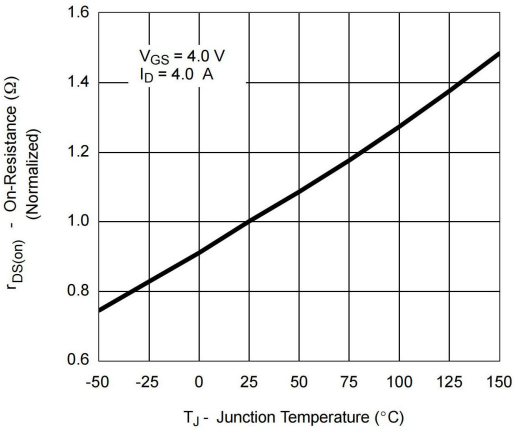
Capacitance



Gate Charge



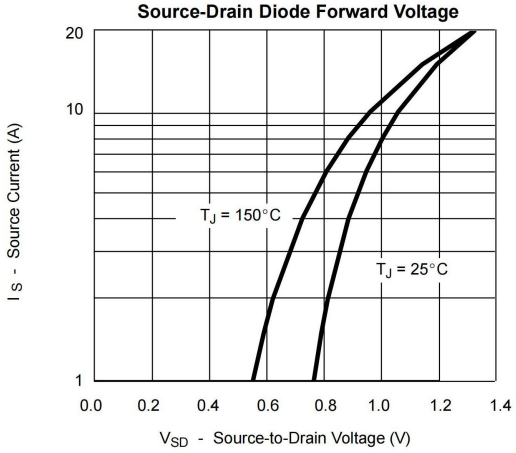
On-Resistance vs. Junction Temperature



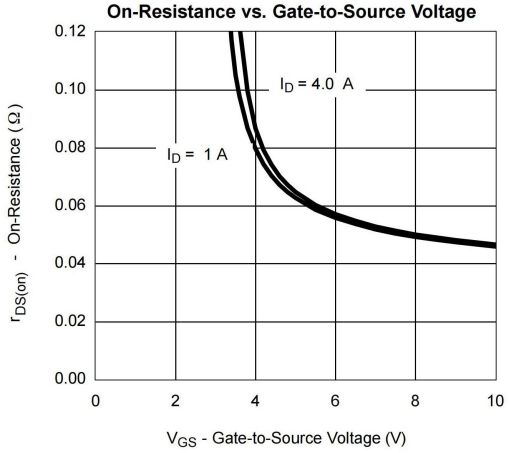
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TYPICAL CHARACTERISTICS (25°C UNLESS NOTED)

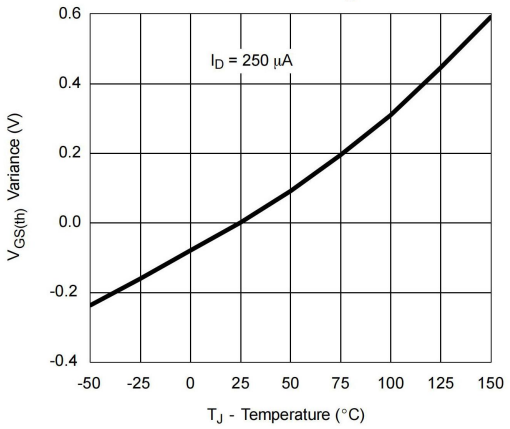
Source-Drain Diode Forward Voltage



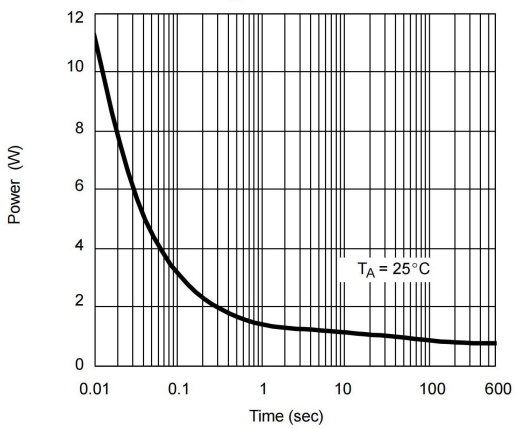
On-Resistance vs. Gate-to-Source Voltage



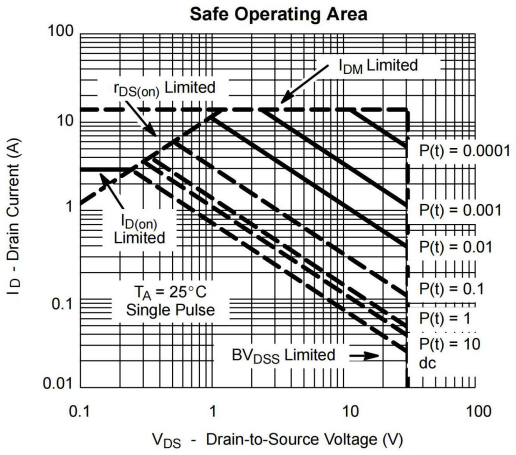
Threshold Voltage



Single Pulse Power

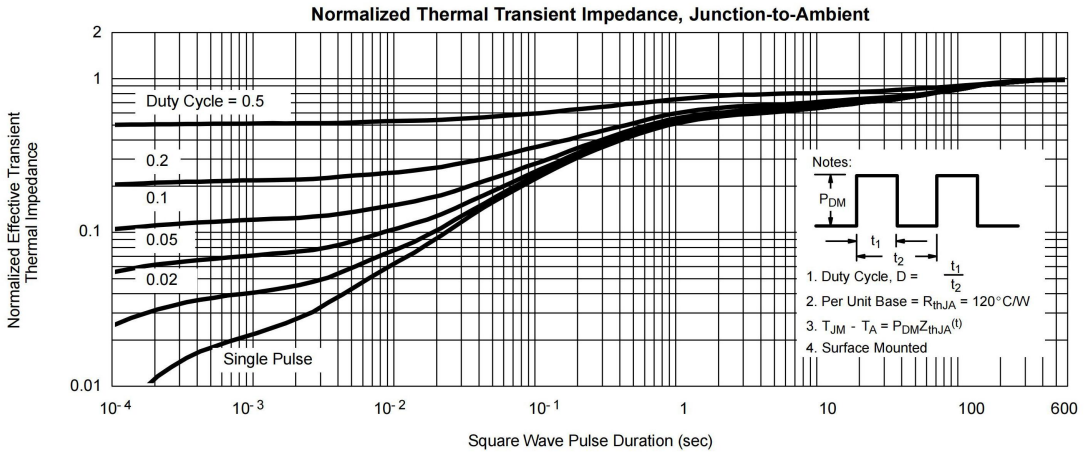


Safe Operating Area



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TYPICAL CHARACTERISTICS (25°C UNLESS NOTED)

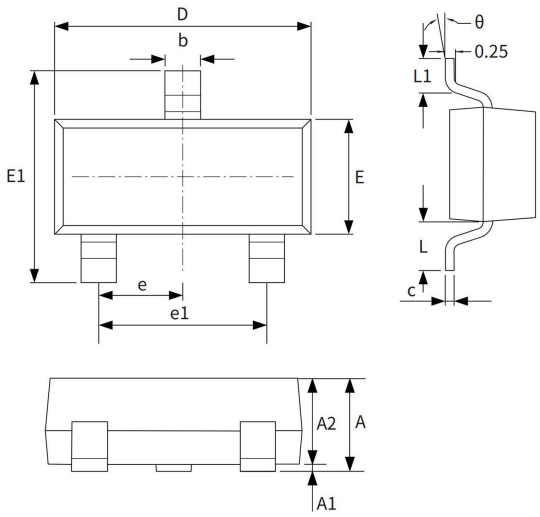


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Ordering Information

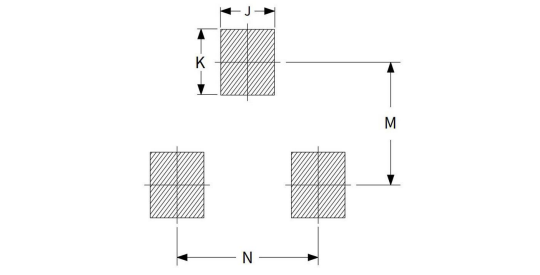
PACKAGE	PACKAGE CODE	UNIT WEIGHT(g)	REEL(pcs)	BOX(pcs)	CARTON(pcs)	DELIVERY MODE
SOT-23	R1	0.008	3000	30000	240000	7''

Package Outline Dimensions (SOT-23)



Symbol	Dimensions			
	Millimeters		Inches	
	Min.	Max.	Min.	Max.
A	0.90	1.15	0.035	0.045
A1	-	0.10	-	0.004
A2	0.90	1.05	0.035	0.041
b	0.30	0.50	0.012	0.020
c	0.10	0.20	0.004	0.008
D	2.80	3.00	0.110	0.118
E	1.20	1.40	0.047	0.055
E1	2.25	2.55	0.089	0.100
e	0.950TYP		0.037TYP	
e1	1.80	2.00	0.071	0.079
L	0.550REF		0.022REF	
L1	0.30	0.50	0.012	0.020
θ	-	8°	-	8°

Suggested Pad Layout



Symbol	Dimensions			
	Millimeters		Inches	
	Min.	Max.	Min.	Max.
J	0.75	0.85	0.030	0.033
K	0.85	0.95	0.033	0.037
M	1.95	2.05	0.077	0.081
N	1.85	1.95	0.073	0.077