



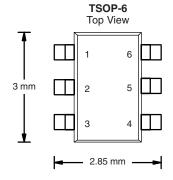
P-Channel 30-V (D-S) MOSFET

PRODUCT SUMMARY				
V _{DS} (V)	$R_{DS(on)}\left(\Omega\right)$	I _D (A)		
- 30	$0.100 \text{ at V}_{GS} = -10 \text{ V}$	- 3.5		
	0.170 at V _{GS} = - 4.5 V	- 2.7		

FEATURES

- Halogen-free According to IEC 61249-2-21 Definition
- TrenchFET[®] Power MOSFETs
- Compliant to RoHS Directive 2002/95/EC

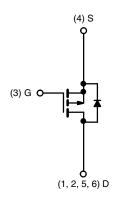




Ordering Information: Si3455ADV-T1-E3 (Lead (Pb)-free)

Si3455ADV-T1-GE3 (Lead (Pb)-free and Halogen-free)

Marking Code: A5xxx



P-Channel MOSFET

ABSOLUTE MAXIMUM RATINGS T _A = 25 °C, unless otherwise noted						
Parameter		Symbol	5 s	Steady State	Unit	
Drain-Source Voltage		V _{DS}	- 30		V	
Gate-Source Voltage		V _{GS}	± 20			
Continuous Dusin Comment /T 150 °C\d	T _A = 25 °C	- I _D	- 3.5	- 2.7		
Continuous Drain Current (T _J = 150 °C) ^a	T _A = 70 °C		- 2.8	- 2.1	^	
Pulsed Drain Current		I _{DM}	- 20		А	
Continuous Source Current (Diode Conduction) ^a		I _S	- 1.7	- 0.95		
Mariana Barra Biratiani	T _A = 25 °C	- P _D	2.0	1.14	W	
Maximum Power Dissipation ^a	T _A = 70 °C		1.3	0.73		
Operating Junction and Storage Temperature Range		T _J , T _{stg}	- 55 to 150		°C	

THERMAL RESISTANCE RATINGS					
Parameter		Symbol	Typical	Maximum	Unit
Marrian Installanta Ambienta	t ≤ 5 s	- R _{thJA}	50	62.5	°C/W
Maximum Junction-to-Ambient ^a	Steady State		90	110	
Maximum Junction-to-Foot (Drain)	Steady State	R_{thJF}	30	36	

Notes:

a. Surface Mounted on 1" x 1" FR4 board.

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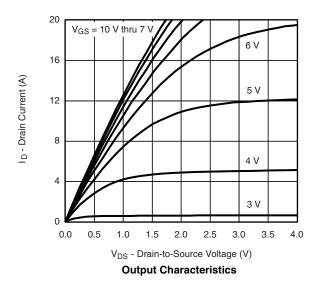
SPECIFICATIONS T _J = 25 °C, unless otherwise noted							
Parameter	Symbol	Test Conditions Min		Тур.	Max.	Unit	
Static							
Gate Threshold Voltage	V _{GS(th)}	$V_{DS} = V_{GS}$, $I_D = -250 \mu A$	- 1.0		- 3.0	V	
Gate-Body Leakage	I _{GSS}	$V_{DS} = 0 \text{ V}, V_{GS} = \pm 20 \text{ V}$			± 100	nA	
Zava Cata Valtaga Drain Current	1	V _{DS} = - 30 V, V _{GS} = 0 V			- 1	μΑ	
Zero Gate Voltage Drain Current	IDSS	$V_{DS} = -30 \text{ V}, V_{GS} = 0 \text{ V}, T_{J} = 85 ^{\circ}\text{C}$			- 5		
On-State Drain Current ^a	I _{D(on)}	$V_{DS} \le -5 \text{ V}, V_{GS} = -10 \text{ V}$	- 20			Α	
	D	$V_{GS} = -10 \text{ V, } I_D = -3.5 \text{ A}$ $V_{GS} = -4.5 \text{ V, } I_D = -2.7 \text{ A}$		0.080	0.100	Ω	
Drain-Source On-State Resistance ^a	R _{DS(on)}			0.140	0.170		
Forward Transconductance ^a	9 _{fs}	V _{DS} = - 15 V, I _D = - 3.5 A		6		S	
Diode Forward Voltage ^a	V_{SD}	I _S = - 1.7 A, V _{GS} = 0 V		- 0.8	- 1.2	V	
Dynamic ^b							
Total Gate Charge	Qg			8.5	13		
Gate-Source Charge	Q_{gs}	$V_{DS} = -15 \text{ V}, V_{GS} = -10 \text{ V}, I_{D} = -3.5 \text{ A}$		2.2		nC	
Gate-Drain Charge	Q_{gd}			1.5			
Turn-On Delay Time	t _{d(on)}			10	20		
Rise Time	t _r	V_{DD} = - 15 V, R_L = 15 Ω		7	15		
Turn-Off Delay Time	t _{d(off)}	$I_D \cong$ - 1 A, V_{GEN} = - 10 V, R_g = 6 Ω		20	35	ns	
Fall Time	t _f			10	20		
Source-Drain Reverse Recovery Time	t _{rr}	I _F = - 1.7 A, dI/dt = 100 A/μs		30	60		

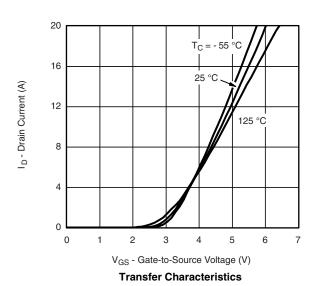
Notes:

- a. Pulse test; pulse width \leq 300 μ s, duty cycle \leq 2 %.
- b. Guaranteed by design, not subject to production testing.

Stresses beyond those listed under "Absolute Maximum Ratings" may cause permanent damage to the device. These are stress ratings only, and functional operation of the device at these or any other conditions beyond those indicated in the operational sections of the specifications is not implied. Exposure to absolute maximum rating conditions for extended periods may affect device reliability.

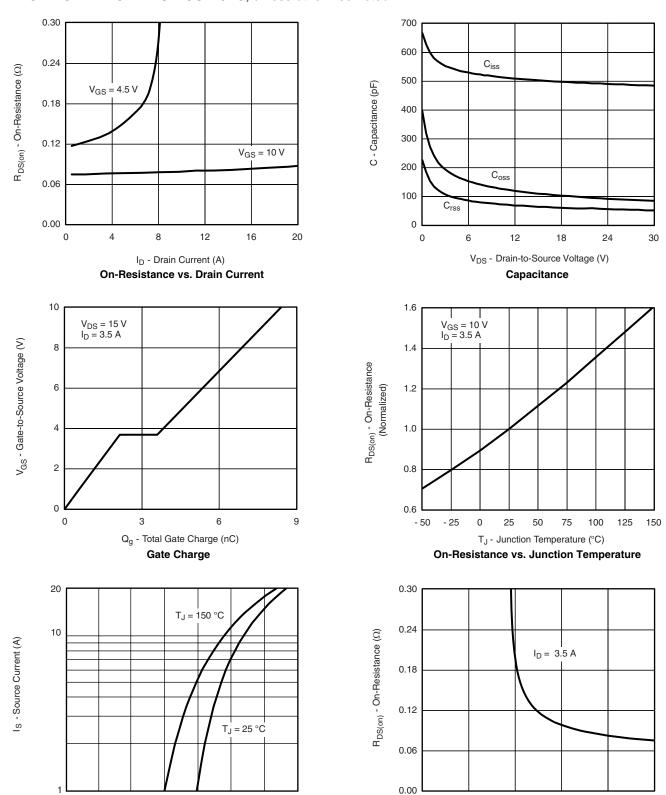
TYPICAL CHARACTERISTICS 25 °C, unless otherwise noted







TYPICAL CHARACTERISTICS 25 °C, unless otherwise noted



0

0.2

0.4

0.6

0.8

V_{SD} - Source-to-Drain Voltage (V)

Source-Drain Diode Forward Voltage

1.0

1.2

1.4

0

8

6

V_{GS} - Gate-to-Source Voltage (V)

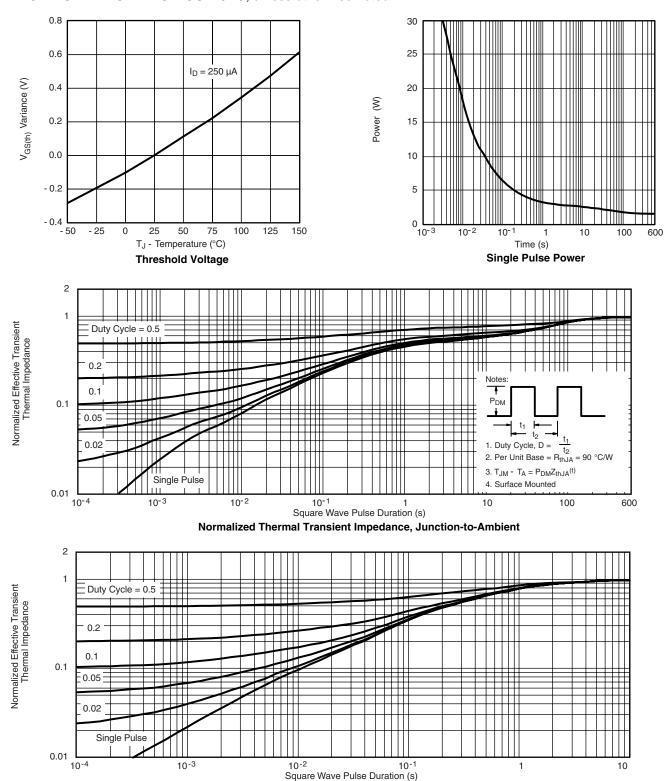
On-Resistance vs. Gate-to-Source Voltage

10

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TYPICAL CHARACTERISTICS 25 °C, unless otherwise noted



Normalized Thermal Transient Impedance, Junction-to-Foot

Vishay Siliconix maintains worldwide manufacturing capability. Products may be manufactured at one of several qualified locations. Reliability data for Silicon Technology and Package Reliability represent a composite of all qualified locations. For related documents such as package/tape drawings, part marking, and reliability data, see www.vishay.com/ppg?71090.



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