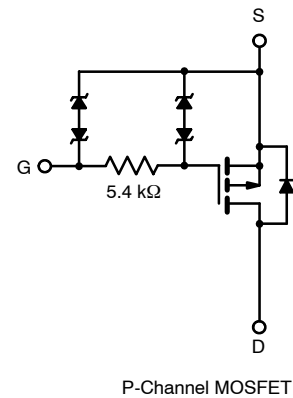
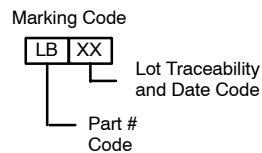
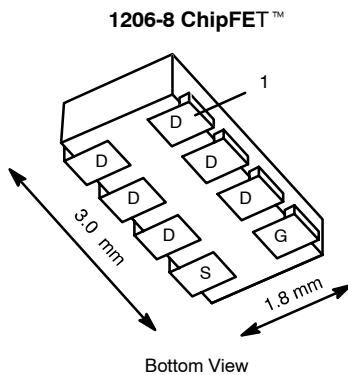




P-Channel 20-V (D-S) MOSFET

PRODUCT SUMMARY		
V_{DS} (V)	$r_{DS(on)}$ (Ω)	I_D (A)
-20	0.062 @ $V_{GS} = -4.5$ V	-5.1
	0.068 @ $V_{GS} = -3.6$ V	-4.9
	0.085 @ $V_{GS} = -2.5$ V	-4.4
	0.120 @ $V_{GS} = -1.8$ V	-3.7



Ordering Information: Si5463EDC-T1

ABSOLUTE MAXIMUM RATINGS ($T_A = 25^\circ\text{C}$ UNLESS OTHERWISE NOTED)					
Parameter	Symbol	5 secs	Steady State	Unit	
Drain-Source Voltage	V_{DS}	-20		V	
Gate-Source Voltage	V_{GS}	± 12			
Continuous Drain Current ($T_J = 150^\circ\text{C}$) ^a	I_D	$T_A = 25^\circ\text{C}$	-5.1	-3.8	A
		$T_A = 85^\circ\text{C}$	-3.7	-2.7	
Pulsed Drain Current	I_{DM}	-15			
Continuous Source Current ^a	I_S	-1.9	-1.0		
Maximum Power Dissipation ^a	P_D	$T_A = 25^\circ\text{C}$	2.3	1.25	W
		$T_A = 85^\circ\text{C}$	1.2	0.65	
Operating Junction and Storage Temperature Range	T_J, T_{stg}	-55 to 150		$^\circ\text{C}$	
Soldering Recommendations (Peak Temperature) ^{c, d}		260			

THERMAL RESISTANCE RATINGS					
Parameter	Symbol	Typical	Maximum	Unit	
Maximum Junction-to-Ambient ^a	R_{thJA}	$t \leq 5$ sec	45	55	$^\circ\text{C/W}$
		Steady State	84	100	
Maximum Junction-to-Foot (Drain)	R_{thJF}	20	25		

Notes

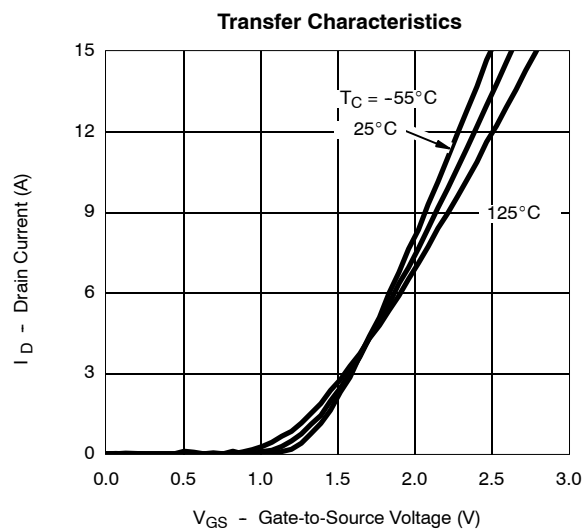
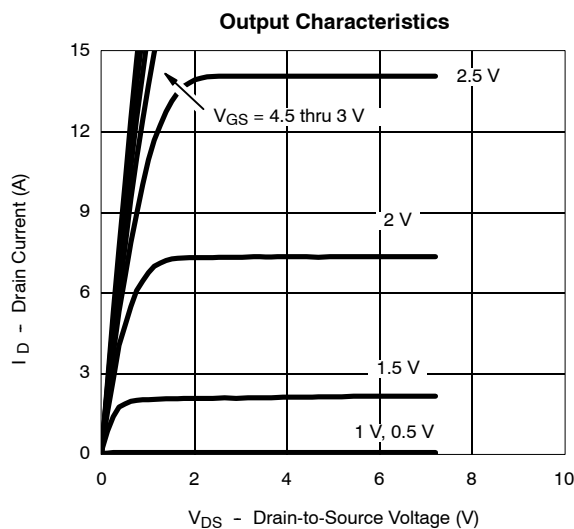
- Surface Mounted on 1" x 1" FR4 Board.
- When using HBM. The MM rating is 300 V
- See Reliability Manual for profile. The ChipFET is a leadless package. The end of the lead terminal is exposed copper (not plated) as a result of the singulation process in manufacturing. A solder fillet at the exposed copper tip cannot be guaranteed and is not required to ensure adequate bottom side solder interconnection.
- Rework Conditions: manual soldering with a soldering iron is not recommended for leadless components.

SPECIFICATIONS (T_J = 25 °C UNLESS OTHERWISE NOTED)

Parameter	Symbol	Test Condition	Min	Typ	Max	Unit
Static						
Gate Threshold Voltage	V _{GS(th)}	V _{DS} = V _{GS} , I _D = -250 μA	-0.45			V
Gate-Body Leakage	I _{GSS}	V _{DS} = 0 V, V _{GS} = ±4.5 V			±1.5	μA
Zero Gate Voltage Drain Current	I _{DSS}	V _{DS} = -16 V, V _{GS} = 0 V			-1	
		V _{DS} = -16 V, V _{GS} = 0 V, T _J = 85 °C			-5	
On-State Drain Current ^a	I _{D(on)}	V _{DS} ≤ -5 V, V _{GS} = -4.5 V	-15			A
Drain-Source On-State Resistance ^a	r _{DS(on)}	V _{GS} = -4.5 V, I _D = -4.0 A		0.051	0.062	Ω
		V _{GS} = -3.6 V, I _D = -3.5 A		0.056	0.068	
		V _{GS} = -2.5 V, I _D = -3.0 A		0.070	0.085	
		V _{GS} = -1.8 V, I _D = -1.5 A		0.100	0.120	
Forward Transconductance ^a	g _{fs}	V _{DS} = -5 V, I _D = -4.0 A		10		S
Diode Forward Voltage ^a	V _{SD}	I _S = -1.0 A, V _{GS} = 0 V		-0.75	-1.2	V
Dynamic^b						
Total Gate Charge	Q _g	V _{DS} = -10 V, V _{GS} = -4.5 V, I _D = -4.0 A		9.7	15	nC
Gate-Source Charge	Q _{gs}			2.7		
Gate-Drain Charge	Q _{gd}			1.4		
Turn-On Delay Time	t _{d(on)}	V _{DD} = -10 V, R _L = 10 Ω I _D ≅ -1 A, V _{GEN} = -4.5 V, R _G = 6 Ω		1.85	2.5	μs
Rise Time	t _r			3.2	4.5	
Turn-Off Delay Time	t _{d(off)}			1.9	2.5	
Fall Time	t _f			3.2	4.5	

Notes

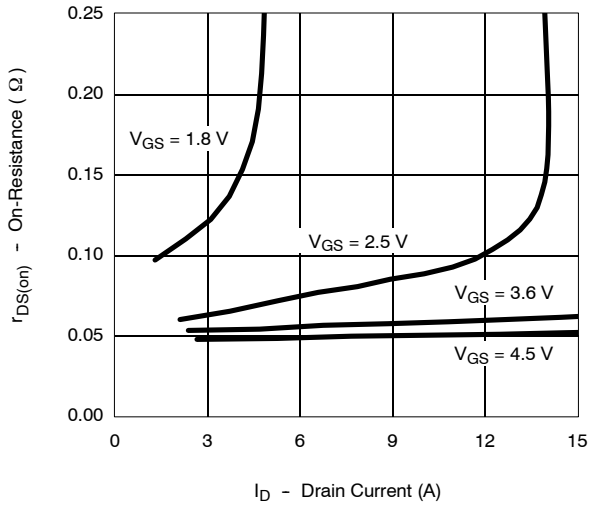
- a. Pulse test; pulse width ≤ 300 μs, duty cycle ≤ 2%.
b. Guaranteed by design, not subject to production testing.

TYPICAL CHARACTERISTICS (25 °C UNLESS NOTED)

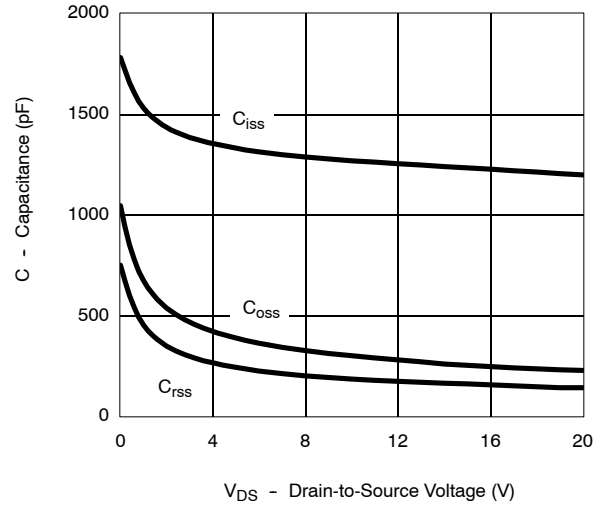


TYPICAL CHARACTERISTICS (25°C UNLESS NOTED)

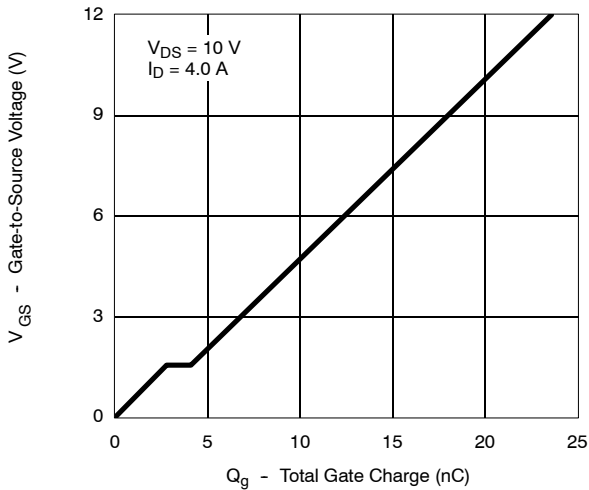
On-Resistance vs. Drain Current



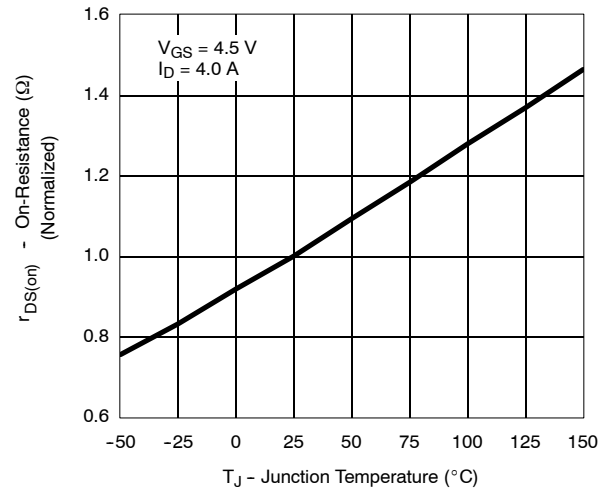
Capacitance



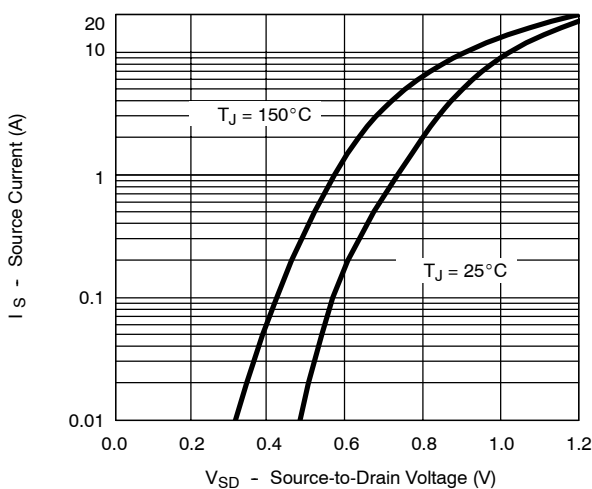
Gate Charge



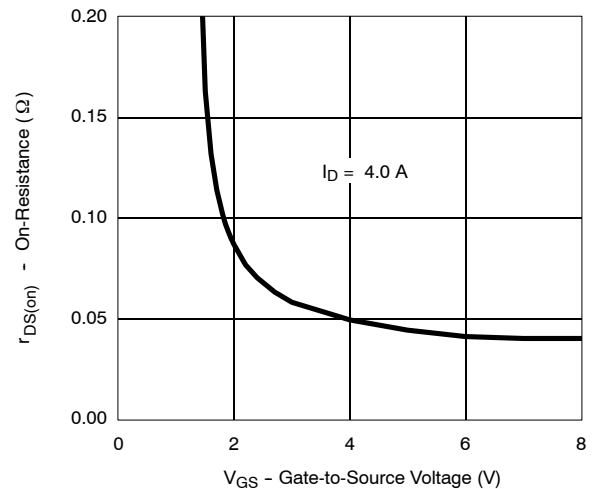
On-Resistance vs. Junction Temperature



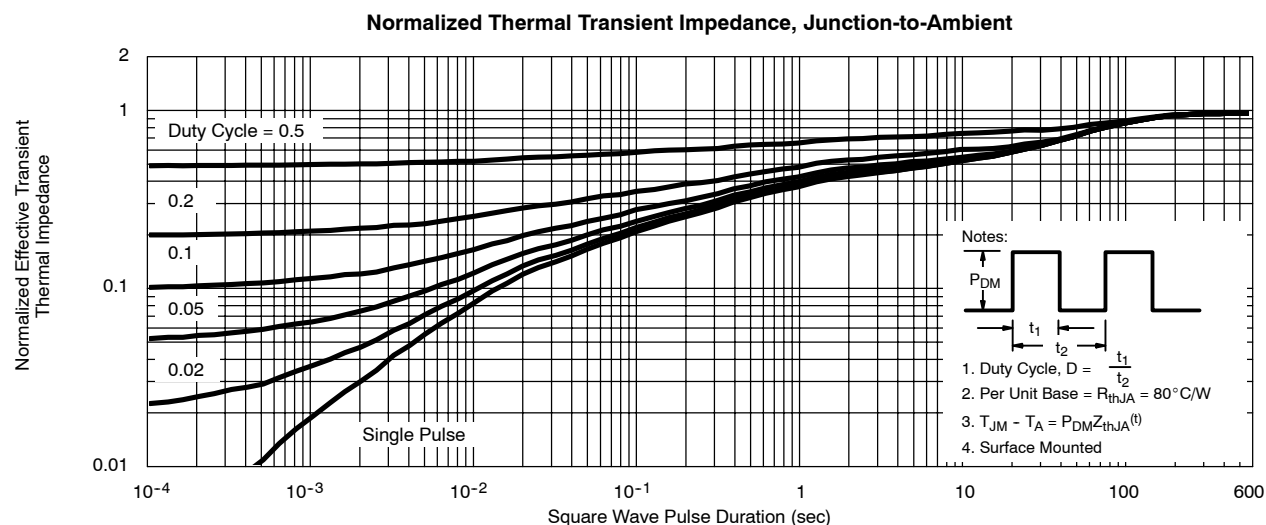
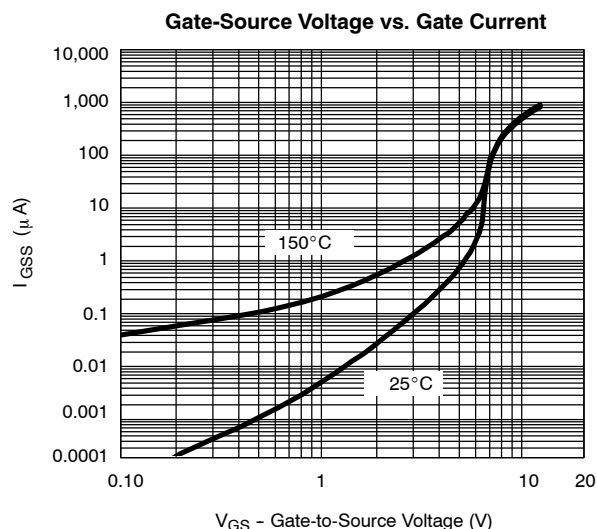
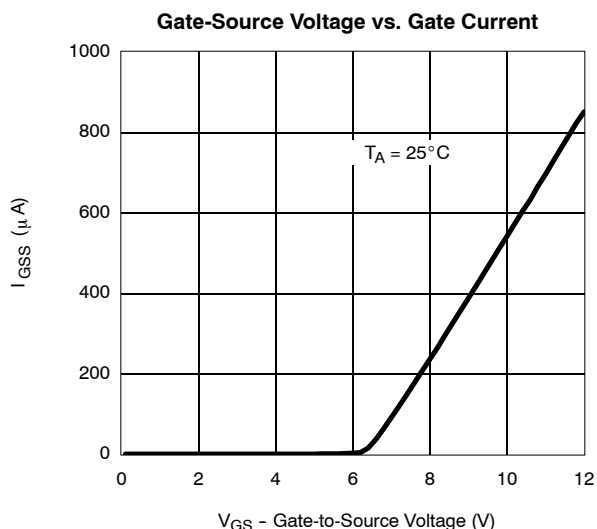
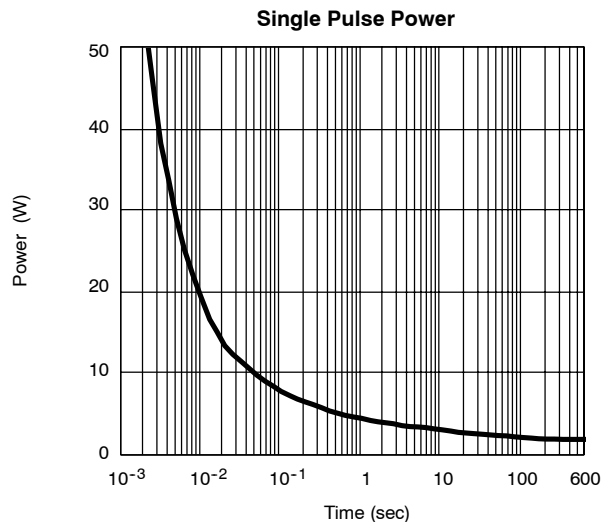
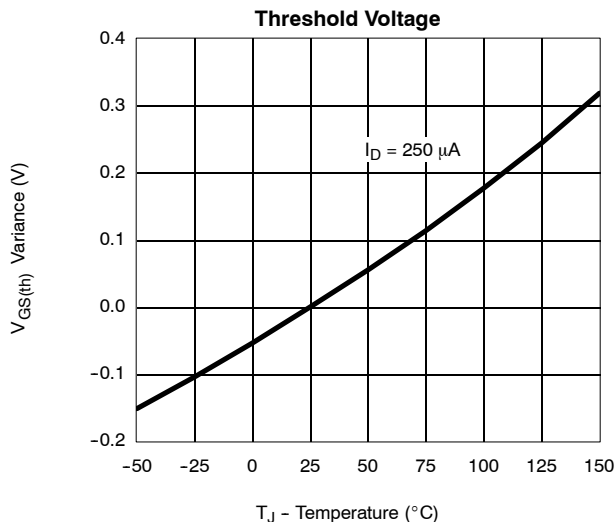
Source-Drain Diode Forward Voltage



On-Resistance vs. Gate-to-Source Voltage

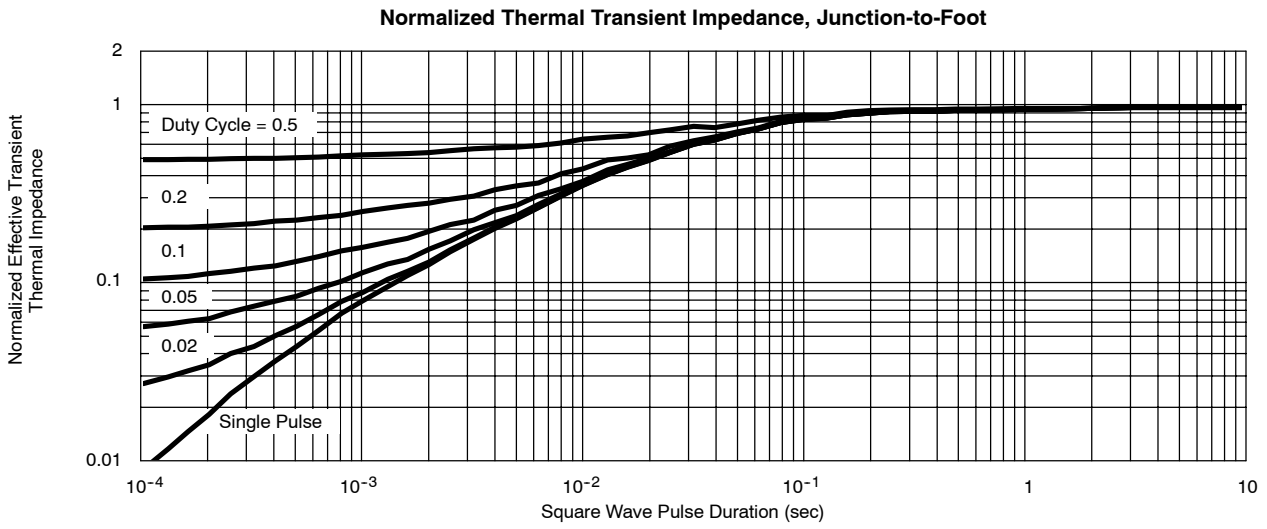


TYPICAL CHARACTERISTICS (25°C UNLESS NOTED)





TYPICAL CHARACTERISTICS (25°C UNLESS NOTED)





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