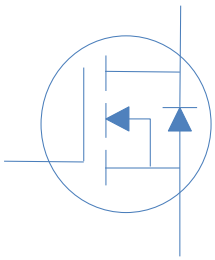
30V N-Ch Power MOSFET

V_{DS}		30	V
$R_{DS(on),typ}$	V_{GS}=10V	30	mΩ
$I_{D\ (Sillicon\ Limited)}$		5	A



Part Number	Package	Marking
HTJ350N03	SOT23	1D

Absolute Maximum Ratings at T_j=25 (unless otherwise specified)

Parameter	Symbol	Conditions	Value	Unit
Continuous Drain Current (Silicon Limited)	I_D	T_A=25	5	A
		T_A=70	3.3	
Drain to Source Voltage	V_{DS}	-	30	V
Gate to Source Voltage	V_{GS}	-	±20	V
Pulsed Drain Current	I_{DM}	-	20	A

	Symbol	Max	Unit
	$R_{\theta JA}$	120	/W

Electrical Characteristics at T_j=25 (unless otherwise specified)

Static Characteristics

Parameter	Symbol	Conditions	Value			Unit
			min	typ	max	
Drain to Source Breakdown Voltage	$V_{(BR)DSS}$	V_{GS}=0V, I_D=250μA	30	-	-	V
Gate Threshold Voltage	$V_{GS(th)}$	V_{GS}=V_{DS}, I_D=250μA	1	1.5	3.0	
Zero Gate Voltage Drain Current	I_{DSS}	V_{GS}=0V, V_{DS}=24V, T_j=25	-	-	1	μA
		V_{GS}=0V, V_{DS}=20V, T_j=125	-	-	10	
Gate to Source Leakage Current	I_{GSS}	V_{GS}=±20V, V_{DS}=0V	-	-	±100	nA
Drain to Source on Resistance	$R_{DS(on)}$	V_{GS}=10V, I_D=5A	-	30	35	mΩ
		V_{GS}=4.5V, I_D=4A	-	40	50	
Transconductance	g_{fs}	V_{DS}=5V, I_D=5A	-	11	-	S

Dynamic Characteristics

Input Capacitance	C_{iss}	V_{GS}=0V, V_{DS}=10V, f=1MHz	-	323	-	pF
Output Capacitance	C_{oss}		-	75	-	
Reverse Transfer Capacitance	C_{rss}		-	53	-	
Total Gate Charge	Q_g	V_{DD}=10V, I_D=5A, V_{GS}=10V	-	7.1	-	nC
Gate to Source Charge	Q_{gs}		-	1.1	-	
Gate to Drain (Miller) Charge	Q_{gd}		-	2.2	-	
Turn on Delay Time	$t_{d(on)}$	V_{DD}=15V, I_D=1A, V_{GS}=10V, R_G=6Ω,	-	8	-	ns
Rise time	t_r		-	12	-	
Turn off Delay Time	$t_{d(off)}$		-	28	-	
Fall Time	t_f		-	15	-	

Reverse Diode Characteristics

Diode Forward Voltage	V_{SD}	V_{GS}=0V, I_F=2A	-		1.2	V

Fig 1. Typical Output Characteristics

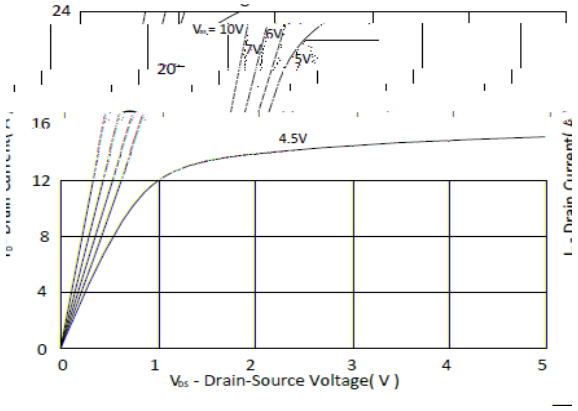


Figure 2. On-Resistance vs. Gate-Source Voltage

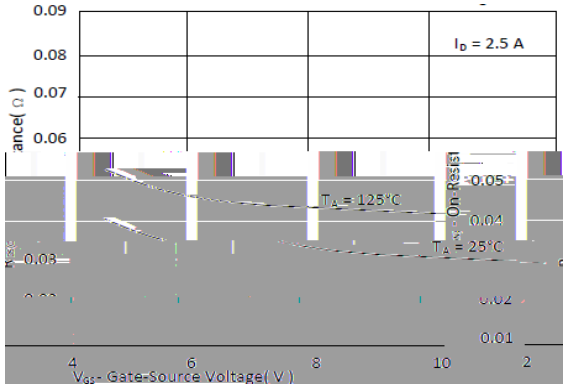


Figure 3. On-Resistance vs. Drain Current and Gate Voltage

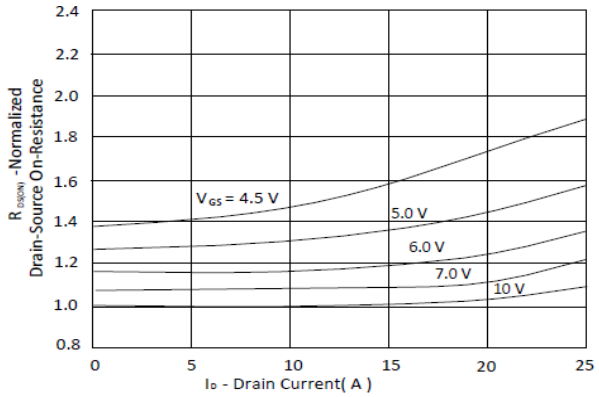


Figure 4. Normalized On-Resistance vs. Junction Temperature

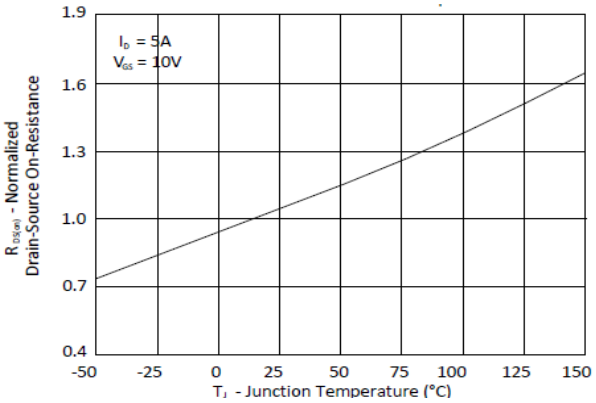


Figure 5. Typical Transfer Characteristics

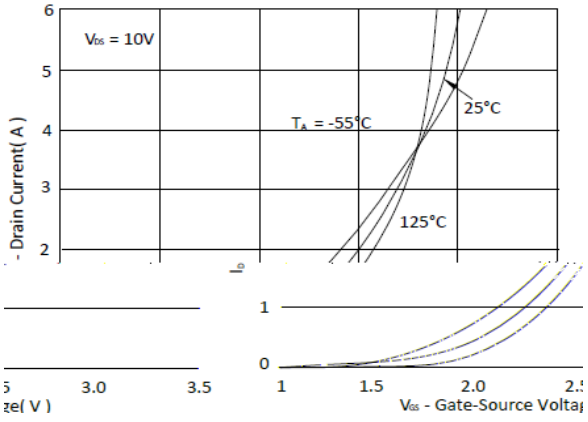


Figure 6. Typical Source-Drain Diode Forward Voltage

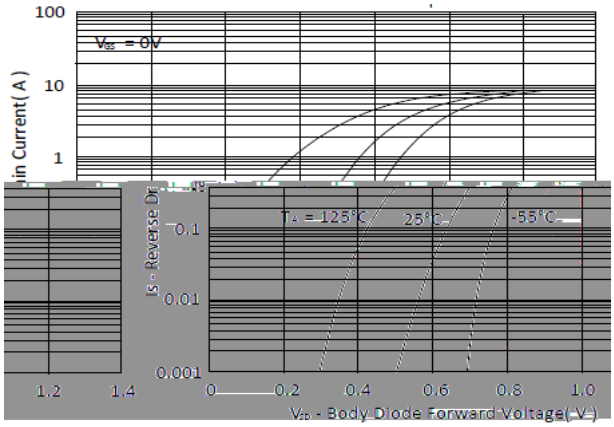


Figure 7. Typical Gate-Charge vs. Gate-to-Source Voltage

Figure 8. Typical Capacitance vs. Drain-to-Source Voltage

Figure 9. Maximum Safe Operating Area

Inductive switching Test	

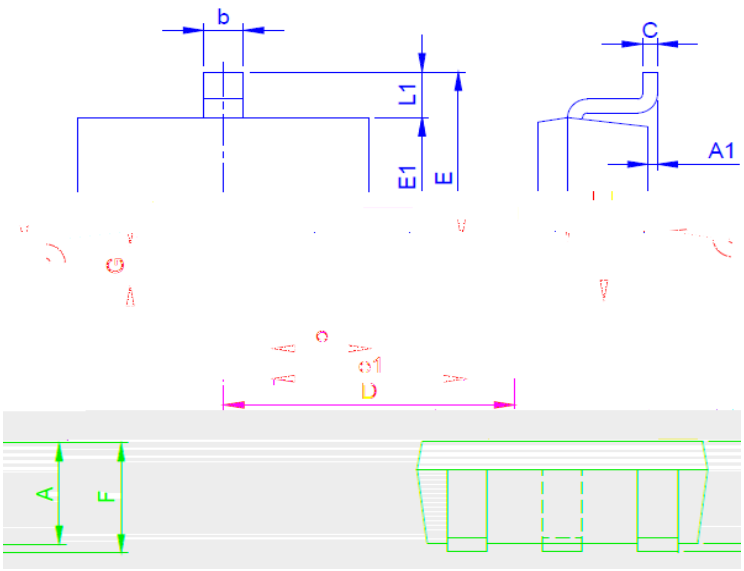
Gate Charge Test	

Uclamped Inductive Switching (UIS) Test	

Diode Recovery Test	

Package Outline

SOT-23, 3leads



Dimension in mm

Dimension	A	A1	b	C	D	E	E1	e	e1	F	G	L1
Min.	0.70	0	0.3	0.08	2.80	2.25	1.2	0.90		0.80	0.3	0.50
Typ.					2.90			0.95	1.9			
Max.	1.15	0.1	0.5	0.20	3.02	3.00	1.7	1.00		1.25	0.6	0.75