30V P-Ch Power MOSFET

V_{DS}		-30	V
$R_{DS(on),typ}$	V_{GS}=10V	7	mΩ
$R_{DS(on),typ}$	V_{GS}=4.5V	12	mΩ
$I_{D\ (Sillicon\ Limited)}$		-15	A

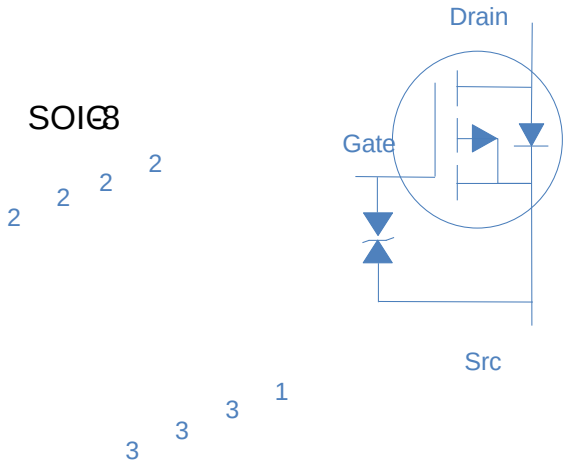
Feature

- High Speed Power Switching, Logic Level
- Enhanced Avalanche Ruggedness
- 100% UIS Tested 100% Rg Tested
- Lead Free, Halogen Free

Application

- Hard Switching and High Speed Circuit
- DC/DC in Telecoms and Industrial

SOIC-8



Part Number	Package	Marking
HTS085P03E	SOIC-8	TS085P03E

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

Parameter	Symbol	Conditions	Value	Unit
Continuous Drain Current (Silicon Limited)	I_D	T_C=25	-15	A
		T_C=100	-11	
Drain to Source Voltage	V_{DS}	-	-30	V
Gate to Source Voltage	V_{GS}	-	±20	V
Pulsed Drain Current	I_{DM}	-	-60	A
Avalanche Energy, Single Pulse	E_{AS}	L=0.1mH, T_C=25	31.25	mJ
Power Dissipation	P_D	T_A=25	2.5	W
Operating and Storage Temperature	T_J, T_{stg}	-	-55 to150	

Absolute Maximum Ratings

Parameter	Symbol	Max	Unit
Thermal Resistance Junction-Ambient	$R_{\theta JA}$	50	/W
Thermal Resistance Junction-Lead	$R_{\theta JL}$	25	/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	-1.0	-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}=±12V, V_{DS}=0V	-	-	±10	μA
Drain to Source on Resistance	$R_{DS(on)}$	V_{GS}=-10V, I_D=-12A	-	7	8.5	mΩ
		V_{GS}=-4.5V, I_D=-9A	-	12	15	
Transconductance	g_{fs}	V_{DS}=-5V, I_D=-12A	-	26	-	S
Gate Resistance	R_G	V_{GS}=15mV, V_{DS} =0V, f=1MHz	-	3.5	-	Ω

Dynamic Characteristics

Input Capacitance	C_{iss}	V_{GS}=0V, V_{DS}=-15V, f=1MHz	-	3091	-	pF
Output Capacitance	C_{oss}		-	476	-	
Reverse Transfer Capacitance	C_{rss}		-	404	-	
Total Gate Charge	Q_g (10V)	V_{DD}=-15V, I_D=-10A, V_{GS}=-10V	-	54	-	nC
	Q_g (4.5V)		-	32	-	
Gate to Source Charge	Q_{gs}		-	7	-	
Gate to Drain (Miller) Charge	Q_{gd}		-	13	-	
Turn on Delay Time	$t_{d(on)}$	V_{DD}=-15V, I_D=-1A, V_{GS}=-10V, R_G=2.7Ω,	-	24	-	ns
Rise time	t_r		-	20	-	
Turn off Delay Time	$t_{d(off)}$		-	70	-	
Fall Time	t_f		-	12	-	

Reverse Diode Characteristics

Diode Forward Voltage	V_{SD}	V_{GS}=0V, I_F=-3.6A	-		-1.2	V
Reverse Recovery Time	t_{rr}	I_F=-3.6A, dI_F/dt=100A/μs	-	52	-	ns
Reverse Recovery Charge	Q_{rr}		-	60	-	nC

Fig 1. Typical Output Characteristics	Figure 2. On-Resistance vs. Gate-Source Voltage

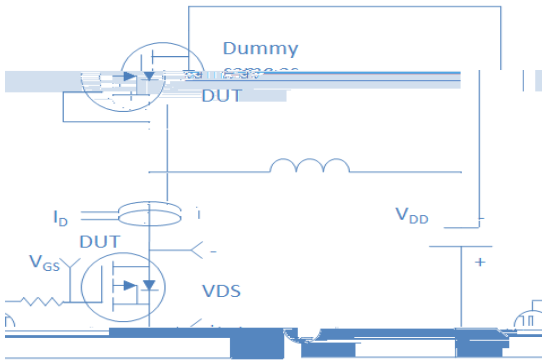
Figure 3. On-Resistance vs. Drain Current and Gate Voltage	Figure 4. Normalized On-Resistance vs. Junction Temperature

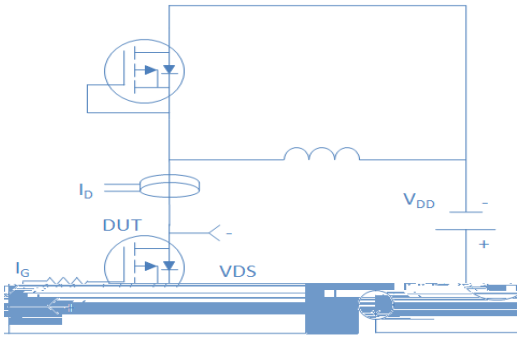
Figure 5. Typical Transfer Characteristics	Figure 6. Typical Source-Drain Diode Forward Voltage

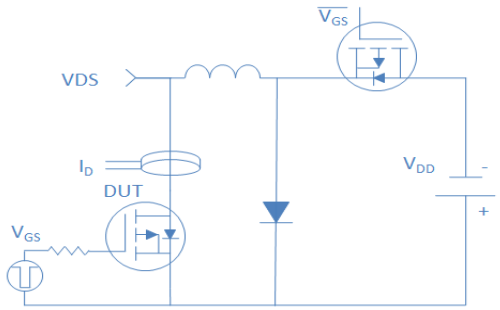
Figure 9. Maximum Safe Operating Area

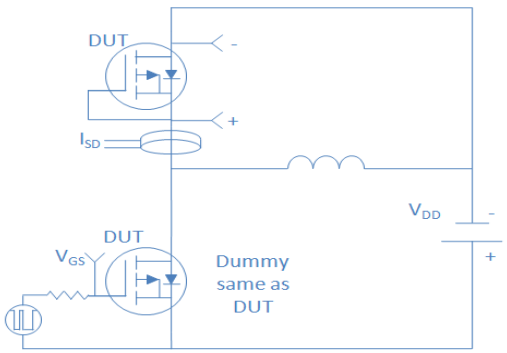
Figure 10. Single Pulse Maximum Dissipation

Figure 11. Normalized Maximum Transient Thermal Impedance, Junction-to-Ambient

Inductive switching Test	
	

Gate Charge Test	
	

Uclamped Inductive Switching (UIS) Test	
	

Diode Recovery Test	
	

Package Outline

SOIC-8, 8leads