

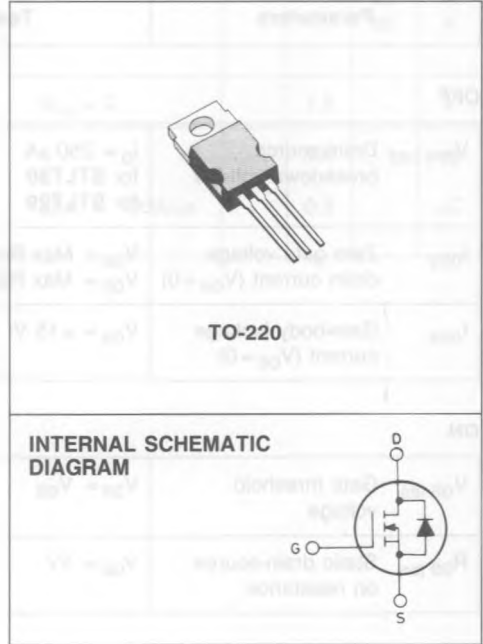
N - CHANNEL ENHANCEMENT MODE LOW THRESHOLD POWER MOS TRANSISTORS

ADVANCE DATA

TYPE	V _{DSS}	R _{DS(on)}	I _D
STLT30	60 V	0.08 Ω	25 A
STLT29	50 V	0.08 Ω	25 A

- LOGICAL LEVEL (+ 5V) CMOS/TTL COMPATIBLE INPUT
- HIGH INPUT IMPEDANCE
- ULTRA FAST SWITCHING

N - channel enhancement mode POWER MOS field effect transistors. The low input voltage - logic level - and easy drive make these devices ideal for automotive and industrial applications. Typical uses are in relay and actuator driving in the automotive environment.



ABSOLUTE MAXIMUM RATINGS

	STLT30	STLT29	
V _{DS}	60	50	V
V _{DGR}	60	50	V
V _{GS}		± 15	V
I _D	25		A
I _D	15.7		A
I _{DM}	80		A
P _{tot}	100		W
	0.8		W/°C
T _{stg}	-65 to 150		°C
T _j	150		°C

THERMAL DATA

$R_{thj - case}$	Thermal resistance junction-case	max	1.25	°C/W
$R_{thj - amb}$	Thermal resistance junction-ambient		75	°C/W

ELECTRICAL CHARACTERISTICS ($T_{case} = 25^{\circ}C$ unless otherwise specified)

Parameters	Test Conditions	Min.	Typ.	Max.	Unit
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OFF

$V_{(BR) DSS}$	Drain-source breakdown voltage	$I_D = 250 \mu A$ for STLT30 for STLT29	$V_{GS} = 0$	60 50		V V
I_{DSS}	Zero gate voltage drain current ($V_{GS} = 0$)	$V_{DS} = \text{Max Rating}$ $V_{DS} = \text{Max Rating} \times 0.8$	$T_c = 125^{\circ}C$		250 1000	μA μA
I_{GSS}	Gate-body leakage current ($V_{DS} = 0$)	$V_{GS} = \pm 15 V$			± 100	nA

ON

$V_{GS(th)}$	Gate threshold voltage	$V_{DS} = V_{GS}$	$I_D = 250 \mu A$	1		2.5	V
$R_{DS(on)}$	Static drain-source on resistance	$V_{GS} = 5V$	$I_D = 12.5 A$			0.08	Ω

DYNAMIC

g_{fs}	Forward transconductance	$V_{DS} = 15 V$	$I_D = 12.5 A$	9			mho		
C_{iss}	Input capacitance	$V_{DS} = 25 V$ $V_{GS} = 0$	$f = 1 \text{ MHz}$		930	1200	pF		
C_{oss}	Output capacitance							600	pF
C_{rss}	Reverse transfer capacitance							130	pF

SWITCHING

$t_{d(on)}$	Turn-on time	$V_{DD} = 25 V$ $R_{GS} = 50 \Omega$	$I_D = 12.5 A$ $V_{GS} = 5 V$		25	210	ns
t_r	Rise time						
$t_{d(off)}$	Turn-off delay time				19		nC
t_f	Fall time						
Q_g	Total Gate Charge	$V_{DS} = 25 V$ $V_{GS} = 5 V$	$I_D = 25 A$				

ELECTRICAL CHARACTERISTICS (Continued)

Parameters		Test Conditions		Min.	Typ.	Max.	Unit
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SOURCE DRAIN DIODE

I_{SD}	Source-drain current					25	A
I_{SDM}	Source-drain current (pulsed)					80	A
V_{SD}	Forward on voltage	$I_{SD} = 25 \text{ A}$	$V_{GS} = 0$		1.5		V
t_{rr}	Reverse recovery time				300		ns
Q_{rr}	Reverse recovery charge	$I_{SD} = 25 \text{ A}$	$di/dt = 100 \text{ A}/\mu\text{s}$		0.3		μC