勝 特 力 材 料 886-3-5753170
胜特力电子(上海) 86-21-54151736
胜特力电子(深圳) 86-755-83298787
Http://www.100y.com.tw

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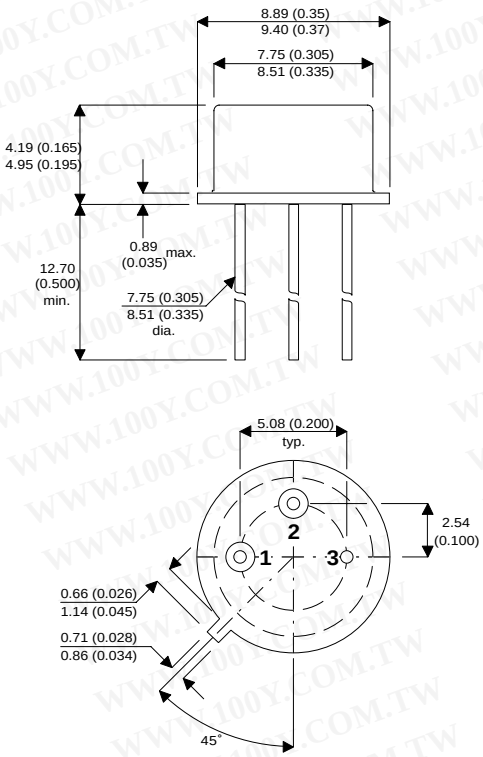
MECHANICAL DATA
Dimensions in mm (inches)



TO39

Pin 1 - Source Pin 2 - Gate Pin 3 Drain and Case

N–CHANNEL POWER MOSFET

APPLICATIONS
- **FAST SWITCHING**
- **MOTOR CONTROLS**
- **POWER SUPPLIES**

ABSOLUTE MAXIMUM RATINGS (T_{case} = 25°C unless otherwise stated)

V_{DS}	Drain Source Voltage	100V
$_{GR}$	Drain Gate Voltage (R_{GS} = 1MΩ)	100V
I_D @T_{case} = 25°C	Continuous Drain Current	±3.5V
I_D @T_{case} = 100°C	Continuous Drain Current	±2.25A
I_{DM}	Pulsed Drain Current [1]	±8V
V_{GS}	Gate Source Voltage	±40V
P_D@ T_{case} = 25°C	Maximum Power Dissipation	15W
P_D@ T_{case} = 100°C	Maximum Power Dissipation	6W
Junction to Case	Linear Derating Factor	0.12W/°C
Junction to ambient	Linear Derating Factor	0.005W/°C
T_J, T_{stg}	Operating and Storage Temperature Range	-55 to +150°C
Lead Temperature	(1/16” from case for 10 secs)	300°C

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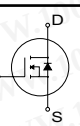
ELECTRICAL CHARACTERISTICS (T_{case} = 25°C unless otherwise stated)

	Parameter	Test Conditions		Min.	Typ.	Max.	Unit
	STATIC ELECTRICAL RATINGS						
BV_{DSS}	Drain – Source Breakdown Voltage	V_{GS} = 0	I_D = 0.25mA	100*			V
$V_{GS(th)}$	Gate Threshold Voltage	V_{DS} = V_{GS}	I_D = 0.5A	2*		4.0*	V
			T_A = 125°C	1*		4.0*	
I_{GSSF}	Gate Body Leakage Forward	V_{GS} = 20V	I_D = 0.5A			100*	nA
			T_A = 125°C			200*	
I_{GSSR}	Gate Body Leakage Reverse	V_{GS} = -20V				-100*	
I_{DSS}	Zero Gate Voltage Drain Current	V_{DS} = 0.8 Max.	Ratings V_{GS} =0			0.25*	mA
		V_{DS} = Max.	Ratings V_{GS} =0			1*	
			T_C = 125°C				
$I_{D(on)}$	On State Drain Current1	$V_{DS} \geq 2V_{DS(ON)}$	V_{GS} = 10V	3.5			A
$V_{DS(on)}$	Static Drain Source On-State Voltage1	V_{GS} = 10V	I_D = 3.5A	2.1*			V
$R_{DS(on)}$	Static Drain Source On-State Resistance1	V_{GS} = 10V	I_D = 2.25A			0.6*	Ω
			T_C = 125°C			1.08*	
	DYNAMIC CHARACTERISTICS						
gfs	Forward Transductance 1	$V_{DS} \geq 2V_{DS(ON)}$	I_{DS} = 2.25A	1.0*		3.0*	S (℧)
C_{iss}	Input Capacitance	V_{GS} = 0	V_{DS} = 25V	60*		200*	pF
C_{oss}	Output Capacitance	f = 1MHz		40*		100*	
C_{rss}	Reverse Transfer Capacitance			10*		25*	
$t_{d(on)}$	Turn–On Delay Time	V_{DD} = 34V	I_D = 2.25A			15*	ns
t_r	Rise Time	R_G = 25Ω	R_L = 15Ω			25*	
$t_{d(off)}$	Turn–Off Delay Time	(MOSFET switching times are essentially				25*	
t_f	Fall Time	independent of operating temperature.)				20*	
	BODY– DRAIN DIODE RATINGS & CHARACTERISTICS						
I_S	Continuous Source Current Body Diode	MOdified MOS POWER symbol showing the intergal P-N junction rectifier. 				-3.5*	A
I_{SM}	Source Current1 (Body Diode)					-8	A
V_{SD}	Diode Forward Voltage [1]	I_S = -3.5A	V_{GS} = 0	-0.75*		-1.5*	V
		T_C = 25°C					
t_{rr}	Reverse Recovery Time	I_F =I_S	T_J = 150°C		200		V
		d_i / d_t = 100A/µs					
	THERMAL CHARACTERISTICS						
$R_{\theta JC}$	Thermal Resistance Junction – Case	Free Air Operation				8.33*	°C\W
$R_{\theta JPC}$	Thermal Resistance Junction – PC Board					170	

Notes

1) Pulse Test: Pulse Width ≤ 300µs, δ ≤ 2%

* JEDEC registered Values

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