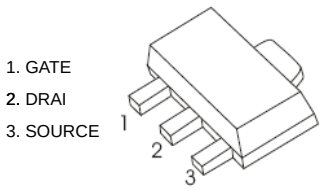
GP03N10KE

100V N-Channel MOSFET

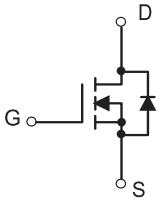
Product Summary

$V_{(BR)DSS}$	$R_{DS(on)TYP}$	I_D
100V	69mΩ@10V	3A
	84mΩ@4.5V	

SOT-89



Schematic diagram



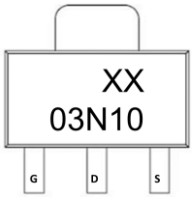
Feature

- Trench Technology Power MOSFET
- Low $R_{DS(ON)}$
- Low Gate Charge
- Low Gate Resistance

Application

- Power Switching Application

MARKING:



03N10 = Device Code

XX = Date Code

ABSOLUTE MAXIMUM RATINGS (T_A = 25℃ unless otherwise noted)

Parameter		Symbol	Value	Unit
Drain - Source Voltage		V_{DS}	100	V
Gate - Source Voltage		V_{GS}	±20	V
Continuous Drain Current[1]	T_C = 25℃	I_D	6	A
Continuous Drain Current[5]	T_A = 25℃	I_D	3	A
Pulsed Drain Current[2]		I_{DM}	12	A
Power Dissipation[4]	T_C = 25℃	P_D	2.7	W
Power Dissipation[5]	T_A = 25℃	P_D	1.5	W
Thermal Resistance from Junction to Ambient[5]		$R_{\theta JA}$	80	℃/W
Thermal Resistance from Junction to Case		$R_{\theta JC}$	45	℃/W
Junction Temperature		T_J	150	℃
Storage Temperature		T_{STG}	-55~ +150	℃

MOSFET ELECTRICAL CHARACTERISTICS (T_J = 25℃ unless otherwise noted)

Parameter	Symbol	Test Condition	Min	Type	Max	Unit
Off Characteristics						
Drain - Source Breakdown Voltage	$V_{(BR)DSS}$	V_{GS} = 0V, I_D = 250μA	100			V
Zero Gate Voltage Drain Current	I_{DSS}	V_{DS} = 80V, V_{GS} = 0V			1	μA
Gate - Body Leakage Current	I_{GSS}	V_{GS} = ±20V, V_{DS} = 0V			±100	nA
On Characteristics[3]						
Gate Threshold Voltage	$V_{GS(th)}$	V_{DS} = V_{GS}, I_D = 250μA	1	2	3	V
Drain-source On-resistance	$R_{DS(on)}$	V_{GS} = 10V, I_D = 3A		68	140	mΩ
		V_{GS} = 4.5V, I_D = 3A		84	150	
Forward Transconductance	g_{FS}	V_{DS} = 10V, I_D = 3A	3			S
Dynamic Characteristics						
Input Capacitance	C_{iss}	V_{DS} = 50V, V_{GS} = 0V, f = 1MHz		790		pF
Output Capacitance	C_{oss}			31		
Reverse Transfer Capacitance	C_{rss}			28		
Gate Resistance	R_g	V_{DS} = 0V, V_{GS} = 0V, f = 1MHz		1.3		Ω
Switching Characteristics						
Total Gate Charge	Q_g	V_{DS} = 50V, V_{GS} = 10V, I_D = 3A		18		nC
Gate-source Charge	Q_{gs}			3		
Gate-drain Charge	Q_{gd}			3.6		
Turn-on Delay Time	$t_{d(on)}$	V_{DD} = 50V, V_{GS} = 10V, R_L = 17Ω R_G = 3Ω		17		ns
Turn-on Rise Time	t_r			7		
Turn-off Delay Ttime	$t_{d(off)}$			35		
Turn-off Fall Time	t_f			6		
Source - Drain Diode Characteristics						
Diode Forward Voltage[3]	V_{SD}	V_{GS} = 0V, I_S = 3A			1.2	V

Notes :

1.The maximum current rating is limited by package.And device mounted on a large heatsink

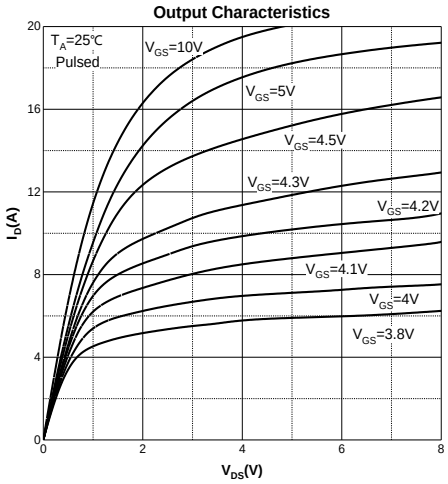
2.Pulse Test : Pulse Width ≤ 10μs, duty cycle ≤ 1%.

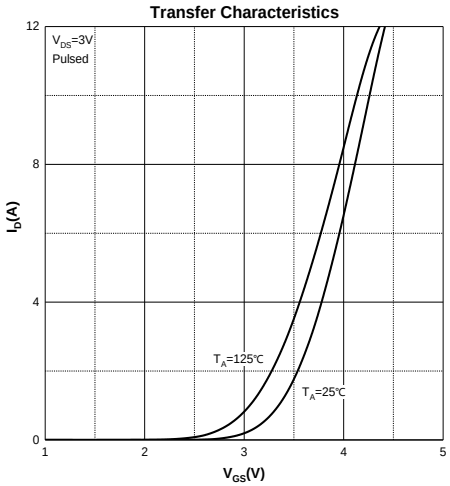
3.Pulse Test : Pulse Width ≤ 300μs, duty cycle ≤ 2%.

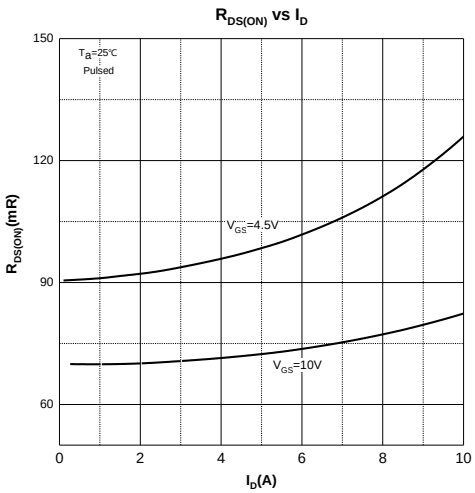
4.The power dissipation P_D is limited by $T_{J(MAX)}$ = 150°C.And device mounted on a large heatsink

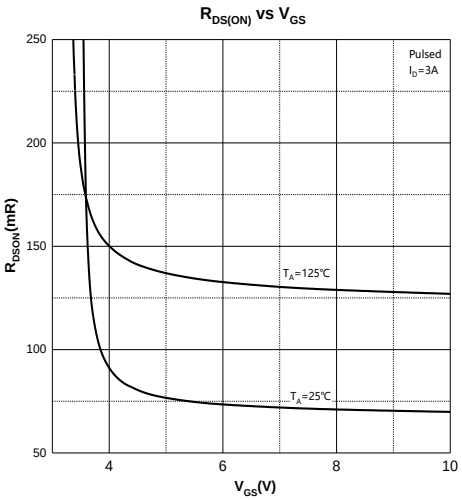
5.Device mounted on 1in^2 FR-4 board with 2oz. Copper, in a still air environment with T_A =25°C.

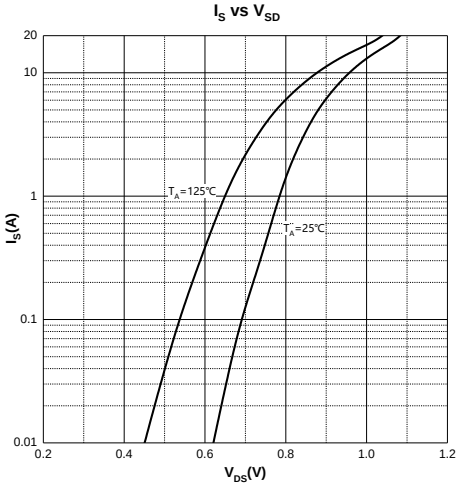
Typical Characteristics

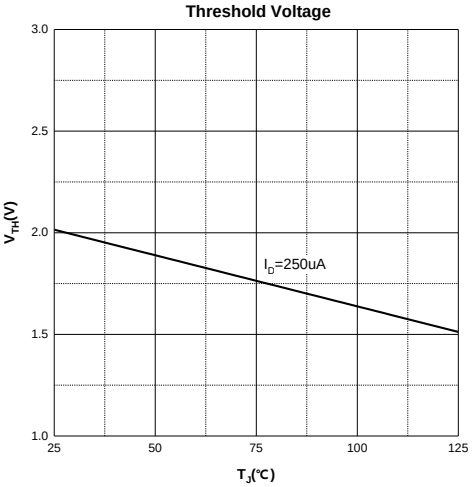








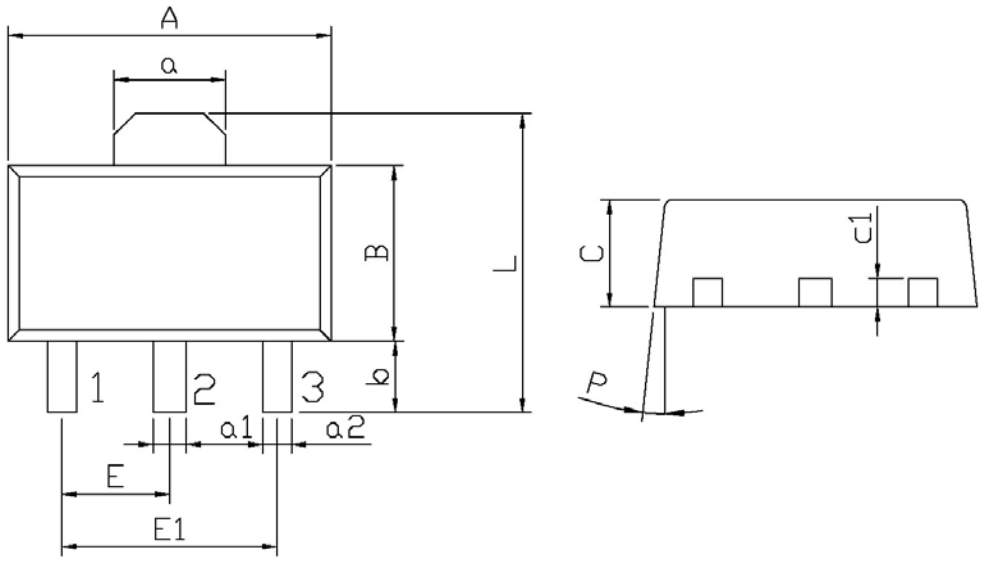




SOT-89 Package Information

SOT-89

单位：mm



Symbol	Dimensions In Millmeters		Symbol	Dimensions In Millmeters	
	Min	Max		Min	Max
A	4.4	4.7	a1	0.36	0.56
B	2.35	2.65	a2	0.30	0.50
L	3.878	4.478	C	1.40	1.70
a	1.45	1.65	c1	0.35	0.50
E	1.40	1.60	P	6°	
E1	2.80	3.20			
b	0.80	1.20			

单击下面可查看定价，库存，交付和生命周期等信息

>>GP(格瑞宝)