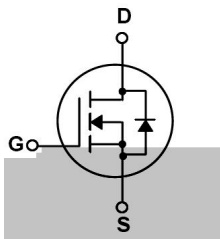


TO-220 N MOS N-CHANNEL MOSFET in a TO-220 Plastic Package.

dv/dt

Low gate charge, Fast switching capability, Avalanche energy specified, Improved dv/dt capability.

Designed for high voltage, high speed power switching applications such as high efficiency switched mode power supplies, active power factor correction.

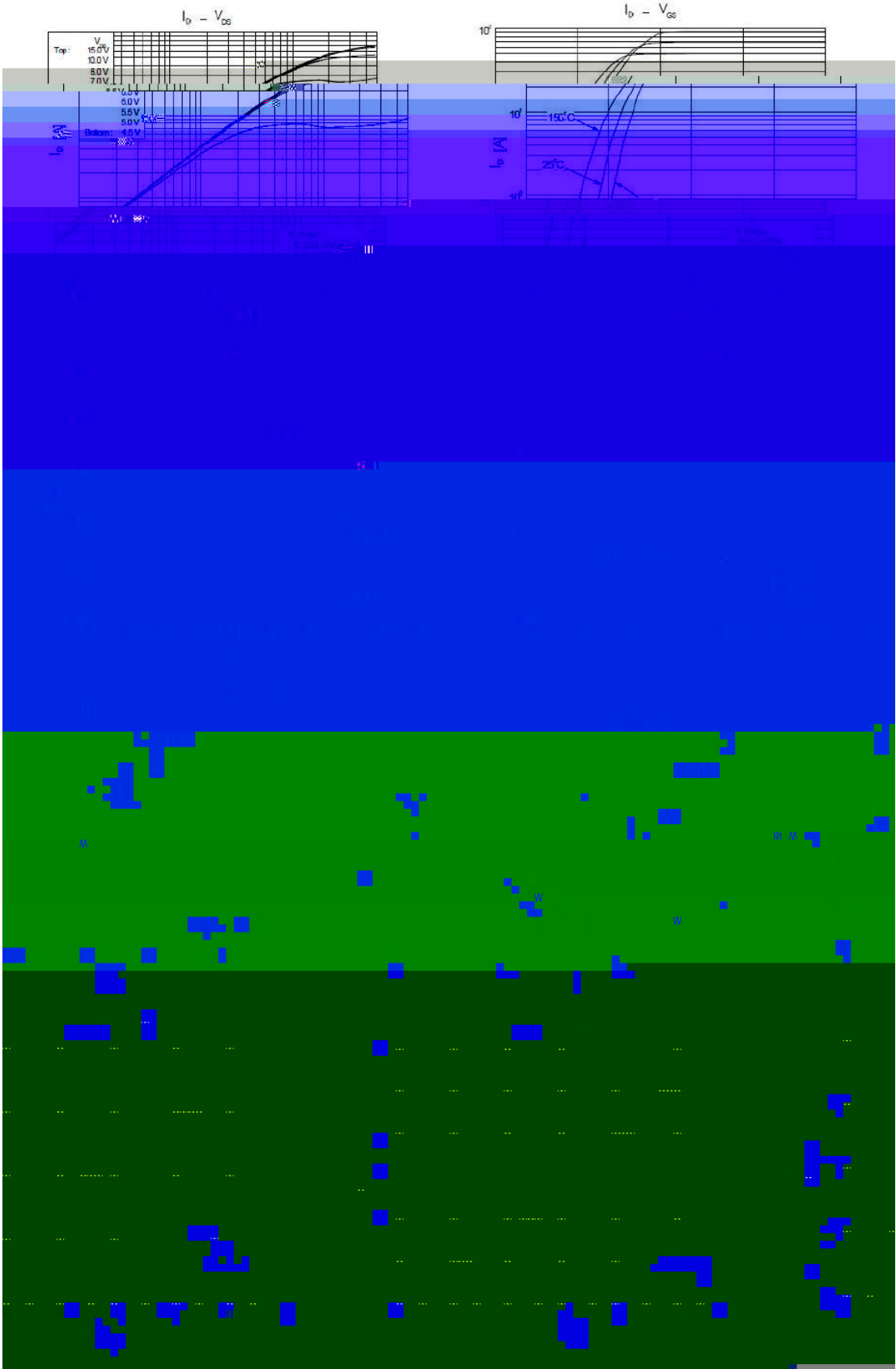


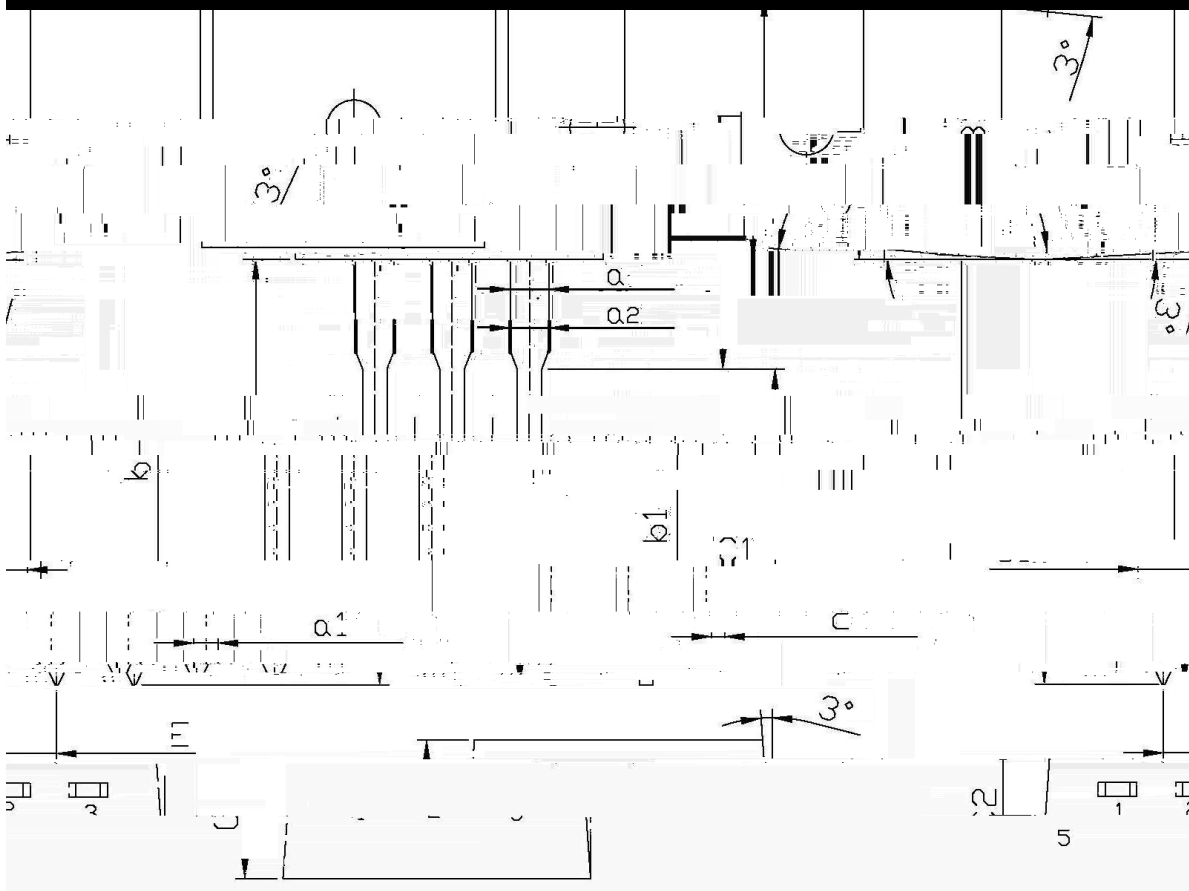
PIN1 G PIN 2 D PIN 3 S

See Marking Instructions.

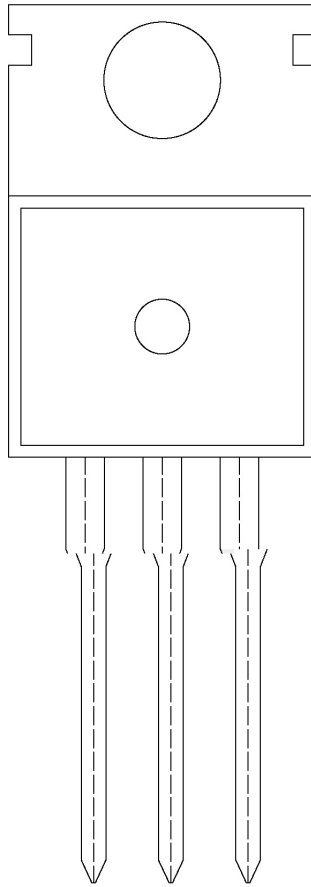
Parameter	Symbol	Rating	Unit
Drain-Source Voltage	V_{DSS}	400	V
Drain Current	$I_D(T_c=25^\circ\text{C})$	20	A
Drain Current	$I_D(T_c=100^\circ\text{C})$	13	A
Drain Current - Pulsed	I_{DP}	80	A
Gate-Source Voltage	V_{GSS}	± 20	V
Single Pulsed Avalanche Energy	E_{AR}	28	mJ
Repetitive Avalanche Energy	E_{AS}	1110	mJ
Peak Diode Recovery dv/dt	dv/dt	4.5	V/ns
Power Dissipation	$P_D(T_c=25^\circ\text{C})$	280	W
Junction Temperature Range	T_j	150	$^\circ\text{C}$
Storage Temperature Range	T_{stg}	-55 ~ 150	$^\circ\text{C}$
Thermal Resistance Junction-Ambient	R_{thJA}	40	$^\circ\text{C/W}$
Thermal Resistance Junction-Case	R_{thJC}	0.44	$^\circ\text{C/W}$

Parameter	Symbol	Test Conditions	Min	Typ	Max	Unit
Drain-Source Breakdown Voltage	V_{DSS}	$V_{GS}=0V$ $I_D=250\mu A$	400			V
Zero Gate Voltage Drain Current	I_{DSS}	$V_{DS}=400V$ $V_{GS}=0V$			1.0	μA
		$V_{DS}=400V$ $T_C=125^\circ\text{C}$			10	
Gate-Body Leakage Current, Forward	I_{GSS}	$V_{GS}=\pm 20V$ $V_{DS}=0V$			± 100	nA
Gate Threshold Voltage	$V_{GS(th)}$	$V_{DS}=V_{GS}$ $I_D=250\mu A$	2.0		4.0	V
Static Drain-Source On-Resistance	$R_{DS(on)}$	$V_{GS}=10V$ $I_D=10A$		0.23	0.40	Ω
Drain-Source Diode Forward Voltage	V_{SD}	$V_{GS}=0V$ $I_S=20A$			1.5	V
Input Capacitance	C_{iss}	$V_{DS}=25V$ $V_{GS}=0V$ $f=1.0MHz$		2700		pF
Output Capacitance	C_{oss}			400		
Reverse Transfer Capacitance	C_{rss}			40		
Turn-On Delay Time	$t_{d(on)}$	$V_{DD}=250V$ $I_D=20A$ $R_G=2.5\Omega$		100		ns
Turn-On Rise Time	t_r			400		
Turn-Off Delay Time	$t_{d(off)}$			100		
Turn-Off Fall Time	t_f			100		
Total Gate Charge	Q_g	$V_{DS}=400V$ $I_D=20A$ $V_{GS}=10V$		70		nC
Gate-Source Charge	Q_{gs}			18		
Gate-Drain Charge	Q_{gd}			35		

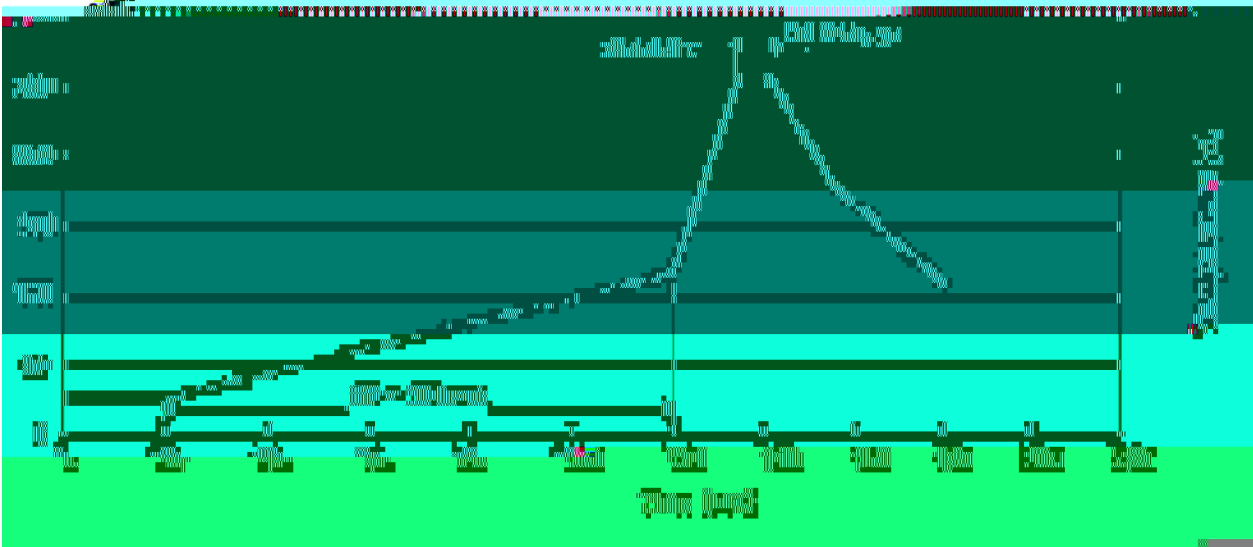




Dimensions In Millimeters			Dimensions In Millimeters		
Symbol	Min	Max	Symbol	Min	Max
Δ	9.8	10.2	C	1.2	1.4
a	15.5	15.5	B	1.6	1.6
a_1	15.7	15.7	B_1	9.0	9.0
a_2	12.6	12.6	C_1	2.2	2.2
b	9.6	9.6	a_1	0.7	0.7
b_1	1.0	1.0	a_2	1.3	1.3
b_2	1.0	1.0	a_3	1.25	1.25
c	1.45	1.45			



BR



Note:

- | | | | | | |
|---|-------|-----|-----------|---|--------------------------------------|
| 1 | 25 | 150 | 60 | 90sec; | 1.Preheating:25~150 , Time:60~90sec. |
| 2 | 255±5 | | 5±0.5sec; | 2.Peak Temp.:255±5 , Duration:5±0.5sec. | |
| 3 | | 2 | 10 | /sec. | 3. Cooling Speed: 2~10 /sec. |

270±5	10±1 sec.	Temp.:270±5℃
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