Features

- Optimized Body Diode Reverse Recovery Performance
- Low On-resistance and Low Conduction Losses
- Ultra Low Gate Charge Cause Lower Driving Requirement
- Epoxy Meets UL 94 V-0 Flammability Rating
- Halogen Free. “Green” Device (Note 1)
- Lead Free Finish/RoHS Compliant ("P" Suffix Designates RoHS Compliant. See Ordering Information)

N-CHANNEL Super-Junction Power MOSFET

Maximum Ratings

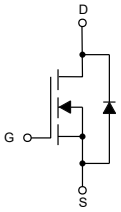
- Operating Junction Temperature Range : -55°C to +150°C
- Storage Temperature Range: -55°C to +150°C
- Thermal Resistance: 0.81°C/W Junction to Case

Parameter		Symbol	Rating	Unit
Drain-Source Voltage		V_{DS}	650	V
Gate-Source Volltage		V_{GS}	±30	V
Continuous Drain Current	T_C=25°C	I_D	20	A
	T_C=100°C		12	A
Pulsed Drain Current (Note 2)		I_{DM}	60	A
Single Pulse Avalanche Energy (Note 3)		E_{AS}	485	mJ
Repetitive Avalanche Energy		E_{AR}	0.7	mJ
Total Power Dissipation		P_D	151	W

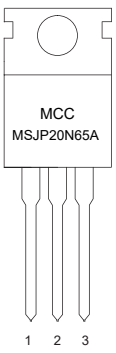
Note:

1. Halogen free "Green” products are defined as those which contain <900ppm bromine, <900ppm chlorine (<1500ppm total Br + Cl) and <1000ppm antimony compounds.
2. Repetitive Rating; Pulse Width Limited by Maximum Junction Temperature.
3. I_{AS}=3.5A, V_{DD}=50V, R_G=25Ω, Starting T_J=25°C.

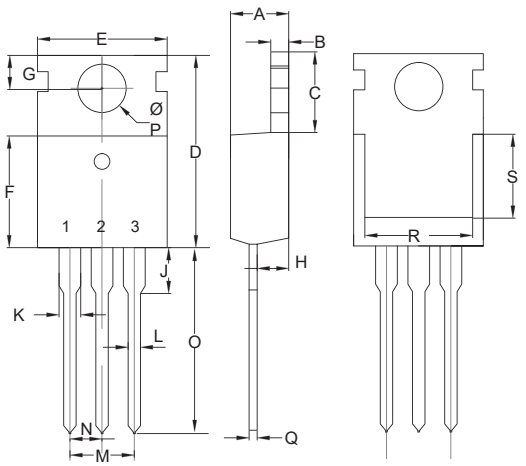
Internal Structure and Marking Code



1. Gate
2. Drain
3. Source



TO-220AB(H)



DIMENSIONS					
DIM	INCHES		MM		NOTE
	MIN	MAX	MIN	MAX	
A	0.169	0.185	4.30	4.70	
B	0.049	0.055	1.25	1.40	
C	0.244	0.268	6.20	6.80	
D	0.598	0.638	15.20	16.20	
E	0.382	0.398	9.70	10.10	
F	0.354	0.370	9.00	9.40	
G	0.102	0.118	2.60	3.00	
H	0.087	0.102	2.20	2.60	
J	0.110	0.126	2.80	3.20	
K	0.048	0.055	1.22	1.40	
L	0.028	0.037	0.70	0.95	
M	0.188	0.212	4.78	5.38	
N	0.094	0.106	2.39	2.69	
O	0.496	0.535	12.60	13.60	
P	0.138	0.150	3.50	3.80	Φ
Q	0.016	0.024	0.40	0.60	
R	0.276	-----	7.00	-----	
S	0.217	-----	5.50	-----	

Electrical Characteristics @ 25°C (Unless Otherwise Specified)

Parameter	Symbol	Test Conditions	Min	Typ	Max	Unit
Static Characteristics						
Drain-Source Breakdown Voltage	$V_{(BR)DSS}$	V_{GS}=0V, I_D=250μA	650			V
Gate-Source Leakage Current	I_{GSS}	V_{DS}=0V, V_{GS} =±30V			±100	nA
Zero Gate Voltage Drain Current	I_{DSS}	V_{DS}=650V, V_{GS}=0V, T_C=25°C			1	μA
Gate-Threshold Voltage (Note 4)	$V_{GS(th)}$	V_{DS}=V_{GS}, I_D=250μA	2	3	4	V
Drain-Source On-Resistance (Note 4)	$R_{DS(on)}$	V_{GS}=10V, I_D=10A		170	190	mΩ
Gate Resistance (Note 4)	R_G	f = 1.0MHz Open Drain		3		Ω
Dynamic Characteristics (Note 5)						
Input Capacitance	C_{iss}	V_{DS}=25V,V_{GS}=0V,f=1MHz		1860		pF
Output Capacitance	C_{oss}			1425		
Reverse Transfer Capacitance	C_{rss}			76		
Total Gate Charge	Q_g	V_{DS}=560V,V_{GS}=10V,I_D=20A		53		nC
Gate-Source Charge	Q_{gs}			13		
Gate-Drain Charge	Q_{gd}			20		
Turn-On Delay Time	$t_{d(on)}$	V_{DD}=350V,I_D=20A V_{GS}=10V,R_{GEN}=25Ω		40		ns
Turn-On Rise Time	t_r			75		
Turn-Off Delay Time	$t_{d(off)}$			172		
Turn-Off Fall Time	t_f			54		
Drain-Source Diode Characteristics						
Diode Forward Voltage	V_{SD}	V_{GS}=0V, I_S=20A			1.4	V
Continuous Body Diode Current	I_S				20	A
Reverse Recovery Time	t_{rr}	V_{DD}=100V, I_S=20, di_F/dt = 100A/μs		524		ns
Reverse Recovery Charge	Q_{rr}			9.4		μC
Peak Reverse Recovery Current	I_{rrm}			35.7		A

Note:
4. Pulse Test: Pulse Width ≤ 300μs, Duty Cycle ≤ 1% .
5. Guaranteed by Design, not Subject to Production.

Curve Characteristics

Fig. 1 - Typical Output Characteristics

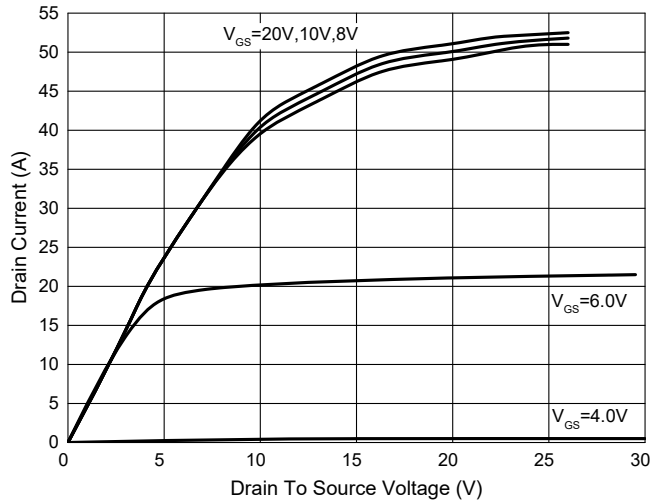


Fig. 2 - Normalized On Resistance Characteristics

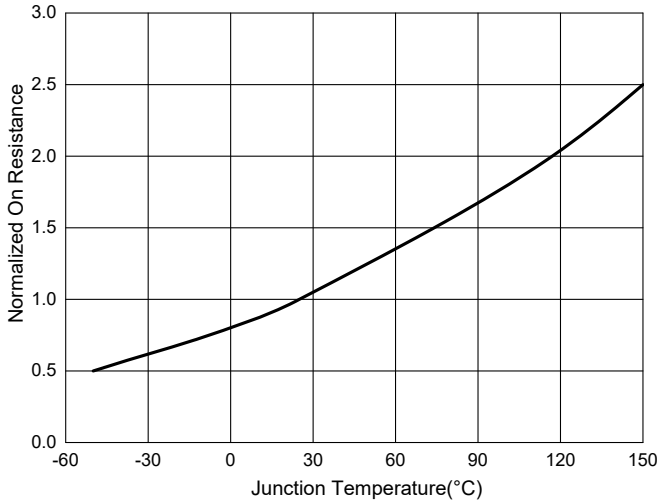


Fig. 3 - $R_{DS(ON)}$—I_D

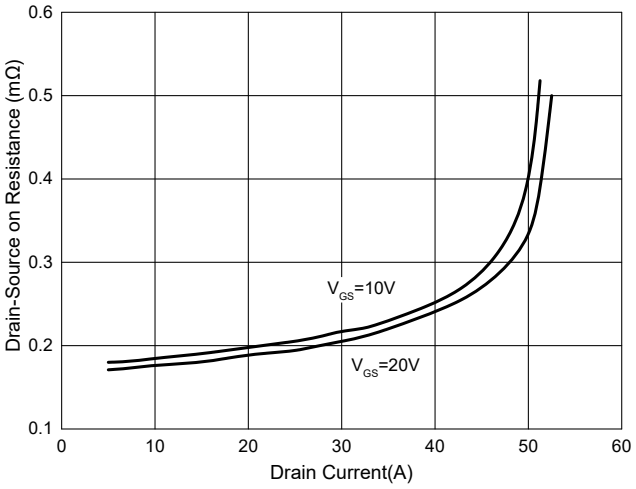


Fig. 4 - Capacitance Characteristics

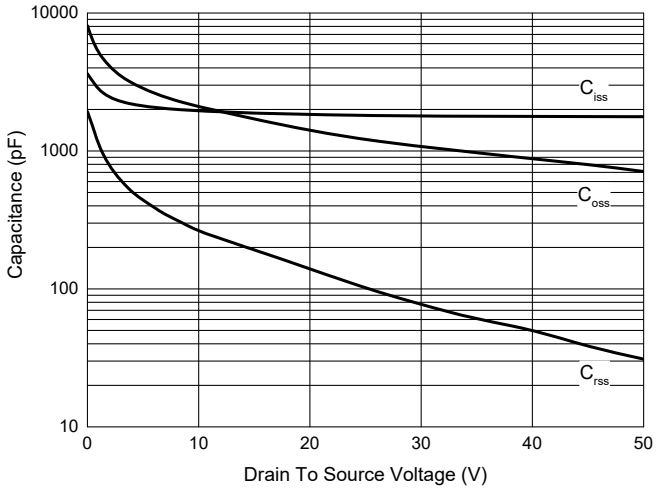


Fig. 5- Gate Charge

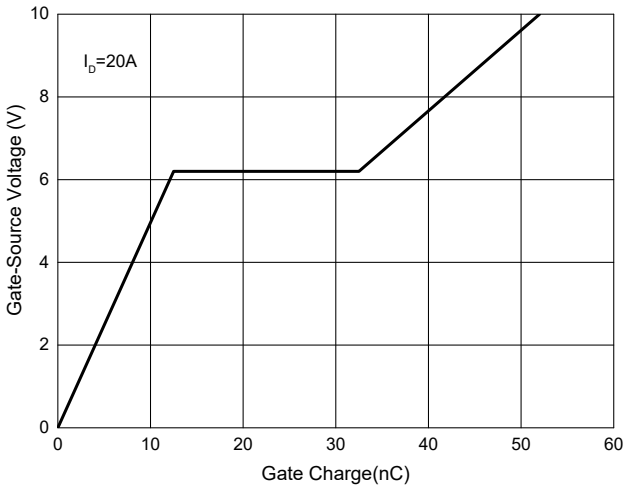
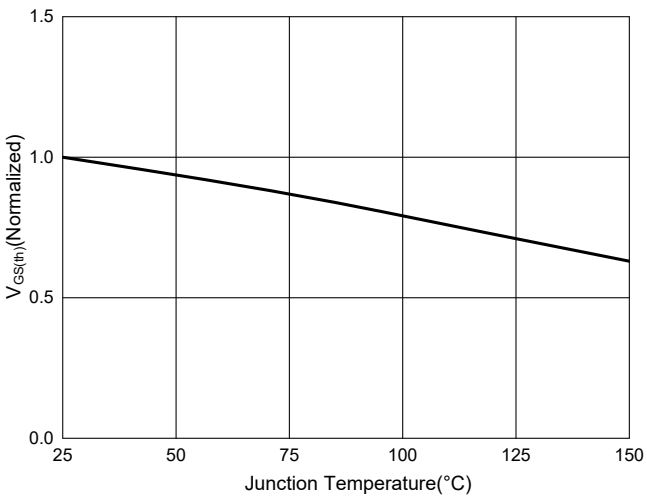
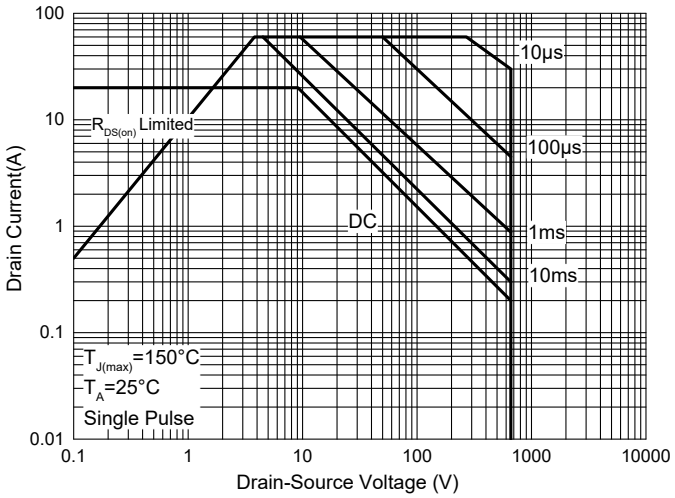


Fig. 6 - Normalized On Resistance Characteristics



Curve Characteristics

Fig. 7 - Safe Operation Area



Ordering Information

Device	Packing
Part Number-BP	Bulk:50pcs/Tube,1Kpcs/Box,5Kpcs/Carton

单击下面可查看定价，库存，交付和生命周期等信息

>>MCC(美微科)