Features

- High Current Rating
- 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 MOSFET

Maximum Ratings

- Operating Junction Temperature Range : -55°C to +150°C
- Storage Temperature Range: -55°C to +150°C
- Thermal Resistance: 1.71°C/W Junction to Case

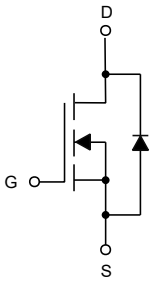
Parameter	Symbol	Rating	Unit
Drain-Source Voltage	V_{DS}	650	V
Continuous Drain Current @ 25°C	I_D	7	A
Continuous Drain Current @ 100°C	I_D	4.2	A
Pulsed Drain Current(Note 2)	I_{DM}	28	A
Gate-Source Volltage	V_{GS}	±30	V
Single Pulse Avalanche(Note 3)	E_{AS}	220	mJ
Pulsed Avalanche Rating(Note 3)	I_{AS}	7	A
Power Dissipation	P_D	73	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.

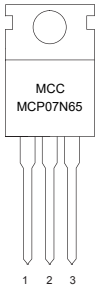
2. Pulse Width Limited by Maximum Junction Temperature.

3. V_{DD}=50V, V_{DS}=650V, R_G=25Ω, T_J=25°C.

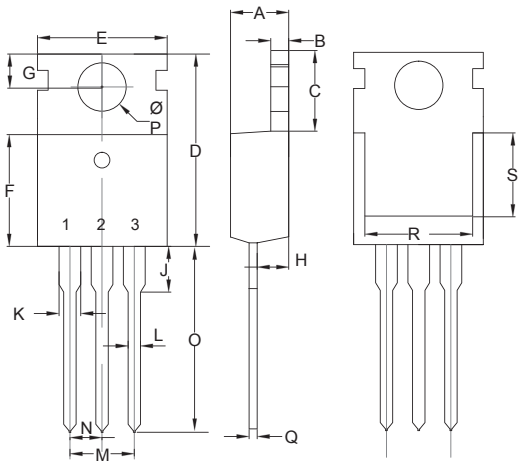
Internal Structure and Marking Code



1. Gate
2. Drain
3. Source



TO-220AB(H)



DIMENSIONS					
DIM	INCHES		MM		NOTE
	MIN	MAX	MIN	MAX	
A	0.172	0.188	4.37	4.77	
B	0.049	0.057	1.25	1.45	
C	0.246	0.270	6.25	6.85	
D	0.594	0.634	15.10	16.10	
E	0.382	0.406	9.70	10.30	
F	0.346	0.370	8.80	9.40	
G	0.102	0.118	2.60	3.00	
H	0.087	0.102	2.20	2.60	
J	-----	0.134	-----	3.40	
K	0.046	0.058	1.17	1.47	
L	0.028	0.037	0.70	0.95	
M	0.200		5.08		TYP.
N	0.100		2.54		TYP.
O	0.502	0.543	12.75	13.80	
P	0.134	0.150	3.40	3.80	Φ
Q	0.016	0.026	0.40	0.65	
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_J=25°C			1	μA
		V_{DS} =650V, V_{GS} =0V,T_J=150°C			10	
Gate-Threshold Voltage	$V_{GS(th)}$	V_{DS}=V_{GS}, I_D=250μA	2.5		4.5	V
Drain-Source On-Resistance	$R_{DS(on)}$	V_{GS}=10V, I_D=3.5A		1.15	1.4	Ω
Dynamic Characteristics						
Input Capacitance	C_{iss}	V_{DS}=25V,V_{GS}=0V,f =1MHz		1600		pF
Output Capacitance	C_{oss}			85		
Reverse Transfer Capacitance	C_{rss}			3.5		
Total Gate Charge	Q_g	V_{DD}=520V,V_{GS}=10V,I_D=7A		26		nC
Gate-Source Charge	Q_{gs}			10.5		
Gate-Drain Charge	Q_{gd}			7.1		
Drain-Source Diode Characteristics and Maximum Ratings						
Maximum Body-Diode Continuous Current	I_S				7	A
Diode Forward Voltage	V_{SD}	V_{GS}=0V, I_F=I_S			1.5	V

Curve Characteristics

Fig. 1 - Typical Output Characteristics

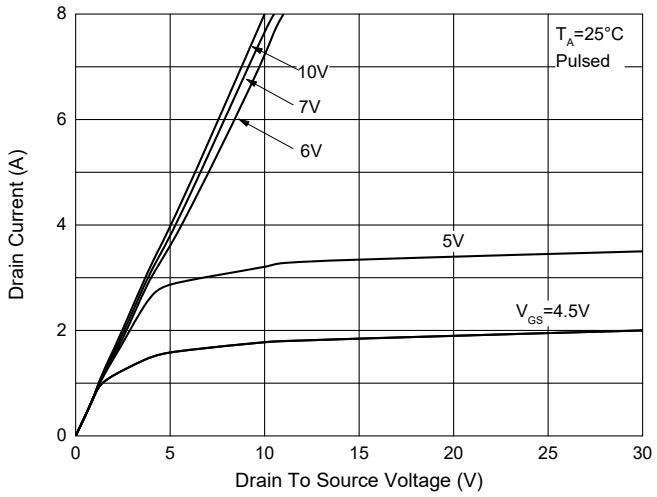


Fig. 2 - Drain-Source On-Resistance Characteristics

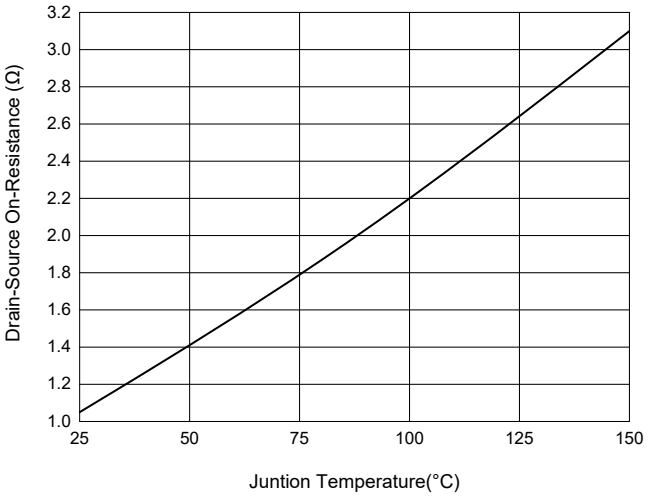


Fig. 3 - Drain-Source Breakdown Voltage Characteristics

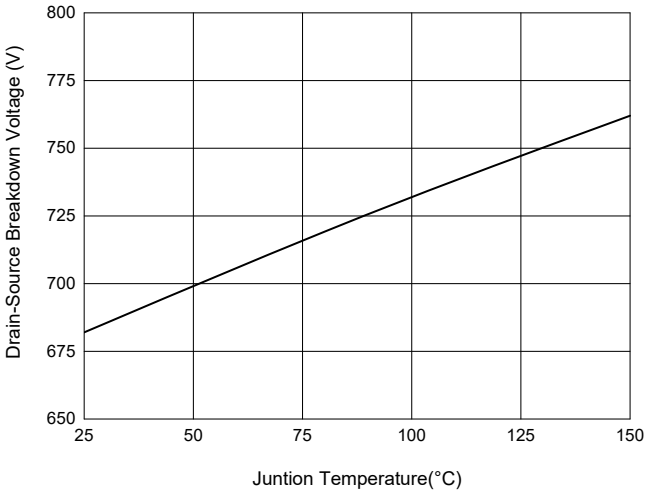


Fig. 4 - Drain Current Characteristics

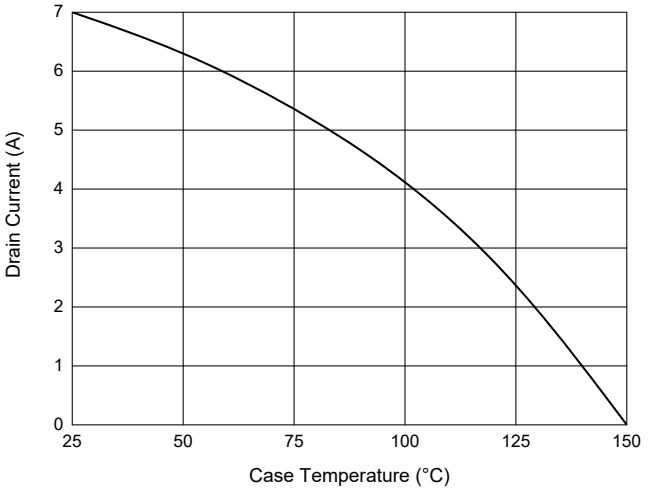


Fig. 5 - Total Gate Charge Characteristics

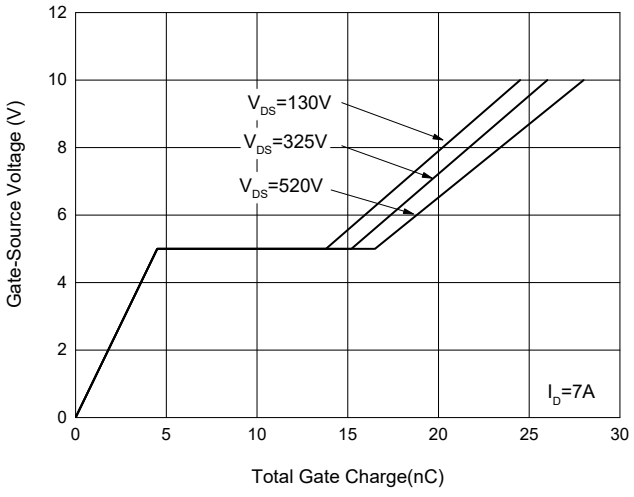
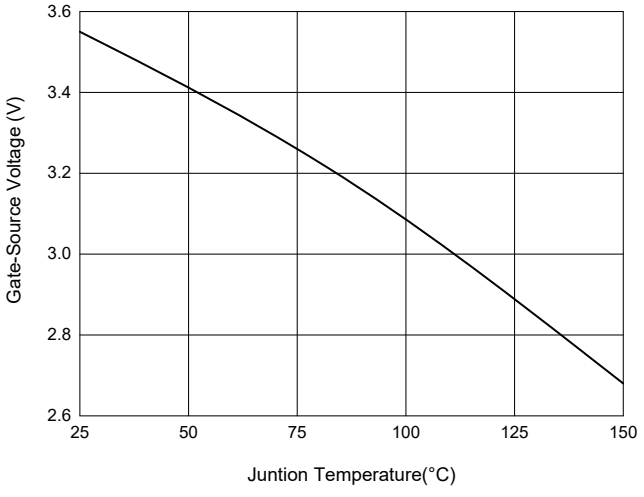


Fig. 6 - Gate-Source Voltage Characteristics



Ordering Information

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

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