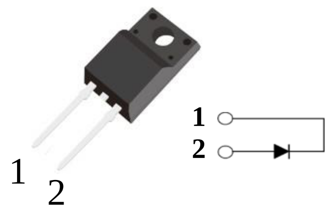
Features

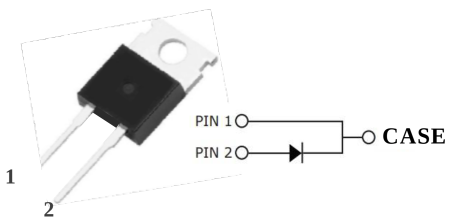
- Zero Reverse Recovery Current
- Zero Forward Recovery Voltage
- Temperature-independent Switching Behavior
- Positive Temperature Coefficient on V_F
- High-speed switching possible and surge current capability

Applications

- Switch Mode Power Supply (SMPS)
- Motor Drives
- Power Factor Correction(PFC)



TO-220F-2



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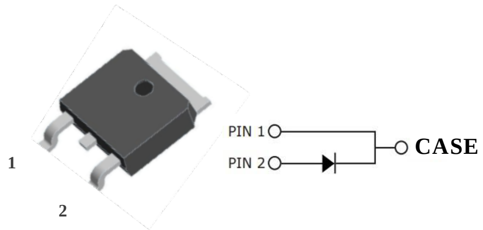

TO-252-2

Ordering Information

Type N0.	Marking	Package
MPCF8N65A	MPCF8N65A	TO-220F-2
MPCC8N65A	MPCC8N65A	TO-220-2
MPCD8N65A	MPCD8N65A	TO-252-2

Absolute Maximum Ratings T_C = 25°C,unless otherwise noted

Parameter	Symbol	Test Conditions	Value		Unit	Note
			220F	220-252		
Repetitive Peak Reverse Voltage	V_{RRM}		650		V	
Surge Peak Reverse Voltage	V_{RSM}		650		V	
DC Blocking Voltage	V_{DC}		650		V	
Continuous Forward Current	I_F	T_C = 25℃	21		A	Fig.7
		T_C = 150℃	8			
Non-Repetitive Forward Surge Current	I_{FSM}	T_C = 25℃, t_p=8.3ms, Half Sine Wave	70		A	
Non-Repetitive Peak Forward Current	$I_{F,Max}$	T_C = 25℃, t_p=10us, Pulse	364		A	
Power Dissipation	P_{tot}	T_C = 25℃	33	120	W	Fig.6
Operating Junction and Storage Temperature	T_J, T_{stg}		-55~+175		℃	

Electrical Characteristics T_J= 25℃,unless otherwise noted							
Parameter	**Symbol**	**Test Conditions**	**Value**			**Unit**	**Note**
			Min.	**Typ.**	**Max.**		
Forward Voltage	V_F	I_F = 8A, T_J = 25℃	--	1.42	1.65	V	Fig.1
		I_F = 8A, T_J = 175℃	--	1.75	2.3		
Reverse Current	I_R	V_R = 650V, T_J = 25℃	--	1	20	uA	Fig.2
		V_R = 650V, T_J = 175℃	--	5	100	uA	
Total Capacitance	C	V_R = 0V, f=1 MHZ	--	520	--	pF	Fig.3
		V_R = 200V, f=1 MHZ	--	50	--		
		V_R = 400V, f=1 MHZ	--	41	--		
Total Capacitive charge	Q_c	V_{DD} = 400V, T_J = 25℃, $Q_c=\int_0^{V_R} C(V)dV$		26		nC	Fig.4
Capacitance Stored Energy	E_c	V_R = 400V		2.8		uJ	Fig.5

Thermal Characteristics						
Parameter	**Symbol**	**Typ.**			**Unit**	**Note**
		220F	220	252		
Thermal Resistance from Junction to Case	R_{thJC}	8.8	1.28		℃/W	Fig.8