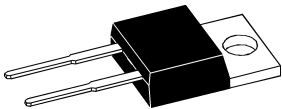
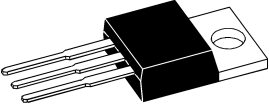
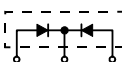
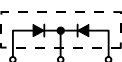


Contents

Package style		Voltage V_{RRM} V	Current I_{DC} A	V_F V	Type	Version	Circuit Diagram	Page
1 TO-220 AC  2 TO-220 AB 	1	150/180	10	1.1	DGS 10	A		D1 - 2
	1	150/180	20	0.9	DGS 20	A		D1 - 3
	2	150/180	2x 10	1.1	DGSK 20	A		D1 - 2
	2	150/180	2x 20	0.9	DGSK 40	A		D1 - 3
	1	220/250	10	1.5	DGS 10	A		D1 - 4
	1	220/250	20	1.1	DGS 20	A		D1 - 5
	2	220/250	2x 10	1.5	DGSK 20	A		D1 - 4
	2	220/250	2x 20	1.1	DGSK 40	A		D1 - 5

Gallium Arsenide Schottky Rectifier

$$I_{DC} = 11 \text{ A}$$

$$V_{RRM} = 150 / 180 \text{ V}$$

$$t_{rr} = 13 \text{ ns}$$

Preliminary Data

V_{RSM} V	V_{RRM} V	Type
150	150	DGS 10-015A
180	180	DGS 10-018A

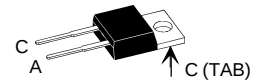
} Single

V_{RSM} V	V_{RRM} V	Type
150	150	DGSK 20-015A
180	180	DGSK 20-018A

} Common cathode

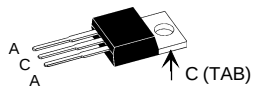


TO-220 AC



A = Anode, C = Cathode, TAB = Cathode

TO-220 AB



Symbol	Conditions	Maximum Ratings	
I_{DC}	$T_C = 90^\circ\text{C};$	11	A
I_{FRM}	$T_C = 25^\circ\text{C};$ (at rated V_R , Square Wave, 20 kHz)	20	A
I_{FSM}	$t_p = 8.3 \text{ ms};$ sine	20	A
T_{VJ}		-55...+175	$^\circ\text{C}$
T_{VJM}		175	$^\circ\text{C}$
T_{stg}		-55...+150	$^\circ\text{C}$
P_{tot}	$T_C = 25^\circ\text{C}$	34	W
M_d	Mounting torque with screw M3	0.45/4	Nm/lb.in.
	Mounting torque with screw M3.5	0.55/5	Nm/lb.in.

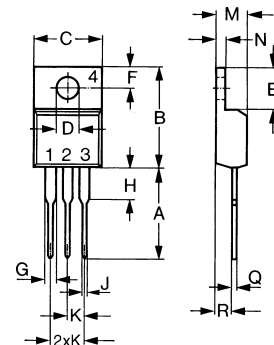
Features

- Low forward voltage
- Very high switching speed – low I_{RM} , t_{rr} values
- Soft reverse recovery
- Temperature independent switching behaviour
- High temperature operation capability

Applications

- Switched mode power supplies (SMPS)
- High frequency converters
- Resonant converters

Outline (center pin only for DGSK types)



Dim.	Millimeter		Inches	
	Min.	Max.	Min.	Max.
A	12.70	13.97	0.500	0.550
B	14.73	16.00	0.580	0.630
C	9.91	10.66	0.390	0.420
D	3.54	4.08	0.139	0.161
E	5.85	6.85	0.230	0.270
F	2.54	3.18	0.100	0.125
G	1.15	1.65	0.045	0.065
H	2.79	5.84	0.110	0.230
J	0.64	1.01	0.025	0.040
K	2.54	BSC	0.100	BSC
M	4.32	4.82	0.170	0.190
N	1.14	1.39	0.045	0.055
Q	0.38	0.56	0.015	0.022
R	2.29	2.79	0.090	0.110

Symbol	Conditions	Characteristic Values	
		typ.	max.
V_F	$I_F = 5 \text{ A}$ $T_{VJ} = 25^\circ\text{C}$	0.8	1.1
	$I_F = 5 \text{ A}$ $T_{VJ} = 125^\circ\text{C}$	0.8	
	$I_F = 10 \text{ A}$ $T_{VJ} = 25^\circ\text{C}$	1.2	
I_R	$V_R = \frac{1}{2} V_{RRM}$ $T_{VJ} = 25^\circ\text{C}$	15	μA
	$V_R = \frac{1}{2} V_{RRM}$ $T_{VJ} = 125^\circ\text{C}$	70	μA
	$V_R = V_{RRM}$ $T_{VJ} = 25^\circ\text{C}$		1.3
I_{RM} t_{rr}	$V_R = 100 \text{ V};$ $T_{VJ} = 25^\circ\text{C}...150^\circ\text{C}$ $I_F = 5 \text{ A};$ di/dt = -150 A/ μs	1.2	A
		13	ns
R_{thJC}			4.4
Weight		2	g

Data according to DIN/IEC 747 and per diode unless otherwise specified

Gallium Arsenide Schottky Rectifier

$$\begin{aligned} I_{DC} &= 17 \text{ A} \\ V_{RRM} &= 150/180 \text{ V} \\ t_{rr} &= 14 \text{ ns} \end{aligned}$$

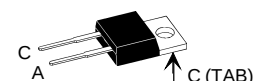
Preliminary Data

V_{RSM} V	V_{RRM} V	Type
150 180	150 180	DGS 20-015A DGS 20-018A

} Single



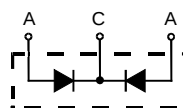
TO-220 AC



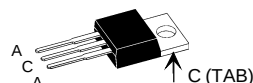
A = Anode, C = Cathode, TAB = Cathode

V_{RSM} V	V_{RRM} V	Type
150 180	150 180	DGSK 40-015A DGSK 40-018A

} Common cathode



TO-220 AB



Symbol	Conditions	Maximum Ratings	
I_{DC}	$T_C = 90^\circ\text{C};$	17	A
I_{FRM}	$T_C = 25^\circ\text{C};$ (at rated V_R , Square Wave, 20 kHz)	30	A
I_{FSM}	$t_p = 8.3 \text{ ms};$ sine	30	A
T_{VJ}		-55...+175	$^\circ\text{C}$
T_{VJM}		175	$^\circ\text{C}$
T_{stg}		-55...+150	$^\circ\text{C}$
P_{tot}	$T_C = 25^\circ\text{C}$	48	W
M_d	Mounting torque with screw M3	0.45/4	Nm/lb.in.
	Mounting torque with screw M3.5	0.55/5	Nm/lb.in.

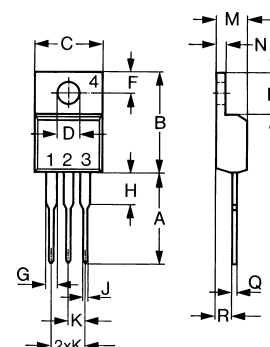
Features

- Low forward voltage
- Very high switching speed – low I_{RM} , t_{rr} values
- Soft reverse recovery
- Temperature independent switching behaviour
- High temperature operation capability

Applications

- Switched mode power supplies (SMPS)
- High frequency converters
- Resonant converters

Outline (center pin only for DGSK types)



Symbol	Conditions	Characteristic Values		
		typ.	max.	
V_F	$I_F = 7.5 \text{ A}$ $T_{VJ} = 25^\circ\text{C}$	0.8	1.0	V
	$I_F = 7.5 \text{ A}$ $T_{VJ} = 125^\circ\text{C}$	0.8		V
	$I_F = 15 \text{ A}$ $T_{VJ} = 25^\circ\text{C}$	1.2		V
I_R	$V_R = \frac{1}{2} V_{RRM}$ $T_{VJ} = 25^\circ\text{C}$	20		μA
	$V_R = \frac{1}{2} V_{RRM}$ $T_{VJ} = 125^\circ\text{C}$	100		μA
	$V_R = V_{RRM}$ $T_{VJ} = 25^\circ\text{C}$		2	mA
I_{RM}	$V_R = 100 \text{ V};$ $T_{VJ} = 25^\circ\text{C}...150^\circ\text{C}$	1.8		A
t_{rr}		14		ns
R_{thJC}			3.1	K/W
Weight		2		g

Data according to DIN/IEC 747 and per diode unless otherwise specified

Dim.	Millimeter		Inches	
	Min.	Max.	Min.	Max.
A	12.70	13.97	0.500	0.550
B	14.73	16.00	0.580	0.630
C	9.91	10.66	0.390	0.420
D	3.54	4.08	0.139	0.161
E	5.85	6.85	0.230	0.270
F	2.54	3.18	0.100	0.125
G	1.15	1.65	0.045	0.065
H	2.79	5.84	0.110	0.230
J	0.64	1.01	0.025	0.040
K	2.54	BSC	0.100	BSC
M	4.32	4.82	0.170	0.190
N	1.14	1.39	0.045	0.055
Q	0.38	0.56	0.015	0.022
R	2.29	2.79	0.090	0.110

033

Gallium Arsenide Schottky Rectifier

$$\begin{aligned} I_{DC} &= 9 \text{ A} \\ V_{RRM} &= 220/250 \text{ V} \\ t_{rr} &= 13 \text{ ns} \end{aligned}$$

Preliminary Data

V_{RSM} V	V_{RRM} V	Type
220	220	DGS 10-022A
250	250	DGS 10-025A

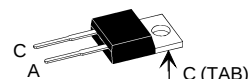
} Single

V_{RSM} V	V_{RRM} V	Type
220	220	DGSK 20-022A
250	250	DGSK 20-025A

} Common cathode

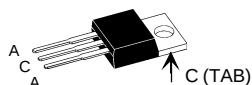


TO-220 AC



A = Anode, C = Cathode, TAB = Cathode

TO-220 AB



Symbol	Conditions	Maximum Ratings	
I_{DC}	$T_C = 90^\circ\text{C};$	9	A
I_{FRM}	$T_C = 25^\circ\text{C};$ (at rated V_R , Square Wave, 20 kHz)	20	A
I_{FSM}	$t_p = 8.3 \text{ ms};$ sine	20	A
T_{VJ}		-55...+175	$^\circ\text{C}$
T_{VJM}		175	$^\circ\text{C}$
T_{stg}		-55...+150	$^\circ\text{C}$
P_{tot}	$T_C = 25^\circ\text{C}$	34	W
M_d	Mounting torque with screw M3	0.45/4	Nm/lb.in.
	Mounting torque with screw M3.5	0.55/5	Nm/lb.in.

Features

- Low forward voltage
- Very high switching speed – low I_{RM} , t_{rr} values
- Soft reverse recovery
- Temperature independent switching behaviour
- High temperature operation capability

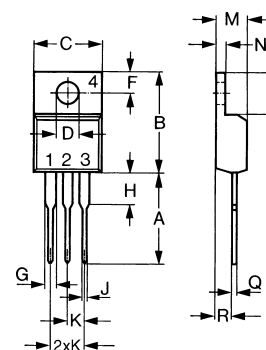
Applications

- Switched mode power supplies (SMPS)
- High frequency converters
- Resonant converters

Outline (center pin only for DGSK types)

Symbol	Conditions	Characteristic Values	
		typ.	max.
V_F	$I_F = 5 \text{ A}; T_{VJ} = 25^\circ\text{C}$	1.2	1.5
	$I_F = 5 \text{ A}; T_{VJ} = 125^\circ\text{C}$	1.3	
	$I_F = 10 \text{ A}; T_{VJ} = 25^\circ\text{C}$	2.0	
I_R	$V_R = \frac{1}{2} V_{RRM}; T_{VJ} = 25^\circ\text{C}$	15	μA
	$V_R = \frac{1}{2} V_{RRM}; T_{VJ} = 125^\circ\text{C}$	70	μA
	$V_R = V_{RRM}; T_{VJ} = 25^\circ\text{C}$		1.3 mA
I_{RM}	$V_R = 100 \text{ V}; T_{VJ} = 25^\circ\text{C}...150^\circ\text{C}$	1.2	A
t_{rr}		13	ns
R_{thJC}			4.4 K/W
Weight		2	g

Data according to DIN/IEC 747 and per diode unless otherwise specified



Dim.	Millimeter		Inches	
	Min.	Max.	Min.	Max.
A	12.70	13.97	0.500	0.550
B	14.73	16.00	0.580	0.630
C	9.91	10.66	0.390	0.420
D	3.54	4.08	0.139	0.161
E	5.85	6.85	0.230	0.270
F	2.54	3.18	0.100	0.125
G	1.15	1.65	0.045	0.065
H	2.79	5.84	0.110	0.230
J	0.64	1.01	0.025	0.040
K	2.54	BSC	0.100	BSC
M	4.32	4.82	0.170	0.190
N	1.14	1.39	0.045	0.055
Q	0.38	0.56	0.015	0.022
R	2.29	2.79	0.090	0.110

033

Gallium Arsenide Schottky Rectifier

$$\begin{aligned} I_{DC} &= 13 \text{ A} \\ V_{RRM} &= 220/250 \text{ V} \\ t_{rr} &= 14 \text{ ns} \end{aligned}$$

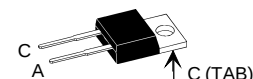
Preliminary Data

V_{RSM} V	V_{RRM} V	Type
220	220	DGS 20-022A
250	250	DGS 20-025A

} Single



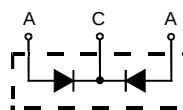
TO-220 AC



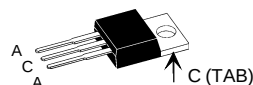
A = Anode, C = Cathode, TAB = Cathode

V_{RSM} V	V_{RRM} V	Type
220	220	DGSK 40-022A
250	250	DGSK 40-025A

} Common cathode



TO-220 AB



Symbol	Conditions	Maximum Ratings	
I_{DC}	$T_C = 90^\circ\text{C};$	13	A
I_{FRM}	$T_C = 25^\circ\text{C};$ (at rated V_R , Square Wave, 20 kHz)	30	A
I_{FSM}	$t_p = 8.3 \text{ ms};$ sine	30	A
T_{VJ}		-55...+175	$^\circ\text{C}$
T_{VJM}		175	$^\circ\text{C}$
T_{stg}		-55...+150	$^\circ\text{C}$
P_{tot}	$T_C = 25^\circ\text{C}$	48	W
M_d	Mounting torque with screw M3	0.45/4	Nm/lb.in.
	Mounting torque with screw M3.5	0.55/5	Nm/lb.in.

Features

- Low forward voltage
- Very high switching speed – low I_{RM} , t_{rr} values
- Soft reverse recovery
- Temperature independent switching behaviour
- High temperature operation capability

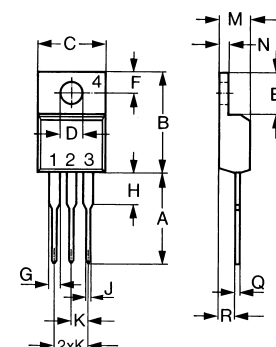
Applications

- Switched mode power supplies (SMPS)
- High frequency converters
- Resonant converters

Outline (center pin only for DGSK types)

Symbol	Conditions	Characteristic Values	
		typ.	max.
V_F	$I_F = 7.5 \text{ A}$ $T_{VJ} = 25^\circ\text{C}$	1.2	1.5
	$I_F = 7.5 \text{ A}$ $T_{VJ} = 125^\circ\text{C}$	1.3	
	$I_F = 15 \text{ A}$ $T_{VJ} = 25^\circ\text{C}$	1.9	
I_R	$V_R = \frac{1}{2} V_{RRM}$ $T_{VJ} = 25^\circ\text{C}$	20	μA
	$V_R = \frac{1}{2} V_{RRM}$ $T_{VJ} = 125^\circ\text{C}$	100	μA
	$V_R = V_{RRM}$ $T_{VJ} = 25^\circ\text{C}$		2 mA
I_{RM}	$V_R = 100 \text{ V};$ $T_{VJ} = 25^\circ\text{C}...150^\circ\text{C}$	1.8	A
t_{rr}		14	ns
R_{thJC}		3.1	K/W
Weight		2	g

Data according to DIN/IEC 747 and per diode unless otherwise specified



Dim.	Millimeter		Inches	
	Min.	Max.	Min.	Max.
A	12.70	13.97	0.500	0.550
B	14.73	16.00	0.580	0.630
C	9.91	10.66	0.390	0.420
D	3.54	4.08	0.139	0.161
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J	0.64	1.01	0.025	0.040
K	2.54	BSC	0.100	BSC
M	4.32	4.82	0.170	0.190
N	1.14	1.39	0.045	0.055
Q	0.38	0.56	0.015	0.022
R	2.29	2.79	0.090	0.110

