Chipsmall Limited consists of a professional team with an average of over 10 year of expertise in the distribution of electronic components. Based in Hongkong, we have already established firm and mutual-benefit business relationships with customers from,Europe,America and south Asia,supplying obsolete and hard-to-find components to meet their specific needs.

With the principle of “Quality Parts,Customers Priority,Honest Operation,and Considerate Service”,our business mainly focus on the distribution of electronic components. Line cards we deal with include Microchip,ALPS,ROHM,Xilinx,Pulse,ON,Everlight and Freescale. Main products comprise IC,Modules,Potentiometer,IC Socket,Relay,Connector.Our parts cover such applications as commercial,industrial, and automotives areas.

We are looking forward to setting up business relationship with you and hope to provide you with the best service and solution. Let us make a better world for our industry!

Contact us

Tel: +86-755-8981 8866 Fax: +86-755-8427 6832
Email & Skype: info@chipsmall.com Web: www.chipsmall.com
Address: A1208, Overseas Decoration Building, #122 Zhenhua RD., Futian, Shenzhen, China

preliminary

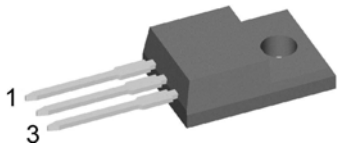
Schottky Diode Gen ²

V_{RRM} = 60 V
I_{FAV} = 2x 10 A
V_F = 0.62 V

High Performance Schottky Diode
Low Loss and Soft Recovery
Common Cathode

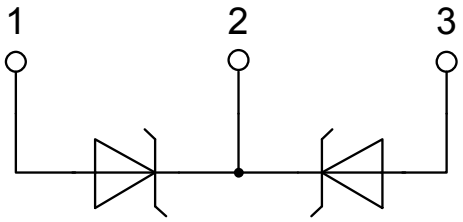
Part number

DSB20C60PN



Backside: isolated

E72873



Features / Advantages:

- Very low Vf
- Extremely low switching losses
- Low Irm values
- Improved thermal behaviour
- High reliability circuit operation
- Low voltage peaks for reduced protection circuits
- Low noise switching

Applications:

- Rectifiers in switch mode power supplies (SMPS)
- Free wheeling diode in low voltage converters

Package: TO-220FP

- Isolation Voltage: 2500 V~
- Industry standard outline
- RoHS compliant
- Epoxy meets UL 94V-0
- Soldering pins for PCB mounting
- Base plate: Plastic overmolded tab
- Reduced weight

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Schottky				Ratings			
Symbol	Definition	Conditions		min.	typ.	max.	Unit
V_{RSM}	*max. non-repetitive reverse blocking voltage*		T_{VJ} = 25°C			60	V
V_{RRM}	*max. repetitive reverse blocking voltage*		T_{VJ} = 25°C			60	V
I_R	*reverse current, drain current*	V_R = 60 V	T_{VJ} = 25°C			4	mA
		V_R = 60 V	T_{VJ} = 100°C			35	mA
V_F	*forward voltage drop*	I_F = 10 A	T_{VJ} = 25°C			0.69	V
		I_F = 20 A				0.93	V
		I_F = 10 A	T_{VJ} = 125°C			0.62	V
		I_F = 20 A				0.82	V
I_{FAV}	*average forward current*	T_C = 110°C	T_{VJ} = 150°C			10	A
		rectangular d = 0.5					
V_{F0}	*threshold voltage* } *for power loss calculation only*		T_{VJ} = 150°C			0.44	V
r_F	*slope resistance* }					16.1	mΩ
R_{thJC}	*thermal resistance junction to case*					4.5	K/W
R_{thCH}	*thermal resistance case to heatsink*				0.50		K/W
P_{tot}	*total power dissipation*		T_C = 25°C			30	W
I_{FSM}	*max. forward surge current*	t = 10 ms; (50 Hz), sine; V_R = 0 V	T_{VJ} = 45°C			240	A
C_J	*junction capacitance*	V_R = 12 V f = 1 MHz	T_{VJ} = 25°C		149		pF

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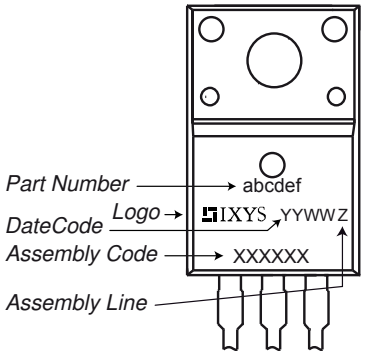
Package TO-220FP					Ratings			
Symbol	Definition	Conditions			min.	typ.	max.	Unit
I_{RMS}	*RMS current*	per terminal					35	A
T_{VJ}	*virtual junction temperature*				-55		150	°C
T_{op}	*operation temperature*				-55		125	°C
T_{stg}	*storage temperature*				-55		150	°C
Weight						2		g
M_D	*mounting torque*				0.4		0.6	Nm
F_C	*mounting force with clip*				20		60	N
$d_{Spp/App}$	*creepage distance on surface | striking distance through air*		*terminal to terminal*	1.6	1.0			mm
$d_{Spb/Apb}$			*terminal to backside*	2.5	2.5			mm
V_{ISOL}	*isolation voltage*	t = 1 second	50/60 Hz, RMS; I_{ISOL} ≤ 1 mA		2500			V
		t = 1 minute			2080			V

Product Marking



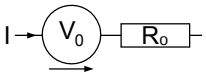
Part number

D = Diode
S = Schottky Diode
B = ultra low VF
20 = Current Rating [A]
C = Common Cathode
60 = Reverse Voltage [V]
PN = TO-220ABFP (3)

Ordering	Part Number	Marking on Product	Delivery Mode	Quantity	Code No.
Standard	DSB20C60PN	DSB20C60PN	Tube	50	508864

Equivalent Circuits for Simulation

** on die level* T_{VJ} = 150 °C



Schottky

$V_{0\,max}$	*threshold voltage*	0.44	V
$R_{0\,max}$	*slope resistance **	13	mΩ

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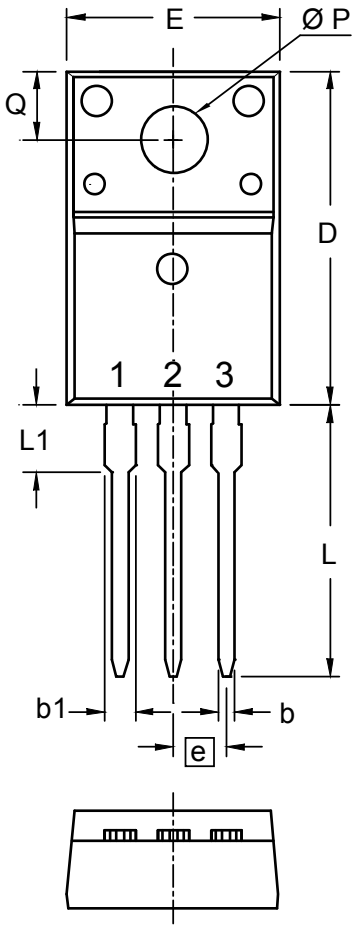
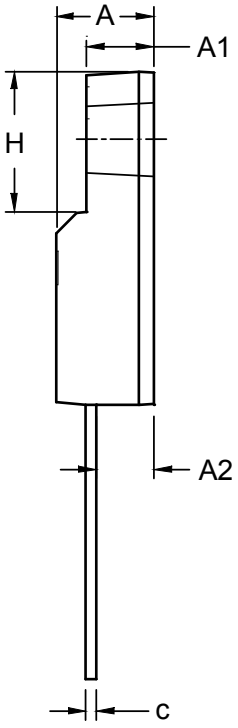
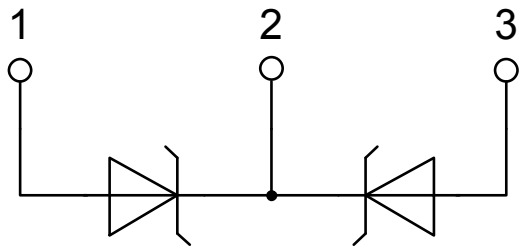
Outlines TO-220FP





Dim.	Millimeters		Inches	
	min	max	min	max
A	4.50	4.90	0.177	0.193
A1	2.34	2.74	0.092	0.108
A2	2.56	2.96	0.101	0.117
b	0.70	0.90	0.028	0.035
c	0.45	0.60	0.018	0.024
D	15.67	16.07	0.617	0.633
E	9.96	10.36	0.392	0.408
e	2.54 BSC		0.100 BSC	
H	6.48	6.88	0.255	0.271
L	12.68	13.28	0.499	0.523
L1	3.03	3.43	0.119	0.135
Ø P	3.08	3.28	0.121	0.129
Q	3.20	3.40	0.126	0.134



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