

Excellent Integrated System Limited

Stocking Distributor

Click to view price, real time Inventory, Delivery & Lifecycle Information:

[IXYS Corporation](#)
[DSA20C60PN](#)

For any questions, you can email us directly:
sales@integrated-circuit.com

Schottky Diode Gen²

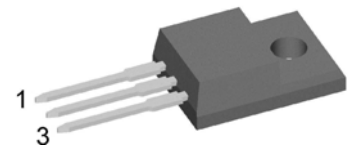
preliminary

V_{RRM}	=	60V
I_{FAV}	= 2x	10A
V_F	=	0.7V

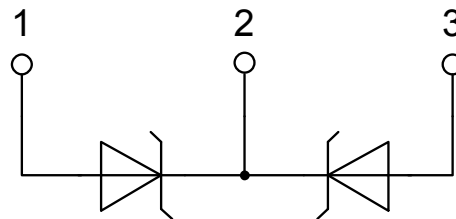
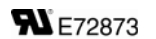
High Performance Schottky Diode
 Low Loss and Soft Recovery
 Common Cathode

Part number

DSA20C60PN



Backside: isolated



Features / Advantages:

- Very low V_f
- Extremely low switching losses
- Low I_{rm} 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

preliminary

Schottky				Ratings			
Symbol	Definition	Conditions		min.	typ.	max.	Unit
V_{RSM}	max. non-repetitive reverse blocking voltage		$T_{VJ} = 25^{\circ}C$			60	V
V_{RRM}	max. repetitive reverse blocking voltage		$T_{VJ} = 25^{\circ}C$			60	V
I_R	reverse current, drain current	$V_R = 60\text{ V}$	$T_{VJ} = 25^{\circ}C$			200	μA
		$V_R = 60\text{ V}$	$T_{VJ} = 125^{\circ}C$			2	mA
V_F	forward voltage drop	$I_F = 10\text{ A}$	$T_{VJ} = 25^{\circ}C$			0.86	V
		$I_F = 20\text{ A}$				1.04	V
		$I_F = 10\text{ A}$	$T_{VJ} = 125^{\circ}C$			0.70	V
		$I_F = 20\text{ A}$				0.86	V
I_{FAV}	average forward current	$T_C = 140^{\circ}C$ rectangular $d = 0.5$	$T_{VJ} = 175^{\circ}C$			10	A
V_{F0}	threshold voltage	} for power loss calculation only	$T_{VJ} = 175^{\circ}C$			0.48	V
r_F	slope resistance					13.5	m Ω
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		$T_C = 25^{\circ}C$			35	W
I_{FSM}	max. forward surge current	$t = 10\text{ ms}; (50\text{ Hz}), \text{ sine}; V_R = 0\text{ V}$	$T_{VJ} = 45^{\circ}C$			240	A
C_J	junction capacitance	$V_R = 12\text{ V}$ $f = 1\text{ MHz}$	$T_{VJ} = 25^{\circ}C$			149	pF

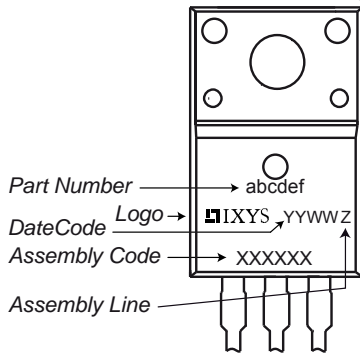


DSA20C60PN

preliminary

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		175	°C
T_{op}	operation temperature		-55		150	°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
$d_{Spb/Abp}$		terminal to backside	2.5	2.5		mm
V_{ISOL}	isolation voltage	t = 1 second			2500	V
		t = 1 minute	50/60 Hz, RMS; $I_{ISOL} \leq 1$ mA		2080	V

Product Marking



Part number

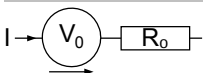
- D = Diode
- S = Schottky Diode
- A = low VF
- 20 = Current Rating [A]
- C = Common Cathode
- 60 = Reverse Voltage [V]
- PN = TO-220ABFP (3)

Ordering	Part Number	Marking on Product	Delivery Mode	Quantity	Code No.
Standard	DSA20C60PN	DSA20C60PN	Tube	50	504876

Equivalent Circuits for Simulation

* on die level

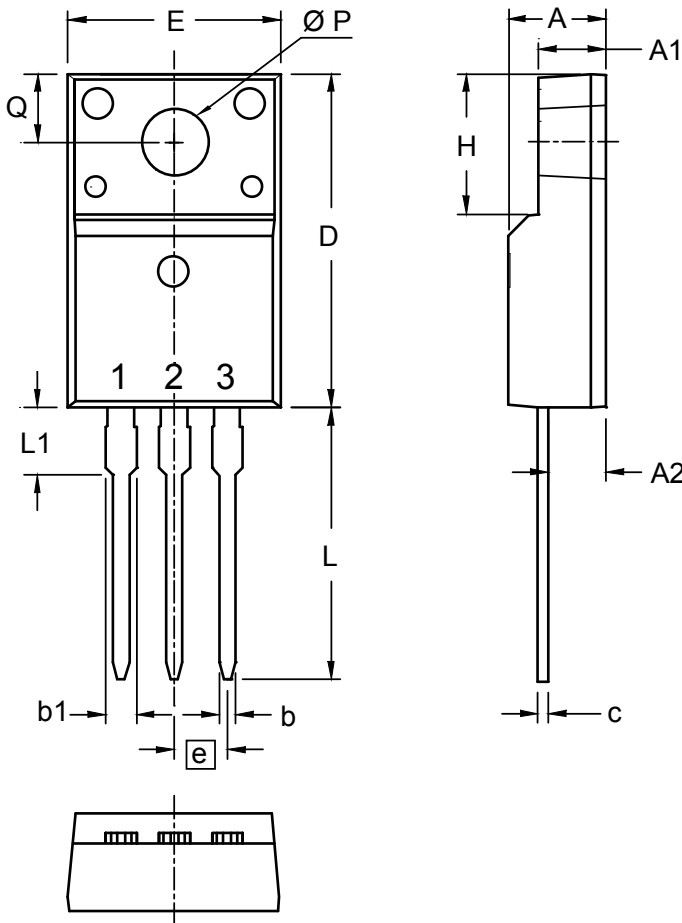
$T_{VJ} = 175^\circ\text{C}$



Schottky

$V_{0\max}$	threshold voltage	0.48	V
$R_{0\max}$	slope resistance *	10.3	mΩ

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
ØP	3.08	3.28	0.121	0.129
Q	3.20	3.40	0.126	0.134

