advanced

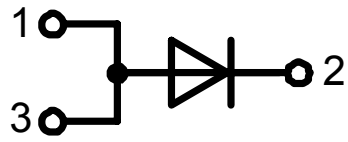
HiPerFRED

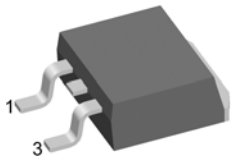
V_{RRM} = 300 V
I_{FAV} = 60 A
t_{rr} = 35 ns

High Performance Fast Recovery Diode
Low Loss and Soft Recovery
Single Diode

Part number *(Marking on product)*

DPG 60 IM 300PC





Features / Advantages:

- Planar passivated chips
- Very low leakage current
- Very short recovery time
- Improved thermal behaviour
- Very low Irm-values
- Very soft recovery behaviour
- Avalanche voltage rated for reliable operation
- Soft reverse recovery for low EMI/RFI
- Low Irm reduces:
  - Power dissipation within the diode
  - Turn-on loss in the commutating switch

Applications:

- Antiparallel diode for high frequency switching devices
- Antisaturation diode
- Snubber diode
- Free wheeling diode
- Rectifiers in switch mode power supplies (SMPS)
- Uninterruptible power supplies (UPS)

Package:

TO-263 (D2 PAK)

- Industry standard outline
- Epoxy meets UL 94V-0
- RoHS compliant

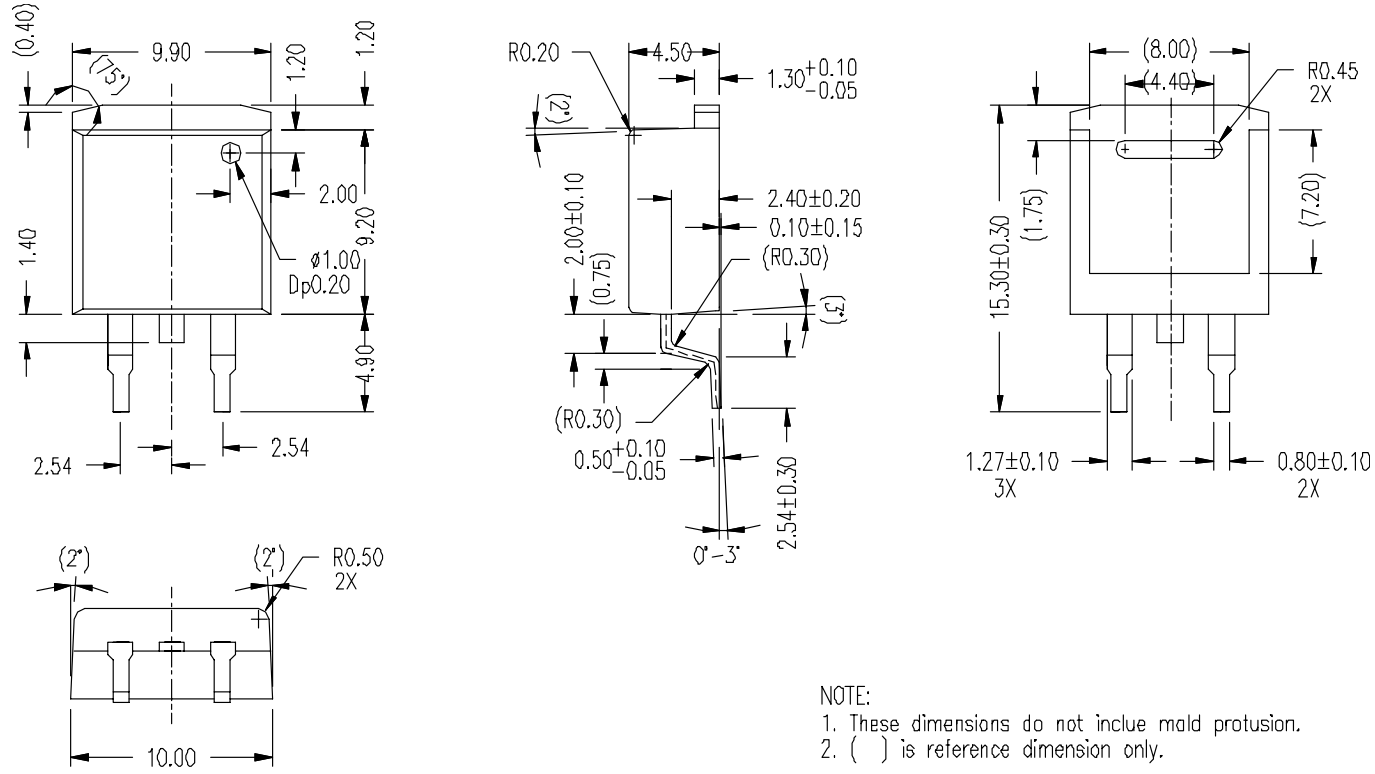
				Ratings			
Symbol	**Definition**	**Conditions**		**min.**	**typ.**	**max.**	**Unit**
V_{RRM}	*max. repetitive reverse voltage*		T_{VJ} = 25 °C			300	V
I_R	*reverse current*	V_R = 300 V	T_{VJ} = 25 °C			1	µA
		V_R = 300 V	T_{VJ} = 150 °C			0.35	mA
V_F	*forward voltage*	I_F = 60 A	T_{VJ} = 25 °C			1.40	V
		I_F = 120 A				1.75	V
		I_F = 60 A	T_{VJ} = 150 °C			1.10	V
		I_F = 120 A				1.45	V
I_{FAV}	*average forward current*	rectangular, d = 0.5	T_C = 135 °C			60	A
V_{F0}	*threshold voltage* } *for power loss calculation only*		T_{VJ} = 175 °C			0.69	V
r_F	*slope resistance* }					5.8	mΩ
R_{thJC}	*thermal resistance junction to case*					0.45	K/W
T_{VJ}	*virtual junction temperature*			-55		175	°C
P_{tot}	*total power dissipation*		T_C = 25 °C			335	W
I_{FSM}	*max. forward surge current*	t_p = 10 ms (50 Hz), sine	T_{VJ} = 45 °C			550	A
I_{RM}	*max. reverse recovery current*	I_F = 60 A;	T_{VJ} = 25 °C		3		A
		-di_F/dt = 200 A/µs	T_{VJ} = 125 °C				A
t_{rr}	*reverse recovery time*	V_R = 100 V	T_{VJ} = 25 °C		35		ns
			T_{VJ} = 125 °C				ns
C_J	*junction capacitance*	V_R = 150 V; f = 1 MHz	T_{VJ} = 25 °C				pF
E_{AS}	*non-repetitive avalanche energy*	I_{AS} = A; L = 100 µH	T_{VJ} = 25 °C			tbd	mJ
I_{AR}	*repetitive avalanche current*	V_A = 1.5·V_R typ.; f = 10 kHz				tbd	A

advanced

Symbol	Definition	Conditions	Ratings min.	typ.	max.	Unit
I_{RMS}	*RMS current*	per pin*			35	A
R_{thCH}	*thermal resistance case to heatsink*			0.25		K/W
M_D	*mounting torque*					Nm
F_C	*mounting force with clip*					N
T_{stg}	*storage temperature*		-55		150	°C
Weight				2		g

* Irms is typically limited by: 1. pin-to-chip resistance; or by 2. current capability of the chip.
In case of 1, a common cathode/anode configuration and a non-isolated backside, the whole current capability can be used by connecting the backside.

Outlines TO-263 (D2 PAK)



NOTE:
1. These dimensions do not inclue mald protusion.
2. ( ) is reference dimension only.

IXYS reserves the right to change limits, conditions and dimensions.

* Data according to IEC 60747and per diode unless otherwise specified

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