

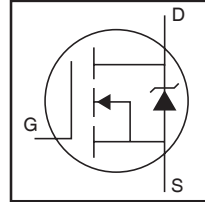
**Applications**

- High Efficiency Synchronous Rectification in SMPS
- Uninterruptible Power Supply
- High Speed Power Switching
- Hard Switched and High Frequency Circuits

**Benefits**

- Worldwide Best  $R_{DS(on)}$  in TO-220
- Improved Gate, Avalanche and Dynamic  $dV/dt$  Ruggedness
- Fully Characterized Capacitance and Avalanche SOA
- Enhanced body diode  $dV/dt$  and  $dI/dt$  Capability

HEXFET® Power MOSFET



$V_{DSS}$		<b>100V</b>
$R_{DS(on)}$	typ.	<b>5.6mΩ</b>
	max.	<b>7.0mΩ</b>
$I_D$		<b>140A</b>



**Absolute Maximum Ratings**

Symbol	Parameter	Max.	Units
$I_D @ T_C = 25^\circ C$	Continuous Drain Current, $V_{GS} @ 10V$	140①	A
$I_D @ T_C = 100^\circ C$	Continuous Drain Current, $V_{GS} @ 10V$	97 ①	
$I_{DM}$	Pulsed Drain Current ②	550	
$P_D @ T_C = 25^\circ C$	Maximum Power Dissipation	330	W
	Linear Derating Factor	2.2	W/°C
$V_{GS}$	Gate-to-Source Voltage	± 20	V
$dV/dt$	Peak Diode Recovery ④	14	V/ns
$T_J$	Operating Junction and	-55 to + 175	°C
$T_{STG}$	Storage Temperature Range		
	Soldering Temperature, for 10 seconds (1.6mm from case)		
	Mounting torque, 6-32 or M3 screw	10lb·in (1.1N·m)	

**Avalanche Characteristics**

$E_{AS}$ (Thermally limited)	Single Pulse Avalanche Energy ③	980	mJ
$I_{AR}$	Avalanche Current ①	See Fig. 14, 15, 22a, 22b,	A
$E_{AR}$	Repetitive Avalanche Energy ⑤		mJ

**Thermal Resistance**

Symbol	Parameter	Typ.	Max.	Units
$R_{\theta JC}$	Junction-to-Case ⑥	—	0.45	°C/W
$R_{\theta CS}$	Case-to-Sink, Flat Greased Surface , TO-220	0.50	—	
$R_{\theta JA}$	Junction-to-Ambient, TO-220 ⑥	—	62	
$R_{\theta JA}$	Junction-to-Ambient (PCB Mount) , D²Pak ⑥⑦	—	40	