Fast Switching Emitter Controlled Diode

Feature

- 1200 V Emitter Controlled technology
- Fast recovery
- Soft switching
- Low reverse recovery charge
- Low forward voltage
- Easy paralleling
- Qualified according to JEDEC[0)] for target applications

* RoHS compliant

Product Summary

V_{RRM}	1200	V
I_F	30	A
V_F	1.65	V
T_{jmax}	150	°C

PG-TO263-3-2

Type	Package	Ordering Code	Marking	Pin 1	PIN 2	PIN 3
IDB30E120	PG-TO263-3-2	-	D30E120	NC	C	A

Maximum Ratings, at T_j = 25 °C, unless otherwise specified

Parameter	Symbol	Value	Unit
Repetitive peak reverse voltage	V_{RRM}	1200	V
Continous forward current	I_F		A
T_C=25°C		50	
T_C=90°C		30	
Surge non repetitive forward current T_C=25°C, t_p=10 ms, sine halfwave	I_{FSM}	102	
Maximum repetitive forward current T_C=25°C, t_p limited by T_{jmax}, D=0.5	I_{FRM}	76.5	
Power dissipation	P_{tot}		W
T_C=25°C		138	
T_C=90°C		66	
Operating and storage temperature	T_j , T_{stg}	-55...+150	°C
Soldering temperature reflow soldering, MSL1	T_S	260	°C

Thermal Characteristics

Parameter	Symbol	Values			Unit
		min.	typ.	max.	
Characteristics					
Thermal resistance, junction - case	R_{thJC}	-	-	0.9	K/W
Thermal resistance, junction - ambient, leaded	R_{thJA}	-	-	62	
SMD version, device on PCB:	R_{thJA}				
@ min. footprint		-	-	62	
@ 6 cm^2 cooling area [1)]		-	35	-	

Electrical Characteristics, at T_j = 25 °C, unless otherwise specified

Parameter	Symbol	Values			Unit
		min.	typ.	max.	
Static Characteristics					
Reverse leakage current	I_R				µA
V_R=1200V, T_j=25°C		-	-	100	
V_R=1200V, T_j=150°C		-	-	2500	
Forward voltage drop	V_F				V
I_F=30A, T_j=25°C		-	1.65	2.15	
I_F=30A, T_j=150°C		-	1.7	-	

[0]J-STD20 and JESD22

[1]Device on 40mm*40mm*1.5mm epoxy PCB FR4 with 6cm² (one layer, 70 µm thick) copper area for drain connection. PCB is vertical without blown air.