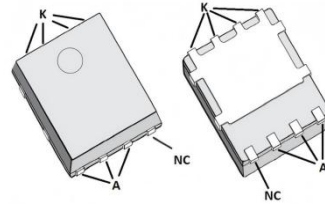


ESTF30SS30SI

Ultra fast recovery diode

Features

- Ultra fast Recovery Time
- Suited for DC/DC converts
- Low losses
- High T_J
- High surge current capability
- High energy avalanche capability



Applications

- high frequency DC to DC converters
- low voltage high frequency inverters

Absolute Maximum Ratings (Tc=25°C, unless otherwise noted)

Symbol	Parameter	ratings	Unit
V_{RRM}	Repetitive peak reverse voltage	300	V
V_{RWM}	Working Peak Reverse Voltage	300	V
$I_{F(AV)}$	Average forward current @Tc=105°C	30	A
$I_{F(RMS)}$	RMS Forward current	45	A
I_{FSM}	Peak one Cycle Surge Forward current @t=10ms	240	A
T_J	Junction Temperature	175	°C
T_{STG}	Storage temperature range	-65~+175	°C

Electrical Specifications (Tc=25°C, unless otherwise noted)

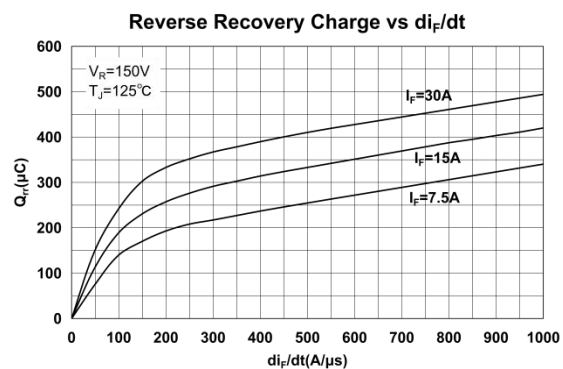
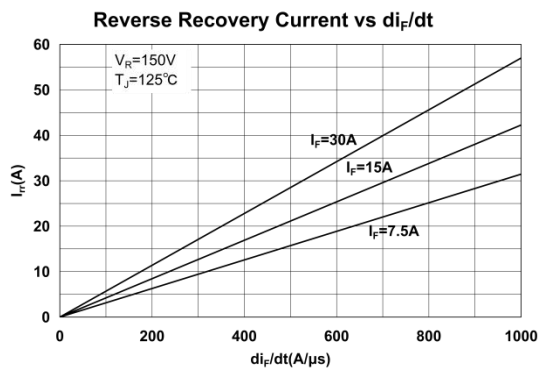
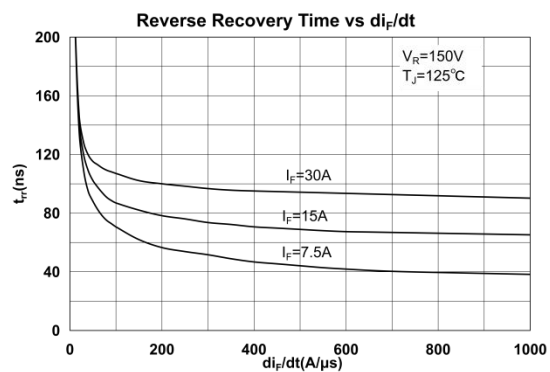
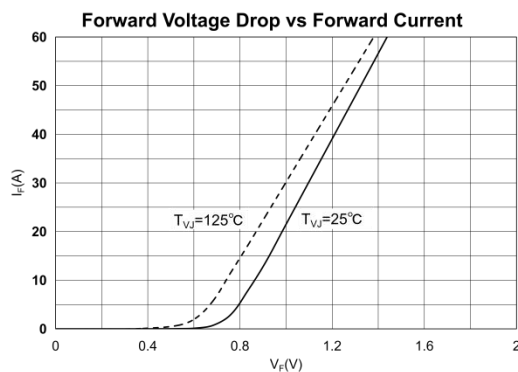
Symbol	Parameter	Test condition	Ratings			Unit
			Min	Typ	Max	
I_R	Reverse leakage current	$V_R = V_{RRM}$			10	uA
					100	
V_F	Forward voltage drop	$I_F = 30A$		1.1	1.25	V
				0.90		
t_{rr}	Reverse Recovery time	$I_F = 1A, V_R = 30V, di_F/dt = -200A/\mu s$		26	35	ns
t_{rr}	Reverse Recovery time	$I_F = 30A, di_F/dt = -200A/\mu s$		60	-	ns
Q_{rr}	Reverse Recovery Charge	$V_{CC} = 150V$		100		nC

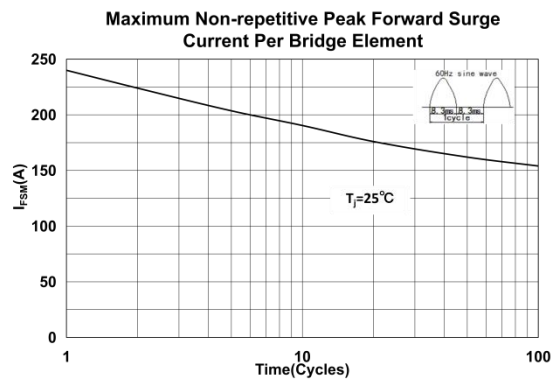
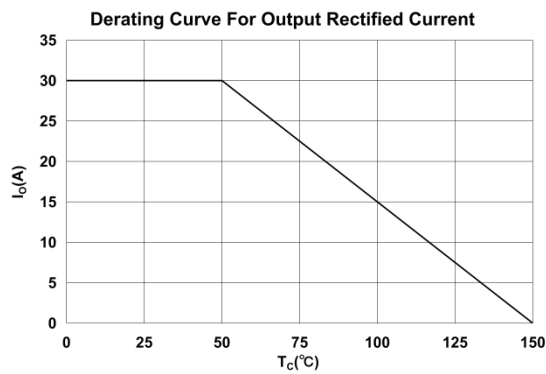
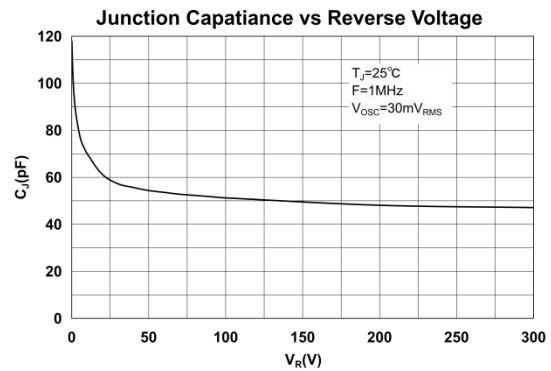
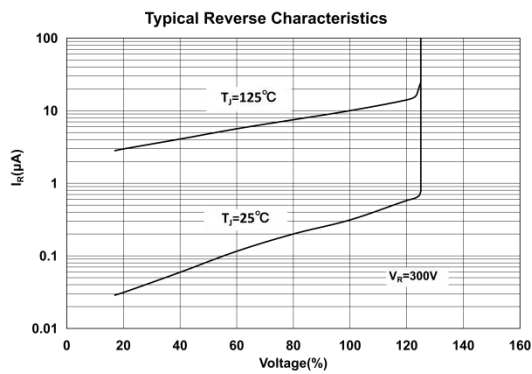
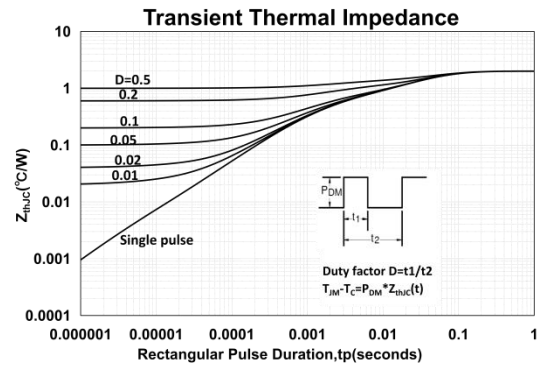
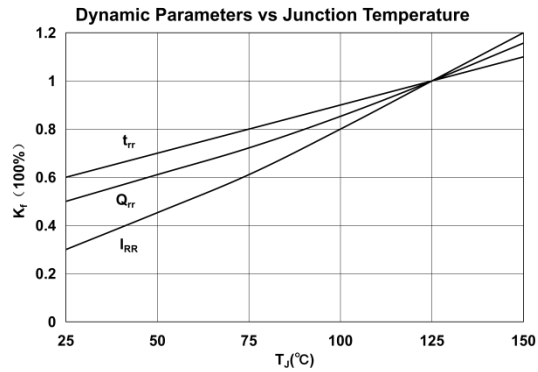
I_{RRM}	Reverse Recovery Current	$T_J=25^{\circ}\text{C}$		5.7	-	A
t_{rr}	Reverse Recovery time	$I_F = 30\text{ A},$ $di_F/dt = -200\text{ A}/\mu\text{s},$ $V_{CC} = 150\text{ V}$ $T_J=125^{\circ}\text{C}$		100	-	ns
Q_{rr}	Reverse Recovery Charge			333		nC
I_{RRM}	Reverse Recovery Current			11.4	-	A

Thermal characteristics

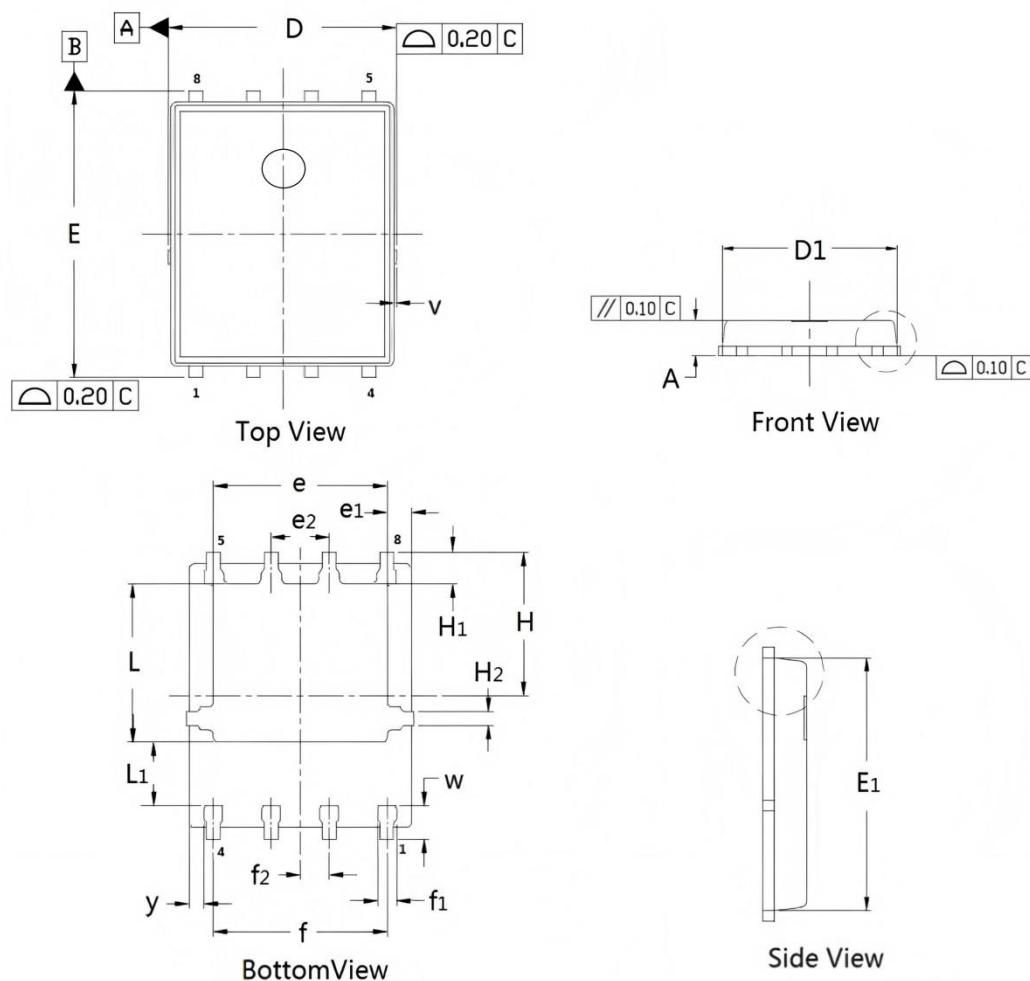
Symbol	Parameter	Test Condition	Min.	Typ.	Max.	Unit
$R_{th(j-c)}$	Thermal resistance from junction to case	DFN 5x6	-	-	2.0	$^{\circ}\text{C}/\text{W}$
$R_{th(j-a)}$	Thermal resistance from junction to ambient		-	-	42	

Typical Performance Curves





Package(DFN5X6)



DFN 5x6

DIMENSIONS (unit : mm)

Symbol	Min	Typ	Max	Symbol	Min	Typ	Max
A	0.90	1.02	1.10	D	4.90	4.98	5.10
D1	4.80	4.89	5.00	E	6.00	6.11	6.20
E1	5.65	5.74	5.85	e	3.72	3.80	3.92
e1	--	0.54	--	e2	--	1.27	--
f	--	3.82	--	f1	0.31	0.37	0.51
f2	--	0.64	--	H	--	3.15	--
H1	0.59	0.63	0.79	H2	0.26	0.28	0.32
L	3.38	3.45	3.58	L1	--	1.39	--
v	--	0.13	--	w	0.64	0.68	0.84
y	--	0.34	--		--		--