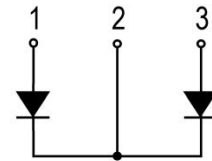
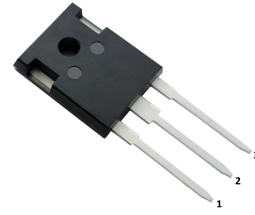


ESTF100D30SU

Features

- Repetitive Reverse Voltage : $V_{RRM} = 300V$
- Low Forward Voltage Drop : $V_{F(typ.)} = 1.0V$
- Average Forward Current : $I_{F(AV)} = 100A$ @ $T_c = 100^\circ C$
- Ultra-Fast Reverse Recovery Time : $t_{rr(typ.)} = 38ns$
- Extensive Characterization of Recovery Parameters
- Reduced EMI and RFI



Applications

- Motor Drives, Welding

Absolute Maximum Ratings ($T_c = 25^\circ C$, Unless otherwise noted)

Symbol	Parameter		ratings	Unit
V_{RRM}	Repetitive peak reverse voltage @50 μA		300	V
$I_{F(AV)}$	Average forward current @per device	@ $T_c = 25^\circ C$	100x2	A
		@ $T_c = 100^\circ C$	50x2	A
I_{FSM}	Peak one Cycle Surge Forward ,Current (Non-Repetitive)		400	A
I^2t	I^2t for Fusing Value for One Cycle Current, $t_W = 8.3ms$, $T_j = 25^\circ C$ Start		1.3×10^3	A^2S
T_j	Junction Temperature		-40~+150	$^\circ C$
T_{STG}	Storage temperature range		-40~+125	$^\circ C$
P_D	Power Dissipation		280	W
F_M	Mounting Torque(M3)		1.1	N·m
G	Weight		6	g

Electrical Characteristics ($T_c = 25^\circ C$, Unless otherwise noted)

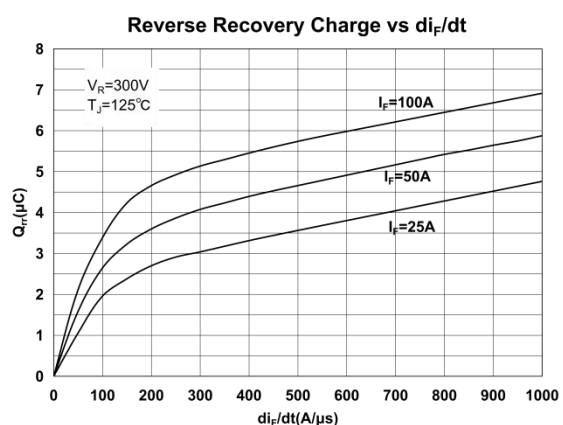
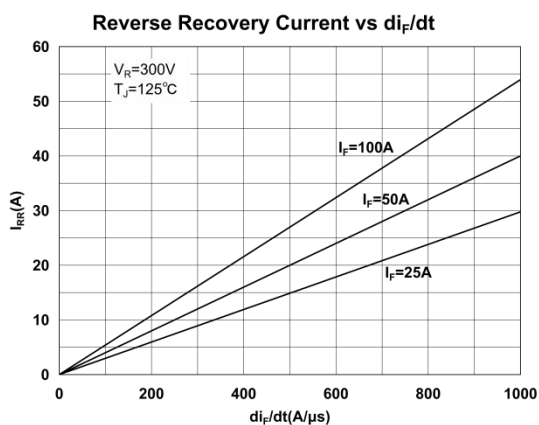
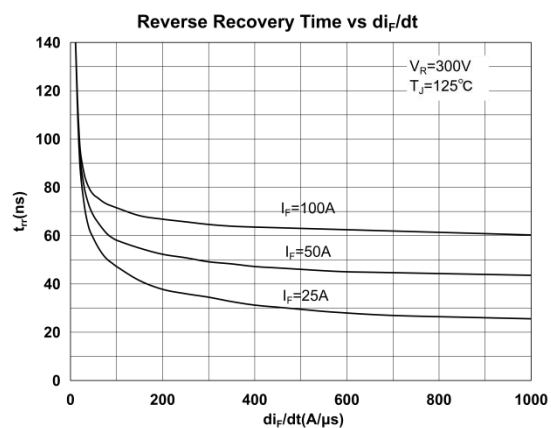
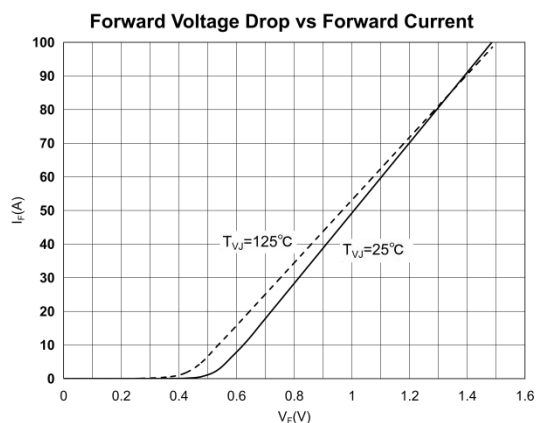
Symbol	Parameter	Test condition	Value			Unit
			Min	Typ	Max	
V_{BR}	Reverse Breakdown Voltage	$I_R = 100\mu A$	300	-	-	V
I_R	Reverse Leakage Current	$T_j = 125^\circ C$, $V_R = V_{RRM}$	-	-	800	μA
V_F	Forward voltage	$I_F = 50A$	-	1.00	1.3	V
		$I_F = 50A, T_j = 125^\circ C$	-	0.95	-	V

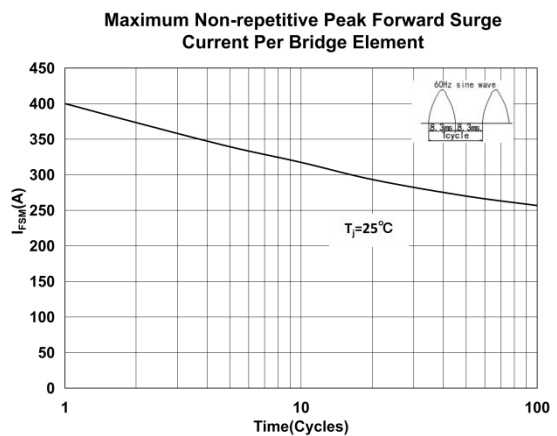
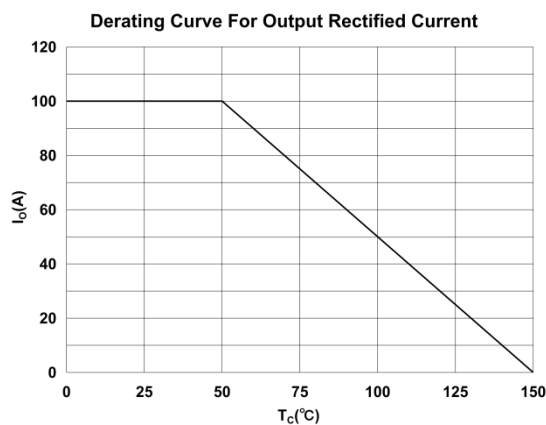
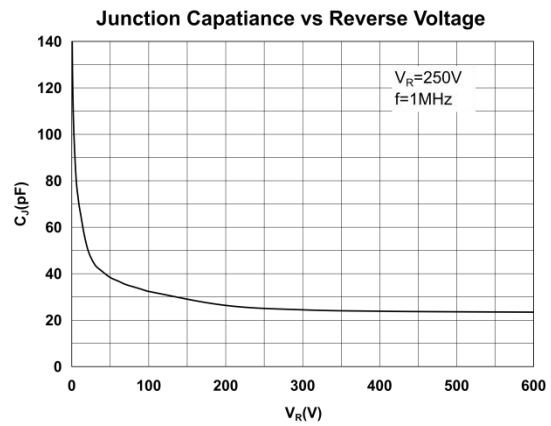
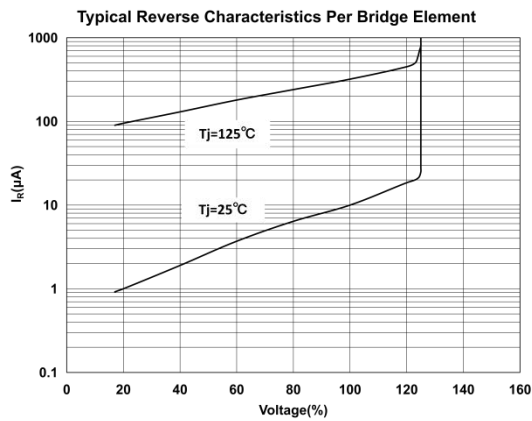
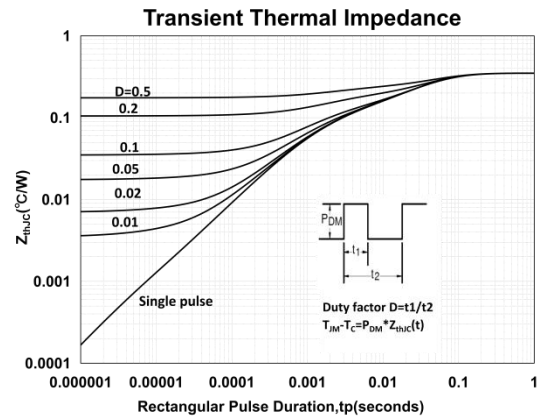
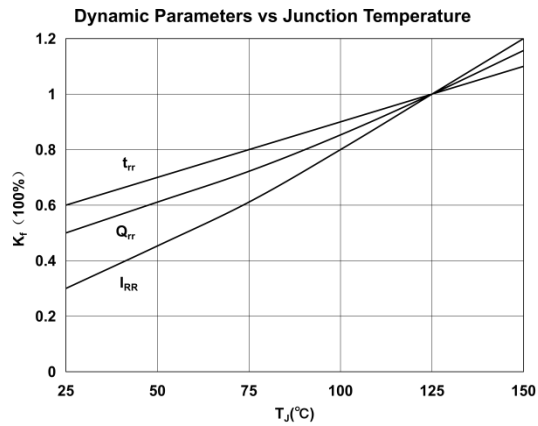
T_{rr}	Reverse Recovery Time	$I_F=50A$, $V_R=300V$, $di_F/dt=-20$ $0A/\mu s$	$T_J=25^\circ C$	-	38	45	ns
			$T_J=125^\circ C$	-	63	-	ns
I_{rr}	Reverse Recovery Current		$T_J=25^\circ C$	-	4	-	A
			$T_J=125^\circ C$	-	8	-	A
Q_{rr}	Reverse Recovery Charge		$T_J=25^\circ C$	-	1.2	-	μC
			$T_J=125^\circ C$	-	3.6	-	μC
C_J	Junction Capacitance	$V_R=250V, f=1MHz$	-	-	25	-	pF

Thermal characteristics

Symbol	Parameter	Test Condition	Min	Typ.	Max.	Unit
$R_{th(j-c)}$	Thermal resistance from junction to case	TO-247			0.35	$^\circ C/W$

Typical characteristic curves





Package outline dimension

