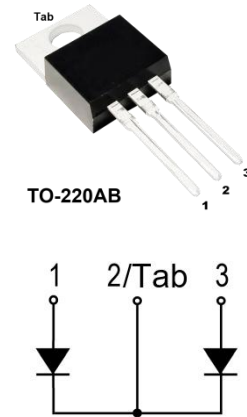


ESTF16D60ST

Features

- Repetitive Reverse Voltage : $V_{RRM} = 600V$
- Low Forward Voltage Drop : $V_{F(typ.)} = 1.48V$
- Average Forward Current : $I_{F(AV)} = 16A$ @ $T_c = 100^\circ C$
- Ultra-Fast Reverse Recovery Time : $t_{rr(typ.)} = 40ns$
- 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		600	V
$I_{F(AV)}$	Average forward current @per device	@ $T_c = 25^\circ C$	16x2	A
		@ $T_c = 100^\circ C$	8x2	A
I_{FSM}	Peak one Cycle Surge Forward ,Current (Non-Repetitive)		128	A
I^2t	I^2t for Fusing Value for One Cycle Current, $t_w = 8.3ms$, $T_j = 25^\circ C$ Start		0.136×10^3	A ² S
P_D	Power Dissipation		390	W
T_j	Junction Temperature		-40~+150	$^\circ C$
T_{STG}	Storage temperature range		-40~+125	$^\circ C$
T_L	Maximum Lead Temperature for Soldering Purposes		300	$^\circ C$

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

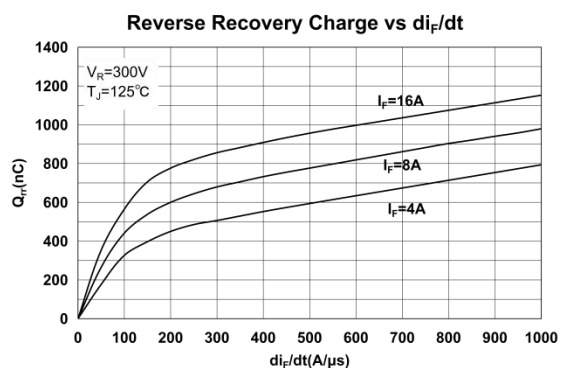
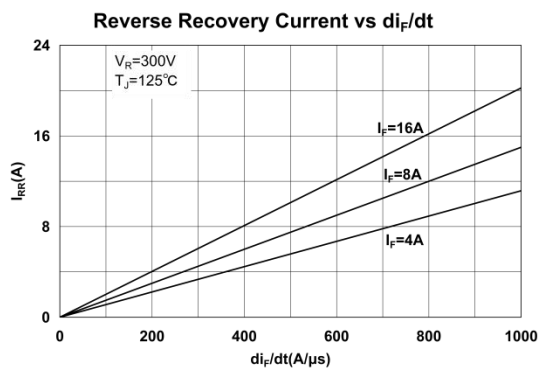
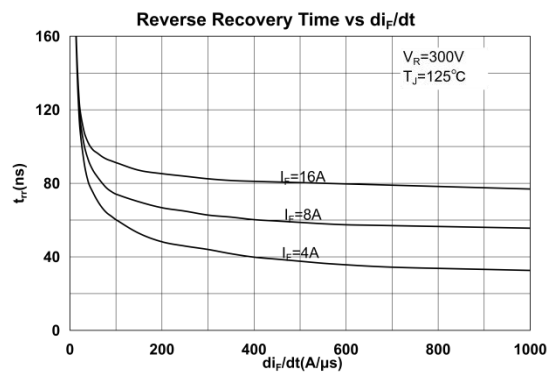
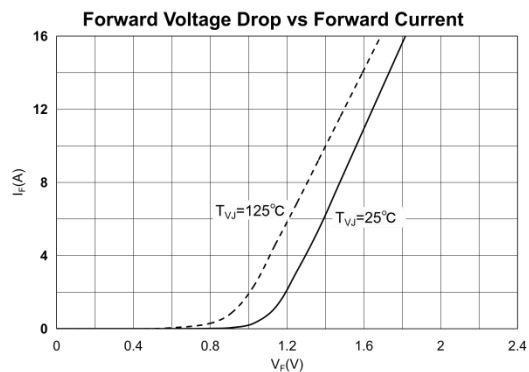
Symbol	Parameter	Test condition	Value			Unit
			Min	Typ	Max	
V_{BR}	Reverse Breakdown Voltage	$I_R = 100\mu A$	300	-	-	V
I_R	Reverse Leakage Current	$T_j = 125^\circ C$, $V_R = V_{RRM}$	-	-	500	μA
V_F	Forward voltage	$I_F = 8A$	-	1.48	1.75	V
		$I_F = 8A$, $T_j = 125^\circ C$	-	1.25	1.5	V

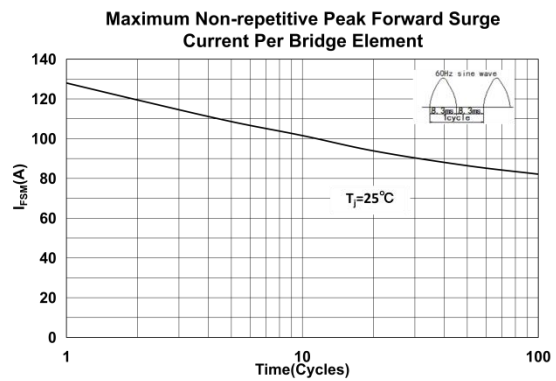
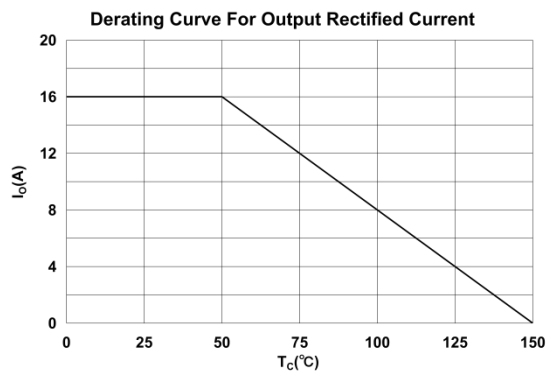
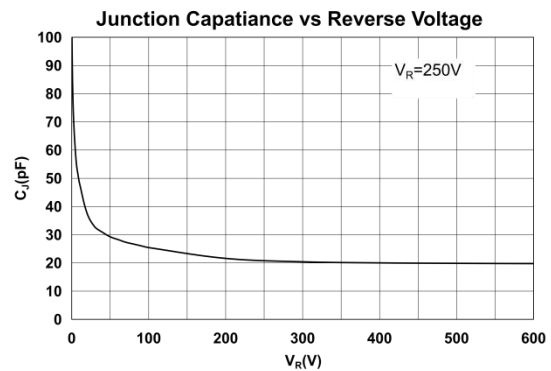
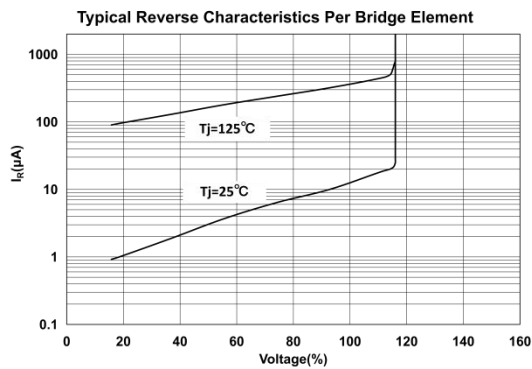
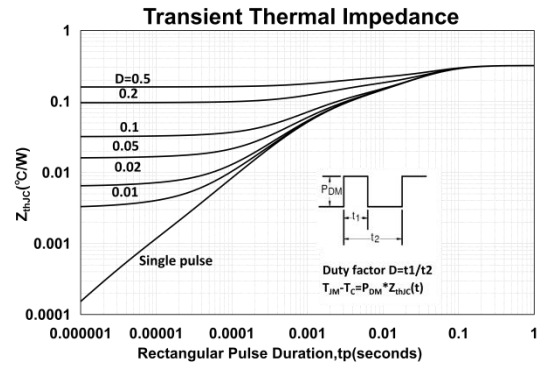
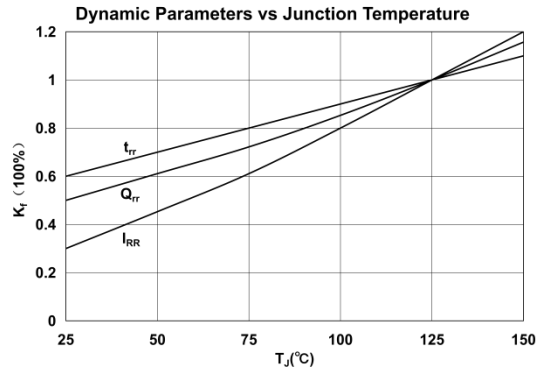
T_{rr}	Reverse Recovery Time	$I_F=8A,$ $V_R=300V,$ $di_F/dt=-20$ $0A/\mu s$	$T_J=25^\circ C$	-	40	50	ns
			$T_J=125^\circ C$	-	66.7	-	ns
I_{rr}	Reverse Recovery Current		$T_J=25^\circ C$	-	3	-	A
			$T_J=125^\circ C$	-	6	-	A
Q_{rr}	Reverse Recovery Charge		$T_J=25^\circ C$	-	600	-	nC
			$T_J=125^\circ C$	-	2000	-	nC
C_J	Junction Capacitance	$V_R=250V, f=1MHz$	-	-	20	-	pF

Thermal characteristics

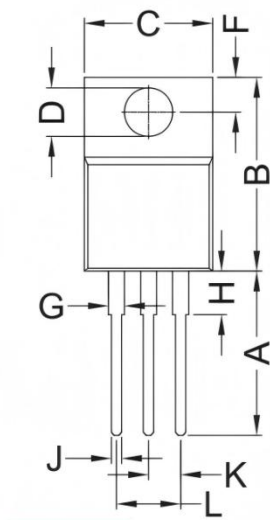
Symbol	Parameter	Min	Typ.	Max.	Unit
$R_{th(j-c)}$	Thermal resistance from junction to case			0.32	$^\circ C/W$

Typical characteristic curves

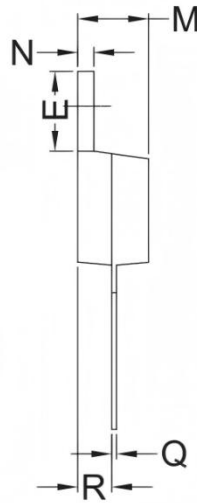




Package



TO-220AB



Dim.	Millimeter		Inches	
	Min.	Max.	Min.	Max.
A	12.70	13.97	0.500	0.550
B	14.73	16.00	0.580	0.630
C	9.91	10.66	0.390	0.420
ØD	3.54	4.08	0.139	0.161
E	5.85	6.85	0.230	0.270
F	2.54	3.18	0.100	0.125
G	1.15	1.65	0.045	0.065
H	2.79	5.84	0.110	0.230
J	0.64	1.01	0.025	0.040
K	2.45	BSC	0.096	BSC
L	5.05	BSC	0.199	BSC
M	4.32	4.82	0.170	0.190
N	1.14	1.39	0.045	0.055
Q	0.35	0.56	0.014	0.022
R	2.29	2.79	0.090	0.110